Educating Arte

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Introduction

The morning is wonderfully bright and sunny. A young girl walks briskly down a winding path between meadows. The path is earthen and yellow-ochre under the high sun. The girl's feet throw up clouds of dust as she drags on, and sometimes stumbles on the stray stones. She wears a small painter's easel and a wood-and-cloth pliable seat. She holds these awkwardly under her arm, as well as a paper folder and a large box of crayons. The utensils are cumbersome, and make her rapid walk quite heavy. A white Labrador runs joyfully in front of her. The dog runs in all directions, but once every while he checks back to make sure the girl is still around. Girl and dog are happy to be out of the house that can still be seen behind them, covered with wild vines, at the end of the path. Inside the house it has remained dark whereas spring reigns outside in the full glory of young, new green grass and flowers of various colours. The house looks huge because the path descends towards a small river, and the path is lower than the meadows, so that the girl can only just see over the grass on right and left of her. She soon reaches the banks of the river, which are all lined with trees, and somewhat farther the girl sees now small woods behind the vast meadows. Cows are in the fields, white and black and brown ones, and the dog occasionally turns around one, trying in vain to excite it to a play of pursuit and flee. The girl then shouts an impatient command, and the dog returns, disappointed at the dormant cows, eager to start anew a little later.

It is already hot in the day. The girl is clad lightly. She wears a flimsy, white open shirt and a short pink robe. The robe is well worn, all crinkled, but spotless. The girl is well built, sixteen years old, tall and slim. Her face is tanned, but she has kept a rosy freshness on her cheeks. Her legs are long, well shaped and whiter than her face. The girl is used to be outdoors. Her hair is red and curled, untamed and luxurious. She has a short, sharp nose, full lips and her face has otherwise soft features. Her eyebrows are thin; long black eyelashes shade above green eyes. The girl suffers from the temperature and all the things she brought with her do not let her walk easily. She seeks the lower temperature of the river. She picks a spot in the green under the poplar trees, where she has an open view over the side of the river, and she looks along the calm water. She sees other meadows and woods. The dog also seeks out the water, ready to jump in but for a new angry and pressing command of the girl. She sets up her easel and small chair, takes out a crayon and sighs. She sighs and waits. Her crayon remains in her hand, just above the white paper on her easel, but the crayon does not move. The girl hesitates, and still the crayon does not lower. Then the hand quivers and the crayon draws away from the paper. The girl bows her head and keeps it more and more oblique. She drowses, lost in thoughts. She is dreamy and looks at the passing water and at the chirping birds that fly above the banks of the river.

Suddenly, a slight wind stirs the grass and the bushes around the girl. To her surprise a figure seems to appear gradually, just in front of her. The figure is hazy at first, then comes into focus, and its lines become clearer. It is a figure of a white-bearded man, clad in a white tunic that appears silvery upon the grass. The man wears only sandals on bare feet but he seems to float upon the ground instead of to walk on the soft earth of the path. The man comes nearer and looks around, equally surprised, in the sudden silence of birds and water. Even the Labrador looks in fright and astonishment, but

ready to attack. The girl has to bend her head from behind her easel now to well look at the man. She hides most of her face and has put her head closer to the paper so that the man sees only one green eye and a red patch of hair from behind the folder. The girl is ready to flee from the extraordinary sight. She wonders whether this is a ghost that happened to come on her or a real man. How did he appear so suddenly, as if projected on a screen above the grass, so near to her? The man looks as if he was almost transparent, but he shines like the image of Jesus that the girl has on a picture in her bedroom. The girl decides that this must be an extraordinary phenomenon, so she grasps her easel with both hands, stands up to run away, up the path again. But the dog sits down and looks in expectation. Then the man moves a hand in soothing, and he salutes the girl.

The man: Hi! Don't run away! Don't be afraid! You called me, so here I am. Pretty hot today, isn't it? Wow, I had quite a ride to get here.

The man strides closer towards the girl, so that she reclines in fear. She is now really ready to run.

The girl: Who are you? What are you? Don't come nearer or I'll shout and call my dog. My dog is dangerous; he bites men.

The man, laughing: Your dog seems nice enough. Looks, he likes me, and he likes to be patted. Your dog purrs like a kitten. Don't be afraid, I won't hurt you. You called me. My name is Zeuxis.

The girl, somewhat more confidently: Zeuxis. That's a strange name. What do you mean I called you? I saw no one and I called no one. Please leave me alone, I want to work. I don't need strange men around me.

Zeuxis: I am no strange man. I do am a foreigner to these lands but I do am Zeuxis. I told you: I am here because you called me. So I cannot go away now. I will not hurt you. You called me because you want to draw and to paint, and you wondered who could teach you. I can. I am a painter and a teacher. I studied with Demophilus of Himera, and with Neseus of Thaxos, and Apelles was my pupil. I lived in the fifth century before your era in Heraclea of Greece. I am not really a man now; I am a spirit, a spirit you entreated to come. I studied painting for centuries. I came from ancient Greece at your command. But if you just think of me as of one who will soon go away, then I will leave, and you will not see me anymore. So, make up your mind, girl … what will it be? Do you want me to learn you how to paint or shall I leave?

The girl: Eh, I don't know. I do want to learn how to paint and I am desperate in that. I don't want to go to schools, and I cannot go to schools. But I do want to learn how to paint. Will you be nice with me? Will you really teach me?

Zeuxis: Yes, I can teach you. What is your name?

The girl: My name is Artemisia.

Zeuxis: Well, Artemisia. That is a pretty name. There was an Artemisia in my own time. She was a very remarkable woman, daughter of Lygdamis, a Halicarnassian and on her mother's side she was Cretan. She was the tyrant of Halicarnassus, so this Artemisia was maybe not really a very nice girl! When the Persian King Xerxes attacked Greece, she provided five of the finest ships to Xerxes' fleet, and she sailed in command of the men of Halicarnassus, Cos, Nisyra and Clydna. She advised Xerxes not to give battle at Salamis, but she was the only one to propose to spare the ships. Artemisia fought with her ships at Salamis, where she got to be chased by a trireme of Athens. She escaped by ramming a friendly ship, a Calyndian one, with Damasithymus, the Calindian King, on board. In doing so she deceived the Athenian captain, for he thought now that she commanded a Greek ship, and she also fooled Xerxes in making him believe she had rammed a Greek ship! She was lucky there were no survivors on the Calyndian vessel! After the defeat of the Persians at Salamis, she advised Xerxes to return to his country and Xerxes this time listened to her. He complimented Artemisia and sent her to Ephesus with his sons, so great was his confidence in her.

Arte: I have not heard of that Artemisia, but I am a nice girl. I would not have sunk my friends.

Zeuxis: I also taught another girl by that name, a long time ago. This one was a nice and happy girl, but she had a tragic life. I hope you will fare better than she, though you seem to be as impatient and passionate as she was. Artemisia is a nice named indeed. How did you come to get by it?

Artemisia: My father was Italian. He is dead now. He died when I was ten. He was a painter. He told me he had read a story of an unlucky girl, who painted also, and had lived many years ago; but he also said I was born under a happier star. He proposed the name. My mother liked it. But nobody calls me Artemisia now. It is too long a name. They call me Arte.

Zeuxis: All right then, Arte. I am sorry about your mother. I do hope your star was a luckier one indeed. I might as well sit down.

Suddenly, a large, wooden chair appears and Zeuxis sits on it.

Zeuxis: If you want to learn to paint we will have to be together a lot. Painting is a difficult art. There is much to learn. Where shall I start?

Arte: Can you teach me about colours? Look, I have many crayons and all are of a different colour. Which should I use?

Zeuxis, sighing and angrily: Oh girl, I was so sure you would ask me that! You young females always do. The emotions of colours enchant you and stimulate you. But you will go to perdition, girl, if you start with colours. Oh, the inconstant colour! The colour of any object changes every moment with the changing light or with the place of your eyes. Look, come here out of the shadows of that poplar; come into the light of the sun. See? The colour of the water changed! And that lasted only a second. You would want me to teach you the most dreadful, elusive of all elements of painting from the beginning? You must have patience, girl! Restrain your impetuous nature.

Colour is too difficult. There are so many other simple subjects to start with but colour. Let's start with simple lines, not with the many-headed, ever-changing monster of colour. You would lose your wits faster than my former friend Vincent! Let's start with lines. Colour is like the moon. Do not swear by the inconstant moon! Lines are eternal.

Arte: I don't believe you. Colours are nice. I want to learn about colours. And I know of no Vincent. Oh Zeuxis, teach me colours!

Arte seems to want to start crying, so Zeuxis grumbles a bit, draws at his nose and changes his tone.

Zeuxis: Well, all right, I'll teach you about colour, but in due time, in due time. Do me a favour. Be a good girl. Just try. Draw a straight line with that crayon of yours. Let the line go from one end of your paper to the other.

Arte: A straight line? What do you want me to draw a straight line for? That is utterly stupid and simple. I know that already. But, well, all right. I'll draw a straight line if that makes you feel better.

Arte draws a long straight line rapidly. She frowns, looks at what she has done. She frowns again. Then she looks at Zeuxis from under her eyelashes.

Zeuxis: All finished already? Is your line straight? What have you felt?

Arte: Well, eh, yes. The line is straight. Well, maybe not entirely straight. You made me nervous. But it's all right. Isn't it?

Zeuxis, looking at the paper: Yes, it is not bad. It is a little curved though. And you quivered, you were nervous, so it seems indeed. But what have you felt in your hand, in your arm? Nothing special?

Arte: Well, now that you mention it. Yes, there was something odd.

*Zeuxi*s: What was odd?

Arte: Well, I drew a line but to get it straight I had to correct my hand. It was easy enough to draw the line, but to get it straight I had to keep attention. I had to strain my hand a bit. It felt as if I was not drawing a straight line at all but a curved line, at first anyway. What magic did you work on me?

Zeuxis: The magic is not mine, dear. The magic was in your hand. Your elbow is like a fixed point. It worked liked a compass point. Your arm is fixed to your elbow and naturally draws around the point of your elbow, in a circle. A very wide circle, but a circle nonetheless. You had to correct for that effect. You see, there are things to learn from drawing simple lines. Besides, you drew a horizontal line in the middle of your paper. Why not a vertical one?

Arte: I don't know. I just drew a line. Why does it matter?

Zeuxis: It really doesn't matter, girl. But you drew a horizontal line and you drew from left to right, I saw you. Why not a vertical line? Why from left to right? Why not from right to left?

Arte: Well, I guess a vertical line was less obvious to start with. I didn't really think while I drew! A vertical line is more difficult. And everybody draws from left to right! You ask really silly questions. What is there to marvel about a stupid line? Are we going to go on like that?

Zeuxis: Silly questions make smart students, Arte. To marvel is the beginning of knowledge. Or as my friends would say, where we cease to marvel we may be in danger of ceasing to know. You are right. Vertical lines are more difficult to draw because by the same effect I just explained, you would have to correct far more than for that horizontal line! You would not have been able to make use of your natural compass. At least you could use it easily in horizontal lines, even if you had to correct a bit. Here, try it out, See?

Arte tries it out. She draws a vertical line and she has to stick out a tip of her tongue to get it right. But it works and she looks triumphantly at Zeuxis.

Zeuxis: Fine! You learn quickly. We will get along fine. I have another silly question. You started at the top and then drew downwards. Why not the reverse? No, don't answer. I'll tell you! These were seemingly simple exercises. But you already learned a lot. You learned that it is not that easy to draw straight lines. You learned why our hands draw in curved lines naturally. You learned that you seem to prefer horizontal lines better than vertical ones.

Arte starts to say something then closes her mouth.

Zeuxis, continuing: And you learned that you like more to draw from the left to the right and from the top to the bottom. The right side of a piece of paper feels more natural than the left side. The right side seems more important, so you started on the left to end on that right side that makes you feel comfortable. On the right side you were at home. The right side is the royal side of paintings; that is where we like to look to in the end. You drew from top to bottom for the same reason. You stand on the ground, so you drew from top to bottom because you like to end up at the ground. At the top you would not feel safe. Moreover, you drew down. If you had started below and drawn to the upper end you would have needed to push your pencil up. Pushing a crayon up is somehow harder than to draw it down. Drawing is easier than pushing, always. And you drew your line smack in the middle. So you cut your paper in two halves. That is called symmetry. The upper half is almost of the same area as the lower half. That is called balance; one area balances the other.
Had you remarked that before? You learned a lot about yourself. You learned about which lines you prefer and about which directions you prefer. Now, that is quite natural. We all usually prefer so, because our ancestors were educated this way since many centuries. But we do not seem to know that, and act conscientiously. A painter has to know however, because the eye of a viewer also moves from left to right and from top to bottom. And an eye likes symmetry and balance. These are things to remind when you paint.

Arte keeps silent.

Zeuxis: You learned about lines and directions. You learned that painting has to do with our minds and what we have in our minds. Men call that psychology now. I would like to teach you more about vertical and horizontal lines first, then about oblique ones. Then we can talk a little about shapes and forms, about repetition, about symmetry and about balance. I can teach you about greater illusions than myself. You will be able to fool all who look at your drawings when I'll be finished. Yes, in time you will fool all people in thinking that they are seeing a forest whereas you will have only painted a few lines on a piece of paper and maybe a few patches of colour.

Arte: So you will teach me about colours?

Zeuxis: Oh, of all the Gods of Parnassus. Of course, I will! But patience should be with you. Learn to know lines and shapes and structure first. Then you can throw away all I taught you about lines, and become like my friend Jackson …

Arte: Jackson? I don't want to be like Michael Jackson! He could not paint! He sang and danced.

Zeuxis: …Pollock! Jackson Pollock! Be patient, girl. In order to be able to destroy you must build first.

Arte: Parnassus? Is that where you come from?

Zeuxis: Yes, I did. The gods took me up with them. Some of them seemed delighted. But Zeus doesn't really like me. The guy is a brute. So the other gods let me escape from time to time; they allow me to go when desperate and pretty girls like you call me.

Arte, flattered: Pretty? Do you find me pretty?

Zeuxis, coming closer: Yes, I do. You know you are pretty. I like your pretty nose. It has a nice straight line.

Arte: Well, thanks. You're just an old flatterer. And one obsessed by lines! But I have to go now. I will come back this afternoon and then you can start to teach me. That is … will you be back?

Zeuxis: Yes, Arte, I'll be back. I'll be delighted. And it will be with lines, not yet with colour.

Arte: Oh, you …

She throws a crayon, but Zeuxis disappears, with chair and all, in a nick of time.

Lesson One – Vertical lines

Zeuxis and Artemisia are again seated near the river. Zeuxis sits in his comfortable wooden chair and Arte is on her pliable seat. The sun is lower now, and the air is hot from having been warmed all day by the direct sunrays.

Zeuxis: So, Arte, we are going to talk about lines and we will start with simple, straight vertical ones. They are the easiest among the elements of the art form of painting.

Arte: It is strange, Zeuxis, that you lend so much importance to lines. I do see lines in pictures, but I see a lot more areas of colours and when I painted - I did that occasionally in the past, without you - I drew no lines. I started to paint immediately with colours only.

Zeuxis: Well, you'll learn more about colours later. You have to keep in mind though that by the word 'line' I mean of course first strictly what the word means, which is pieces of line, but I also mean directions. Look, the poplar trees here grow vertically and they show their long trunks in elongated forms. Their silhouette indicates in a general way the vertical direction. So a whole tree could be represented just as one vertical line. Can you think of other examples?

Arte: I know such vertical directions in high buildings, in the masts of sailing ships, and in flag poles. I also once saw a painting in a book, a painting made by a woman, Georgia O'Keefe. Her 'American radiator Building' showed many vertical lines and directions. I felt elated by them.

Zeuxis: People, trees, buildings stand upright on the earth. They are slender. They defy the laws of gravity but they are also shaped by that force they conquer. This, however, is our natural environment. So these vertical lines are very familiar to us. Vertical lines indicate the natural equilibrium, Arte, a man standing or plants growing upwards from the earth. They suggest directions that a viewer needs in a frame, in order to feel comfortable. Therefore vertical lines are perceived as being quite warm lines. Vertical lines are the basic lines of nature, of the living creatures and of plants that aspire to the sun. Vertical lines evoke feelings of liveliness. Yes, even simple vertical lines, like all the elements of the form of painting, evoke images immediately of things we have seen before, as well as feelings in humans, however delicately and subtly. I told you this morning that we call that the psychological dimension linked to the elements of form. Here, draw a few short vertical lines and tell me what you feel.

Arte draws plate 1:
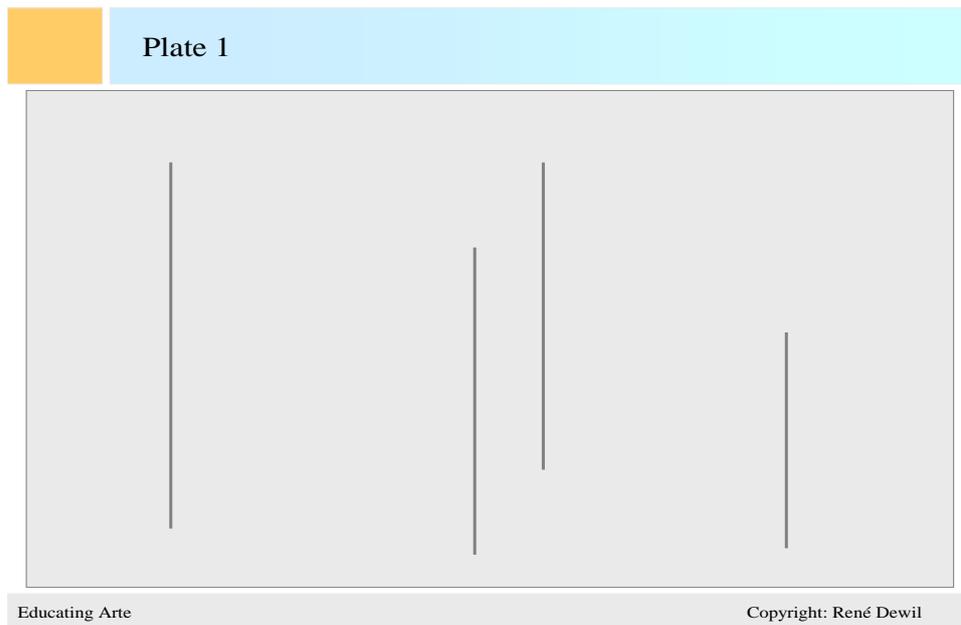
Arte: Oh, wonderful. I felt so active and alert when I drew these lines. I liked finally doing something. You have been talking and talking, Zeuxis, and I did nothing. The lines however feel like an activity that remains in one place, fixed, even though I pushed my crayon up so that I had a slight feeling of going to the sky. I feel stiffness, rigidity. I felt the lines grow under my crayon. Look, they show an upward movement.

Zeuxis: Good, girl, let your emotions free themselves! Vertical lines in me too evoke feelings of transcendence, of a world or a concept that is more elevated than man. They grow to the sky, to the heavens! Vertical lines are also symbols of the elevation of the soul, of the aspiration of man from despair to salvation. Vertical lines lead to the mystic emptiness of the cosmos where you called me from.

Arte: But Zeuxis, I also followed the other direction. I looked downwards along the lines. I felt unhappy then, I didn't like that!

Zeuxis: Sadness comes with joy, always, girl. People do not generally look along vertical lines that way, Arte. But you may thicken the lines at the top and make them slimmer at the lower end, so that the vertical lines resemble arrows pointing down. That downward direction then indeed points to the earth and that inspired you feelings of sadness. Now, look along the river, to the far. Suppose you drew the trees just as one line each. What would it look like?

Arte draws plate 2:

Plate 2
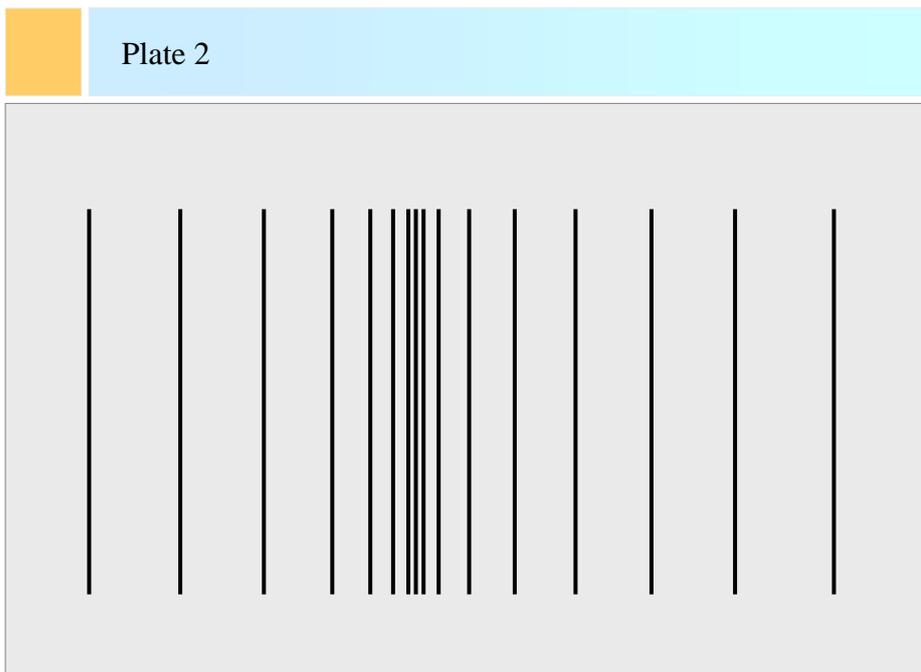
Arte: I see depth, space opening to the far, just as the trees are standing. Just a few lines and I see so much!

Zeuxis: That is the magic of illusion, girl, and as you see for yourself: you can conjure it up with just a few vertical lines. Two sets of such parallel vertical lines starting from the left and the right and proceeding towards the middle, give indeed an impression of depth. Isn't it as if you walked forward into the paper and were invited into a lane flanked by Greek columns, into a road that disappears into the distance?

Arte: And, hey, I can play with those lines! If I draw more lines and higher ones on the left than on the right, then it is as if I would be walking to the right. My drawing would be skewed in view. And I can do just the contrary of what I drew here. I can draw lines closer to each other towards the borders of my paper and wider spread in the middle. I might then be standing close to the middle, close to a corner of two streets receding to left and right.

Zeuxis: You learn quickly, Arte. Your imagination is vivid. Yes, you can do that. But as you drew first, in your second plate, painters have almost consistently preferred to show the right and left borders of the canvas closer to a viewer, which means they brought the open perspective in the centre. And that is how it is called, perspective. If you do the contrary from your plate two, then you split the painting in the middle and you obtain two parts, at which viewers look separately. You normally would want unity of vision in your frame.
You can enhance the effect of perspective. Try to draw long lines close to the vertical sides of your paper and shorter lines towards the centre. Try it out and tell me what you see now.

Arte draws plates 3 and 4:

Plate 3

Plate 4
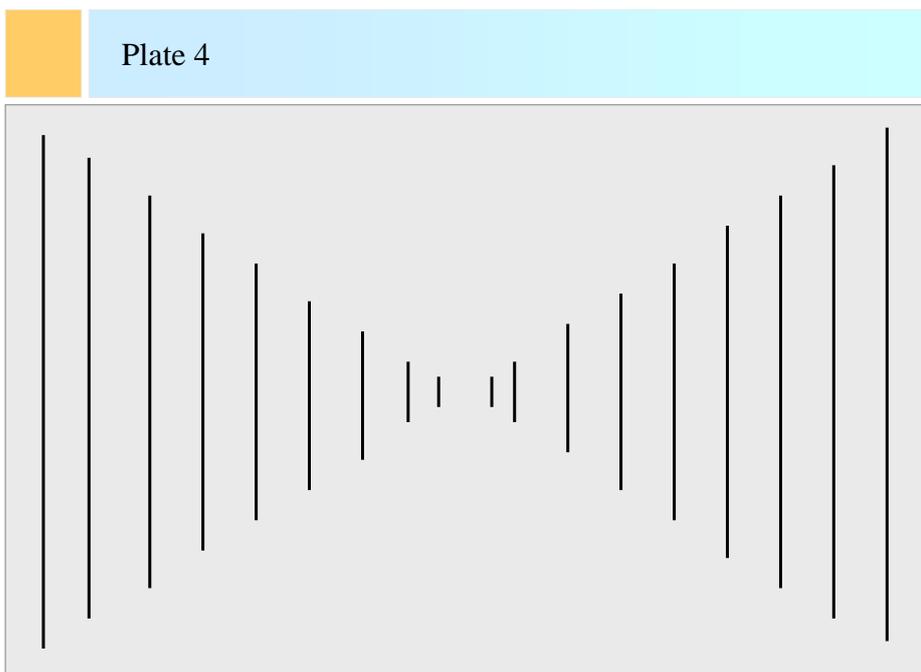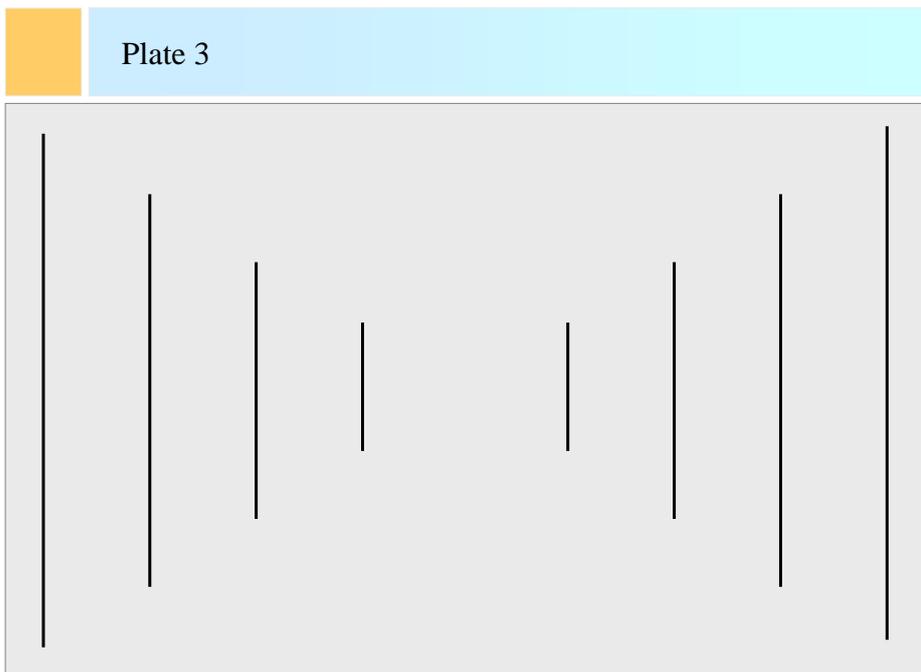
Arte: Zeuxis, you performed magic again. The sense of depth, of perspective as you call it is much stronger now. If I look to the river, this is what really happens to the trees. They grow smaller towards the far end of my sight.

Zeuxis: There is something more to learn. Look at the tops of your lines. If you connect all these tops, you will have lines again. If you connect them – please do, Arte, in broken lines – you have lines that were invisible in your third and fourth plates. But these lines, contours or outlines, were present in your mind. They were

really there, I am sure that in a strange way you did saw them. Now these invisible lines are present too, even though you did not really draw them. In the future, when I will talk to you about lines or directions, I will also be talking about this second type of lines, about the invisible ones.

The broken lines that Arte drew on plate 5:

Plate 5
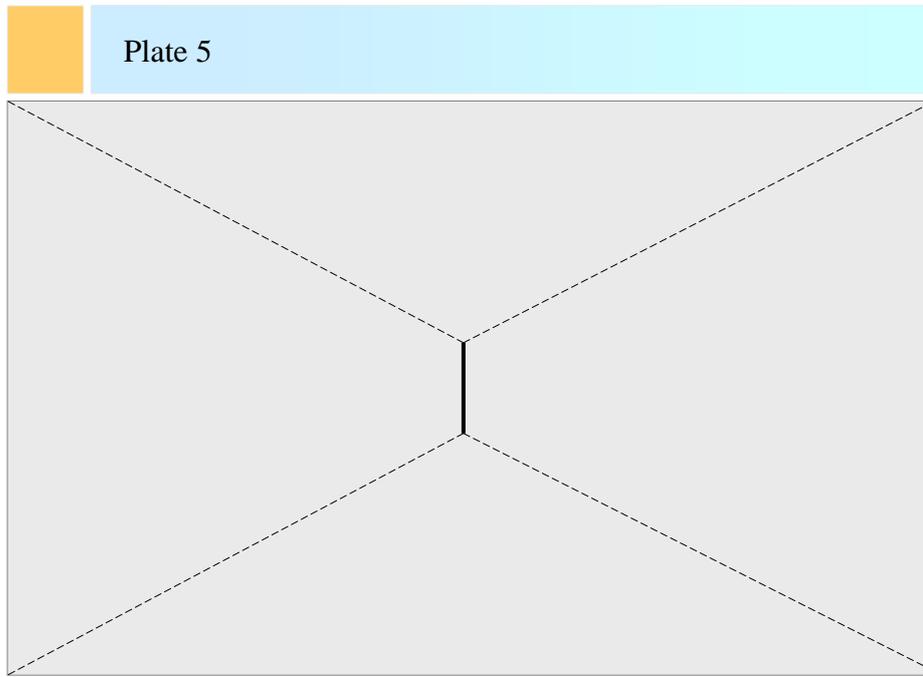
Arte: You tricked me, Zeuxis. You play foul games with me. I have the impression I did not really see those outlines before you talked to me about them. Now I cannot forget them. I will forever see those invisible lines.

Zeuxis: It cannot be helped, Artemisia, child. You learn to see while discovering images. There is an even more important concept now to tell you. You looked at the lines you drew and those were then really the lines in black on your white paper. You knew that the lines represented trees and your mind also saw the – what we called invisible – lines that were built from the tops and the bottoms of the vertical lines. So you saw actually much more than what is on the paper. Your lines merely suggested a view. What is really in the mind of somebody seeing your drawing is infinitely richer than what he or she only really looks at with his or her eyes. The mind adds! We will come back on this power of suggestion and of imagination later.

Arte: Great! I did not know I could play this way with viewers!

Zeuxis: I had no doubt you would like that. But you should also never overdo it, Arte, for the power can backlash on you, and viewers do not like to be manipulated. Yet, all painters do it in subtle ways. These effects of lines are what humans normally observe. When we look at landscapes such as at this river and its trees on the banks, we are situated at one point in real space and we look towards one point in the distance. This is fundamental to our human vision. How the vertical lines that we

perceive diminish in length with perceived distance and come to each other with distance is thus a familiar phenomenon that is due to our proper vision. We recognise it immediately in our minds when a painter imitates it on a canvas with just a few vertical lines.

Painters can enhance such effects by modulating the thickness of the lines. You can hold thicker lines near the borders and then gradually thin the lines towards the middle of the frame. Then you would apply a principle of the geometrical construction of perspective. The thicker lines close to the borders of the frame of a painting suggest that the borders are closer to the viewer than the centre. We will talk also of that quite more, later. But enough of all that, Arte. I suppose you are getting bored?

Arte: Well, a little maybe.

Zeuxis: All right then; I have a few treats for you.

Zeuxis raises his hand and arm and suddenly appears a large screen. It is nothing more than a transparent rectangle of light, but the landscape is seen blurred through it. On the rectangle appear at first bright flecks of light, then a marvellously brilliant picture of a view of a water canal in an ancient town. Arte is utterly astonished. She has stepped a few paces back in awe. Then she is marvelled at the beauty of the light and the colours. She steps nearer and touches the screen, which merely flows like water around her finger and forms ripples then, which disturb the picture. Arte steps back again and her mouth falls open in wonder.

Zeuxis: This is Antonio Canale's "View of Venice's Grand Canal as seen from the Campo San Vio towards the Bacino", as it was in 1730. Venetian landscapes made by this Canaletto, as he was called, are good examples of the vertical lines we looked at before. Canaletto's painting shows the Venetian buildings on both sides of the water. Canaletto obtained a strong visual perspective by painting the ever-shortening vertical lines of the palaces on either side of the canal, fleeing to the eye's point in the far. That point we call the vanishing point, by the way. Arte, remark the strong effect of space and depth that Canaletto obtained in this way. Canaletto's canvas is of course entirely flat and it has only two dimensions, length and height. Yet, the effect of the vanishing point of the perspective, suggested by the shortening vertical lines creates an almost perfect illusion of depth.

➔ Antonio Canale called Canaletto (1697 – 1768). Venice. The Grand Canal from Campo San Vio towards the Bacino. The Royal Collection. London, around 1730.

Arte: Canaletto used marvellous colours too, Zeuxis.

Zeuxis: Mmm. Yes. Eh … Look some more at Canaletto's pictures, at its lines. We find often long vertical lines to the borders of the frame in pictures. Painters put high architectural structures against the borders to situate the scene, often classic architecture, monuments of antiquity, to add to the feelings of elation and of rigid dignity, as inspired by the verticals, and also to present a more intimate scene in the centre of a picture.

Zeuxis: Vertical lines can serve to separate a frame in various vertical parts, in which then several scenes can be painted. Painters of medieval times often painted on several panels that were juxtaposed on altars of churches. These panels then each contained a different story of the New Testament, of Jesus Christ's' life or of other Bible narratives.

There exist painters however who only represent lines and areas of colours on a canvas, and who do not want to represent recognisable things. We call these painters of abstract pictures, or abstract painters. Pictures exist that are formed of merely coloured lines along the borders of the frame, the middle staying white and inviting the viewer to let his or her imagination play. Abstract painters exploit the effect of setting the stage in this way as in a theatre. Abstract painters sometimes painted vertical surfaces in different colours one next to the other, or they separated uniformly coloured areas by vertical lines to create several fields. This simple schema can induce strong effects of separation of space, depending on the combined colour areas. The twentieth century Russian-born but New York artist Barnett Newman made series of paintings in this way and also the Minimalist artist Frank Stella used vertical line patterns in his pictures.

➔ Barnett Newman (1905 – 1970). Cathedra. Stedelijk Museum. Amsterdam. 1951.

Zeuxis: You see, vertical lines in direct use! We will look at one painting more. Lucio Fontana (1899-1968) was also one of those twentieth-century painters who showed how with very frugal means of vertical lines powerful feelings could be induced in viewers. He made paintings of vertical cuts drawn in the middle of the canvas. Sometimes he imitated the effect with paint, but he also really cut open a uniformly-coloured canvas in other pictures. The effect on the viewer is as if the gap of the canvas drew open a wound. The feeling thus induced in the viewer is of a powerful physical act that makes you suddenly aware of the tension in the canvas strung tightly on the frame. Yet, the only form that is physically seen is a white canvas with a vertical black line.

The paintings of Newman and of Fontana teach us something else. They teach us about the illusion of creating space in a painting. Newman's thick white lines break the blue plane. The white lines are like representing a second plane lying behind the blue one. It is as if Newman made slits in the blue plane to show the second, underlying plane. So we have one canvas but two spaces, two different worlds. And Fontana not only makes you aware of the canvas itself as a tended piece of cloth but when he paints a cut in the canvas he creates an illusion yet again of space, even though the canvas is flat. It is hardly possible not to create such effects of space when you draw a few lines.

➔ Lucio Fontana (1899 – 1968). Concetto Spaziale, Attese. Pinakothek der Moderne. Munich. 1959.

Arte: I understand that painting is illusion. Have I embarked on an art that is only illusion? You make me start to regret having asked you to teach me the art of painting.

Zeuxis: I detect a beginning of boredom, Arte, and some disillusionment. Well, yes, all arts are illusions to some extent. But art is rich too. It is rich in emotions. Tell me more about what you think when you see vertical lines.

Arte: I think of Gothic cathedrals. Yes, vertical lines are the dominant directions and elements of Gothic cathedrals, as I saw them in the Picardy region of France! Cathedrals throw their slender and long, coloured windows to the skies. You spoke about space, Zeuxis, well; these cathedrals seem to me also to conquer space!

Zeuxis: The Gothic period was a time in Europe when society was pervaded by the Christian religion. In the Middle Ages the fears of the Apocalypse, the fears of small communities that were helpless in front of heavily armed pillaging soldiers, the helplessness of man confronted with the elements of nature, were very strong and deeply rooted emotions, then. Mankind felt a strong desire for escape into an ideal world of beauty and spirituality, for leaving the earth's miseries, and man hoped and longed for help. Humans longed for God because they did not know the powers that nature was made of. This elation, this elevation of the minds and the religious aspirations of medieval man were naturally directed towards the cosmos. This was the first active attempt of European man to express a fundamental dissatisfaction with the horizontal state of the natural world. Man was shaping the world, was more aware of his consciousness, looking to the mystic heavens of his hopes first. He therefore emphasised vertical lines in architecture, in sculpture and in pictures. This tendency towards verticality realised a trend towards elongated stylisation, also in sculpted figures of the Gothic period. Sculptures showed slender, long figures, clothed in robes with long vertical folds.

Zeuxis points to a new picture that appears on the dazzling screen. It is a picture of Rogier Van Der Weyden, the "Triptych of the Seven Sacraments".

➔ Rogier Van Der Weyden (ca. 1399 – 1464) workshop. Triptych of the Seven Sacraments. Koninklijk Museum voor Schone Kunsten. Antwerpen. Fifteenth century.

Zeuxis: in this picture, Arte, you see a Crucifixion set in a Gothic cathedral. The scene and the emotions could be centred on the three Maries and on Saint John, but the long, vertical lines of the gothic interior and the high, narrow nave of the church suggest the spirituality and the holiness of Jesus. These high columns are also apparent in the two side panels and you can remark also the elongation in the Gothic stylisation of the figures in their long, white robes.

Arte: Zeuxis, we talked of the Gothic period. From what period did you come from?

Zeuxis: I do not want to talk too much about myself. Suffice it to say that I was a painter from ancient Greece, even though I was born in Magna Graecia, in what is now Italy. I come from what you would call the fifth century before your era, and I lived in sweet Heraclea.
You like Gothic cathedrals. Here is another picture that recalls cathedrals.

Zeuxis shows a marvellous picture of blue colours.

➔ Frantisek Kupka (1871-1957). Study for the Language of Verticals. Museo Thyssen-Bornemisza. Madrid. 1911.

Zeuxis: With vertical lines one can also create undulating patterns. Frantisek Kupka (1871-1957) was a painter of Czech origin who worked most of his life in Paris. He was one of the first abstract painters. He studied for many years the effects of vertical lines combined with bright colour tunes, and he made many striking pictures on this theme. See this picture "Study for the Language of Verticals". The verticals form contrasting coloured bars, which make one think of curtains that fall in multiple folds. In another painting called "Cathedral", Kupka gave his impression of the Gothic windows of the cathedral of Chartres. Here verticals refer to Gothic and the predominant bright blue colours to "Chartres blue" of the stained glass of the cathedral. In this last painting, however, there is no undulating movement, and the Gothic's rigidity is overwhelming in the abstract patterns.

Arte: It is also blue again! Would blue be associated often with vertical lines? But there are not just blue lines. Here I see nicely flowing patterns.

Zeuxis: Enough of this seriousness! Vertical lines indicate rigidity. Vertical lines were not restricted to Gothic times. Vertical lines are the lines of soldiers!

Zeuxis projects a picture of soldiers.

➔ George Stubbs (1724 – 1806). Soldiers of the Tenth Light Dragoons. The Royal Collection. London. Around 1793.

Zeuxis: Look for instance at George Stubbs' portraits of the eighteenth century. Stubbs was the typical English gentleman painting for other English gentlemen in a very ordered society. His picture of soldiers of the Tenth Light Dragoons only shows verticals to denote the military stiffness of the Dragoons. Most of his portraits and pictures of horses are made in this style, in which he emphasised verticals. Not only Stubbs painted thus the military. Printed pictures of Epinal, a town of the French Vosges region, where an artisan printing industry still thrives, show rows and rows of such soldiers standing rigidly in discipline.

Arte: You know, I think of vertical lines as of the lines of men indeed. Now that you show me these soldiers, vertical lines do have a male connotation.

Zeuxis: Artemisia, child, what are you thinking off? No, keep your thoughts for yourself! You are absolutely right, of course. In many pictures of nudes, a woman is lying down and resting in the splendour of her beauty, whereas a man is standing. Man keeps guard over woman, ready to defend and to hunt, but also ready to depart. Yes, vertical lines represent the male concept in painting. I'll show you such a picture.

Zeuxis projects a picture of Adam and Eve.

➔ Vladimir Baranoff-Rossiné (1888 – 1942). Adam and Eve. Collection Carmen Thyssen-Bornemisza. Museo Thyssen-Bornemisza. Madrid.1912.

Zeuxis: Vladimir Baranoff-Rossiné illustrated this in a painting of Adam and Eve. Here are the first man and woman and already Adam is standing and Eve lies down. Of course, the picture was made in the early twentieth century and thus reflects some of the ideas of that time in history. Adam is strong and muscular, Eve all round curves. The only hard lines in this picture are in Adam's virility. Many other pictures of this kind can be found in the Classicist images of Venus or of Diana, in any period of art.

Arte: If my mother knew what you are showing here, and make me think off, with all your talk of emotions, she might not approve. I am getting tired. Couldn't we stop here?

Zeuxis: We are through with vertical lines for the moment, Artemisia, dear. Have you remarked how the very simple, vertical lines can be used already to produce very powerful emotions in viewers? I believe you are quite convinced! This is an effect that we will encounter over and over again in further lessons. We will discuss other types of directions until you will understand the complexity of a full composition of a genius painter. We will analyse paintings in their lines, but you have to realise that these lines are only one supporting element of one global harmony that confronts the viewer.

Zeuxis: Something has happened in this lesson to you, Arte, that is, I believe, something marvellous, but also a little frightening. Do you remember your drawing of ever shorter lines in a view that I called perspective? You saw Canaletto's view of Venice then. I am pretty certain that indeed, as you stated, you cannot think anymore of such simple drawings as you made, without thinking of Venice.

Arte: May well be true, Zeuxis. You are transforming me, I can feel it. I fear the change. But that is also why I called you, isn't it?

Zeuxis. So if I show you your plate three again, you will look at that plate and people would call that "seeing" the plate. But you will not see just the lines anymore. You will "see" Venice. So there is an outer seeing and something else that I would call an inner seeing. Your eyes look at something, but your mind sees something else. Painters work for that something else. Your imagination fills the plate with Venice, until the image that you have in your mind when looking at that plate is Venice indeed. When I show you your plate again, you will see Venice. You may call that illusion, Arte, but it is much more. We, humans, live in our mind as much as in the physical world, so much so that we sometimes do not know anymore what the real world is. The life in our mind is as important as the physical world. When you become a painter, you will not make images for the world that is really out there. You will make images in the physical world, but for the mind-world. Where I come from.

Arte, yawning: And where you return to … I am tired. Good night.

Zeuxis' Soliloquy on Educating Art

A painting as a work of art starts within the consciousness of the artist. The artist has the inspiration for a representation of a feeling, and he or she proposes to share this with other humans. It may be that the work of art is simply created out of a fundamental need of expression of an individual, satisfied in a tangible picture, and not directly aimed at being shared. But even then, the necessity to communicate to the outside world seems evident. Whatever the motives that led the artist to express in art, at the beginning of the artistic creation is the Idea, sometimes already precise and motivated, sometimes only vague and embryonic. The work of art is created out of the idea by a process, and in the result we can recognise distinct features, the act and the elements of the composition. These are the form of the art of painting. The painter thus creates a work of art and then abandons it to the viewer.

While we state that a work of art starts in the idea in the artist's mind, we do not have to claim that the idea is completely pre-conceived before the work of art starts. The idea may evolve along the creation of the work, grow richer, or even change altogether so that the final idea expressed is entirely different from the first starting intuition of the artist. The expression and the nature of the medium used, and the techniques used for the expression, may change the idea. The idea is always there however, as it evolves.

The process of creation of the work of art is characterised by the way of expression itself, by the act of painting. How the artist worked can sometimes be deducted from the resulting picture. Examples of that are when the painter worked with successive layers of paint and his brushstrokes still show in the end product, or when other means of laying down colour on a canvas or panel can be remarked in the work. Sometimes, due to the vagaries of life, we find unfinished works of an artist, and thus can see how he or she proceeded. A few artists explained themselves on how they worked. The viewer should rarely be concerned with how a painter worked, even though distinct art styles have emphasised the process of creation for its own value. We will not explain much about the process of painting, nor of the technique of the art, that is the materials used, their characteristics and origins. This education is not intended for painters but for viewers. We are concerned with the end effect.

During their process of creation, the painters use certain elements to produce a picture. The artists have only a limited number of elements at their disposal, which in fact are but juxtaposed areas of colour laid down on a canvas or panel. But borders delimit these coloured areas, the areas come in recognisable forms, and these build a composition. The elements that painters can use are thus few: the idea, lines, shapes, composition and colour. With these few elements artists create stunning effects that need to be original in order to interest the viewer. It is remarkable, however, how by such frugal means painters have captured the interest and passions of viewers over so many centuries. The subject of these lessons is the explanation of these means, which we call the 'form' of the art.

One might believe that analysing a painting in its pictorial elements would deliver the keys not only to understand the beauty or interest of the art of painting, but also to the

rules for bringing art. Art would be revealed by the analysis of its elements and by the rules for their combinations. Nothing is less true. The art of painting is a domain in which the whole is always infinitely more than the architecture of the elements. Paintings seem to appeal to the human mind in many mysterious and as yet undetermined ways. More is at play than the analysis, even though analysis often arouses interest and liking beyond the first impression. But a painting does induce feelings spontaneously, which defy analysis, and which yet affect viewers deeply. We will also try to provide a synthesis of the styles of paintings, which is the set of elements used in a particular, globally recognisable way by painters in certain periods of history.

Paintings can express the emotions of the artist, but the artist can also use the technique of art to evoke emotions in the spectator which he or she did not necessarily feel during the genesis of the work. So we must be careful in our beliefs that emotions aroused in a viewer would also have been the emotions expressed. The visual arts can very much express the emotions of the artist or appeal to the spectator in evoking emotions in him or her. That was certainly the case for instance for the Romantic painters. German and Austrian, also Scandinavian painters in particular, expressed during that period the emotions they felt when they were confronted with grand natural landscapes. But emotions can also be expressed and/or be evoked by non-representational means, and not represent the emotions the artist felt, but the emotions the artist wants to evoke in the viewer in a deliberate way.

We use the word "emotions" to include moods. Emotions might be anger or joy. They have a connotation of action. Moods would be more general states, such as depression, grieve or elation. It is often difficult to distinguish between the two, but both are feelings and we use the word "emotion" often also as a synonym for "feelings".

We do not want to impose an individual taste for what can never be fully analysed to offer a logical explanation for beauty, harmony or other reasons of liking of art by viewers. We will start immediately from the assumption that a work of art does not need to just be pretty and gorgeous or nice or sweet or harmonious to bring forward feelings of aesthetic pleasure. We will plead for the attitude that a picture can be ugly in aspects such as in its content, and yet be admired, and grasp our interest. A work of art and especially works so complex as paintings, cannot be analysed entirely to the extent that its elements, which constitute it and produce the qualification "art", be proven and explained by logic. The analysis is always a posteriori, after the genesis and production of the work and the analysis will never fully prove the art. Explaining the visual arts in words also seems very vain, since the art of painting is not the art of literature. How would it be possible to explain an art by another art's means, when different arts appeal to different processes of appreciation in the human mind? The effort of explaining paintings in words will remain inconclusive. This is however the only way we have to teach and learn, however inadequate. But we have to realise that at this moment of time and understanding nothing replaces viewing paintings to discover the art. The education into the viewing of paintings is thus an education into recognising emotions, and into a disposition towards entering the work of art, a disposition for discovery and recognition.

We need to describe the notion of pleasure some more. Art gives us pleasure, but not everything that gives us pleasure is art. We might like to play a game, be entertained, and draw pleasure from that, but the game we play is not art. When we look at a painting we take pleasure from the very object itself, the painting, for its own sake. Moreover, we have no emotions when we are coming up to a painting and see just a flat canvas with areas of colours – it is not an emotion in itself. We have to bring up some effort of imagination to contemplate the painting and have emotions evoked in us, however rapidly the coloured areas and the forms we recognise may strike us. We need to have some disposition to taking pleasure from a painting, for it to appeal to us. This last point is an aesthetic attitude. Without the viewer opening his mind to a work of art, without him or her being in a disposition for art, no pleasure can exist. So art demands openness of mind to begin with. Art gives us pleasure, but art is not defined by the notion of pleasure only. We will have to find out other criteria to define art by. But art does give us pleasure. There are however no universal and objective criteria to determine when there will or should be pleasure taken from art. The taking of pleasure is a particular event, and a matter of taste, which is inherently individual. There are no agreed-upon criteria for personal aesthetic evaluation.

Nevertheless, we can try to understand some of the single artifices and procedures that are at the disposal of the painter to create the complexity of his or her art. A painter uses lines, shapes, colours, composition, and many elements more to delight the viewer. We can at least try to understand some of these elements separately, as well as the innumerable ways in which they can be assembled and combined, to discover the ingenuity of the artist. Lines, shapes or forms, content, will then better be recognised by the viewer and he or she will more easily comprehend the means by which the painter reaches his or her goals.

The elements are just tools. They are not rules by which a "good" painting could be judged or a "bad" painting recognised. It was sufficient for a theorist of art to devise one or the other set of features as criteria for "good" art, for a group of painters to make magnificent and powerful pictures that broke all such rules. That has happened over and over again in the history of art.

The effort of analysis that we will offer in this text is thus an effort of building up knowledge, of considering piece by piece the architecture that the painter has applied, of understanding and admiring it. We will not start from the whole picture and dissect the content. We will depart from the basic elements, and then constitute the picture to a synthesis. We will start with the simplest elements, with vertical and horizontal lines, and then proceed to shapes and colours. Ultimately we will reach concepts of harmony, as well as the breaking of that harmony which is creation of interest in the viewer, the final inexplicable quality of paintings. Paintings are infinitely more than lines, shapes and colour, for so many other features enlarge our view and broaden our perspectives in art: content, titles, meaning, the artist's emotions, and many more. We will discuss how the painters often lead us miles in distance and years in time beyond their frame. The final goals of painting are communication and imagination.

We already touched slightly the motives of creation of an artist. The artist may create only because of a personal need of expression, the need of exteriorisation of his feelings, especially when he or she is incapable to express his or her emotions otherwise than in creating art. Artists are often lonely people who perform their

process of creation in isolation, unable to communicate well with people in other ways. But even when artists only work for themselves, the ultimate aim of works of art is social communication. The obvious example of such a person and artist was Edvard Munch. This artist lived alone during many of his later years because he was of a too delicate and sensitive nature as to be able to live a normal life for long amidst other people. He kept his pictures in his house, jealously guarding his paintings, selling only a few now and then to live comfortably, and calling them his children. After his death the thousands of canvases were discovered covering the walls and floors of his home.

Leon Tolstoy (1828-1910) emphasised communication in art. He wrote, "To invoke in oneself a feeling one has once experienced and having evoked it in oneself then by means of movements, lines, colours, sounds, or forms expressed in words, so to transmit that feeling that others experience the same feeling – that is the activity of art". And also, "Great works of art are only great because they are accessible and comprehensible to everyone." [G87.] We endorse this view. Without communication, even if the message is seemingly one of rejection of communication, there can be no art. If there were no communication wanted between artist and viewer, then why would a viewer bother to look at a painting? Thus it is essential to search for the means by which a painter arrives at communication and to try to understand these means. We will see that the painter has at his or her disposal a surprisingly large set of means to enhance communication, and these means do not just include the obvious, which are the coloured areas on the panel.

Most artists eagerly seek this communication. For without communication there is no interest in the viewer, the viewer passes by and the picture is not looked at, thus does not exist. Painters have used many different artifices to catch and keep the interest of viewers. There is thus a double act of possession in works of art. A viewer seems to possess a certain feeling for a picture, and this feeling is his alone, thus he or she possesses the picture in an instance of intimate and personal link with the picture. At the same time, during the time of interest, the painter takes possession of the viewer since the artist has been able to attract the viewer to his or her idea. This social contact that can span centuries is one of the magical mysteries and wonders of works of art.

The communication can be straightforward as well as complex. Some abstract pictures learn us in simple communication and in simple language of lines, form and colour more on the art of painting than complex figurative paintings do. Abstract art can be savoured precisely because it teaches us to look at the basic and distinct elements of art. Therefore we will often refer to abstract images in the beginning of these lessons. When we arrive at more complex images, such as those of Caravaggio or of Nicolas Poussin, we will need all the elements taken together to explain the richness, and the subtlety of these masterpieces. Having stated that, we need to add that abstract art can of course be complex too, as is shown for instance in Wassily Kandinsky's compositions. These defy logical analysis, are all emotion, though Kandinsky was one of the first to write almost scientifically on the constituting elements of painting.

While we state that art is communication and attribute that statement to Leon Tolstoy, we do not follow this author in all the conclusions he derives from the statement. The

fact that art is communication is not necessarily a criterion from which to make deductions on what should be considered "good" art or "bad" art. The degree of neither the communication nor the quality of the communication should be a criterion by which to value a work of art. But the element of communication – in the relationship between artist, work of art, and spectator – is always present.

Claes Oldenburg wrote in 1961 in his "Store Days", "I am for an art that develops while having absolutely no notion of what art is, an art to which we would give the chance to start anew completely from zero." It is in this spirit that we need to look at art, even though in the following text we will proceed more methodically in our quest for understanding. It is in this spirit that we will progress in our discovery of the marvels of painting, starting with the simplest of elements such as vertical and horizontal lines, and discover the complexity of harmony.

We can propose the principles of aesthetics that are the basis of this education as follows. The artist has a conception, an idea for a work of art, by his intuition. The artist takes this inspiration as the beginning of a process of creation. The artist expresses the idea in a certain form. We define the term 'form' as all the features of an art that constitute a work. For painting, form means the lines, shapes, colour and other modes of expression used by the artist on the panel. The expression by applying this "form" by the artist is a communication to the viewer. The result is intended to be viewed, and that is communication.

When the viewer sees a painting, he or she has an experience of certain emotions. This aesthetic emotion can be of a complex nature, and not necessarily be nice or sweet, but we will always call this "pleasure". The notion of pleasure is very subjective and we will call more "pleasure" the feelings Wilhelm Dilthey (1833-1911) already expressed as, "The style of an artwork produces an impression which is not adequately characterised as pleasure, satisfaction, or a delightful feeling. Rather, a definite form of activity is imparted to the psychic life of the receiver, and in this activity the psyche is rewarded, intensified, or expanded as it were. Style exudes on energy, which enhances the vitality of the perceiver and his feelings of life. The emotion or pleasure builds on various aspects at the view of the work of art". [G87.]

We will propose three phases, as the viewer learns more about a painting while or after contemplating it. A first aspect is the viewer's first impression, when emotions are evoked spontaneously in the viewer. A second aspect is the discovery of the viewer of the details of structure, of technique and of form of the art in general. Finally the viewer reaches an opinion of the painting in an aspect or phase of recognition. In due time we will explain these notions further.

The first part of this text is about the form of the art of painting. We will explain how a painter can use form in a work, that is lines, shapes, colours, composition, and so on. While doing that we will explain how form evokes particular feelings in the viewer and we will emphasise this way of communication of the idea of the work to the viewer. At the end of the text we will expose the process of viewing by a spectator from first impression to recognition.

During history, the use of form in painting has changed, as the use of the individual elements of form evolved. Parts of the education are dedicated to a description of

various particular instances of form, as applied by Western-European painters in history. This overview will allow us to explain with more examples the aesthetic principles outlined above.

Lesson Two – Horizontal Lines

Zeuxis and Artemisia are walking along a small river. It is sunny, but large white and grey clouds hang in the sky.

Zeuxis: After the vertical lines we have to look at horizontal lines. Vertical lines were warm, you said. What do you think about horizontal ones?

Arte: The horizontal lines are colder to me. They make me think of the water one drowns in. I feel passive, at rest and at peace. I think of continuity, of the passing of time. I see inert earth, and dead objects. People and animals lie horizontally when they are dead. Horizontal lines are black and gloomy.

Zeuxis: Draw a few horizontal lines, Arte.

Arte draws the following plate 6:

Plate 6
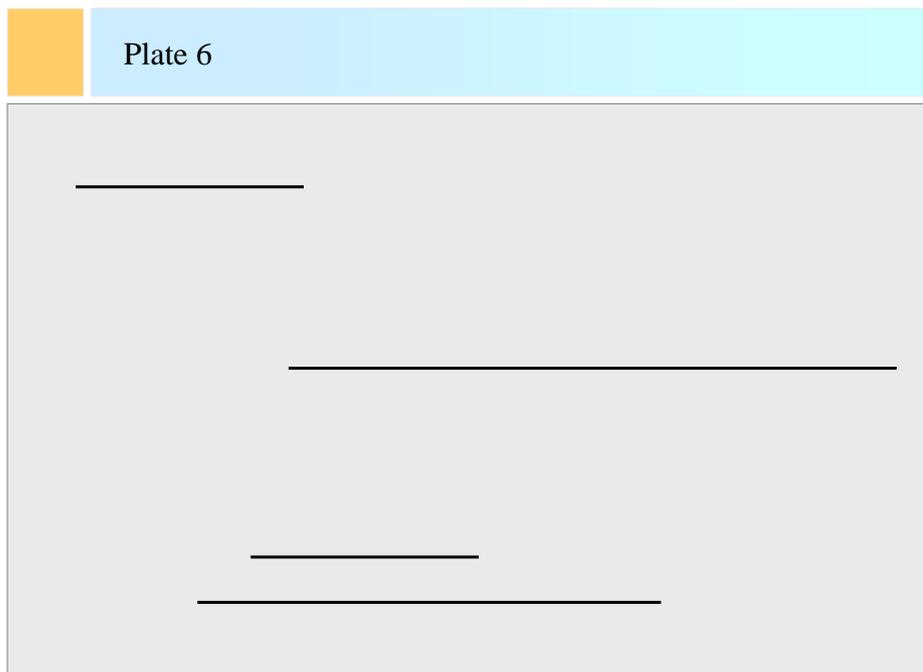
Zeuxis: Horizontal lines mean the disappearance of forces, and absence of movement. They indicate solidity. They form the basis, the foundations of architectural structures. Abstract paintings often exploit the restfulness and solidity inspired in the viewer by parallel horizontal layers. And, Arte, horizontal lines are also the female principle, the principle of waiting and quietness.

Arte: Ha, ha Zeuxis, you truly make me laugh, you great macho magician! Do you really believe what you are saying, Zeuxis? Waiting and quietness for women? I'll teach you now! It may be that horizontal lines are the female principle, as you may think we women are inclined to gloom. I definitely do not associate horizontal lines

with womanhood. You came from a retarded age, Zeuxis! I'll show you who gets horizontal when I'm finished with you.

Arte brandishes her little fists. Zeuxis rapidly draws out his magic screen and shows a picture between himself and Arte.

Zeuxis: Hoho! That was just a manner of speaking, Arte. Let's have a look at what artists have done with horizontals. One can make splendid works of art with just a few horizontal lines, and it was one of the great surprises of the experimentation of the twentieth century abstract art to make this clear. We look at a composition of Marcel Broodthaers. He made several panels on the theme of horizontal lines in 1969 and called them "Un coup de dé jamais n'abolira le hasard. Image". That means "A throw of the dice will never abolish chance. Image". Broodthaers was a poet at first, who later decided to dedicate himself to the visual arts. He was an artist full of irony and one of his best known pieces of art was the "Red Mussels and Pan" of 1965, which was simply a pan filled with mussels in a popular art representation. Belgians just love mussels and French fries, so Broodthaers immortalised the culinary tastes of his fellow-men. With the picture I show you however, he created a composition of randomly juxtaposed horizontal lines. What do you feel when you look at this picture of Broodthaers?

➜ Marcel Broodthaers (1924 – 1976). Un coup de dés jamais n'abolira le hasard. Image. Museum voor Moderne Kunst. Koninklijke Musea voor Schone Kunsten. Brussels. 1969.

Arte, calmed again: Well, the horizontal lines are indeed restful. However, I find here quite dynamic patterns. Combining horizontal pieces of line can also create dynamism. Maybe the images try to represent a distant memory of books by this Broodthaers. He was a poet. The lines may therefore be the memories of the printed words that remained as pieces of lines in our minds. Maybe Broodthaers showed his lack of power to create wonderful poetry, so that he only drew the lines of his poetry but not the words anymore. Oh, Zeuxis, is this poetry in lines? It is movement, flow, but also sadness!

Zeuxis: do not advance too far in assuming, Artemisia. But that was good. Now, let's come back to something I said earlier. Horizontal lines indicate a side. They take the eyes of viewers either from the left to the right or from the right to the left. The intuitive reaction of most Western viewers will be to look from left to right. Right-handedness is an important aspect of physics and of humans. The dials of a clock move clockwise, that is from left to right. A timeline is usually represented from left to right in representations, and most people perceive this direction to be the most natural. Western European painters have therefore favoured the right side of their frames. That is not necessarily the case on other cultures, however.
In George Stubbs' painting of "Soldiers of the Tenth Light Dragoons", the horse looks to the right and on the right side stand the two soldiers in black, towards whom our attention is drawn. The place of honour in this painting is not for the horse on the left, but for the two soldiers on the right. Many other examples of the dominance of the right side can be discerned in paintings. The painter must take account of the fact that the movement from left to right is usually the more natural one for Western viewers.

When two shapes of equal size are shown in the same place relative to the borders of the frame, but one to the left and the other to the right, the one on the right will seem somewhat larger. This effect also is due to the preference for the right side of humans.

➜ George Stubbs (1724 – 1806). Soldiers of the Tenth Light Dragoons. The Royal Collection. London. Around 1793.

Arte: All right, Zeuxis. Now that we walk, look at how fine the meadows are this time of the year. The grass is never greener. I think of something else. The horizon is horizontal!

Zeuxis: Oh, yes. I was forgetting that. A major line in landscapes is the horizon. Thus, horizontal lines mean wideness, breadth, and vastness to left and right, as they may remind of the horizon. Let's talk a bit of technique now.
The place of that line in a picture of nature, in landscape paintings, defines the position of the viewer. If the line is in the exact middle of the canvas, the viewer is in a neutral position. If the horizon line is low, dominance is given to the sky. This heightens the impression of weight of the heavens and of smallness of man. The scenes are then more intimate, and one can expect more dense narrative and pictorial elements in the picture. If the horizon line is high, the main scene and the views will probably oversee a vast, wide land space, at which the spectator will look from a lower point of view. Try it out, Arte.

Arte draws a few horizon lines: a low horizon in plates 7 and a high horizon in plate 8.
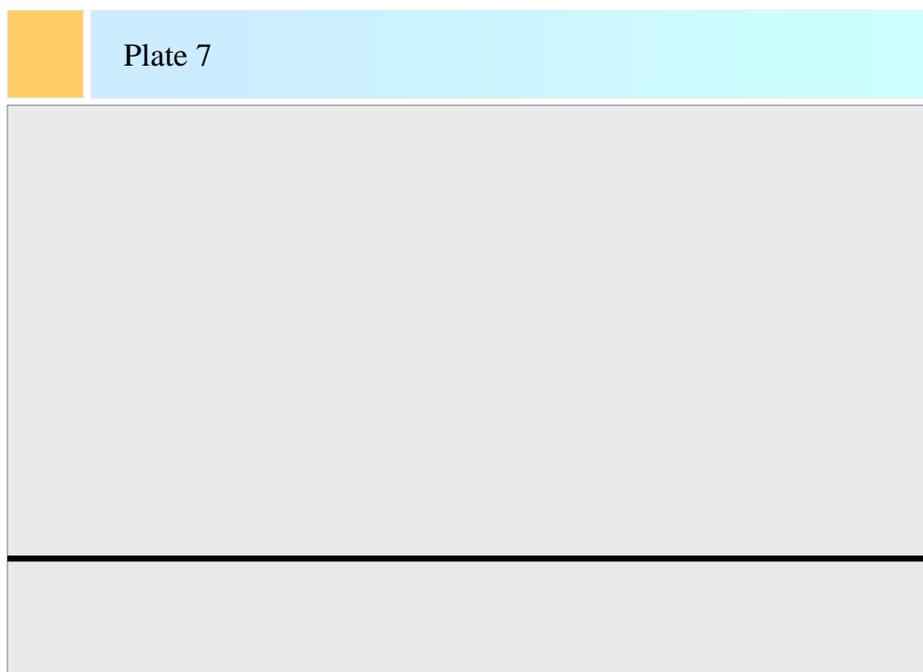
Plate 7

	Plate 8

Zeuxis: Horizontal lines were preferred by the nineteenth century Impressionist landscape painters and by the Realist painters of the schools of Barbizon and of The Hague. Not just these realist painters worked with horizontal lines. Much earlier already, Dutch artists of the seventeenth century used dominance of horizontals in landscapes to enhance the feelings of the vastness of the open views of their country, which was the flat, alluvial plain of the deltas of the Rhine and Meuse Streams. Jacob van Ruisdael, one of the finest Dutch landscape painters of the seventeenth century, made a picture called "View of Haarlem" around 1670. Van Ruisdael placed the horizon low to indicate the flatness of The Netherlands, the wide views on the country and the smallness of the little towns in the vast wideness of space.

➔ Jacob van Ruisdael (1628 – 1682). View on Haarlem. Rijksmuseum. Amsterdam. Around 1670.

Arte: Look, Zeuxis, I drew a horizontal line on these two sheets of paper. And I see a complete landscape indeed. Here is a low horizon and there a high one.

Zeuxis: Your words have a strong suggestive power to me too, Arte. You draw a line and you speak of horizon, so I see a landscape. I see a low sea and a large sky, and exactly the opposite in the second drawing. Painters cannot speak out to their audience – well, they rarely do so – but they can use the title to be suggestive like this. Look at the picture I wanted to show you next.

Zeuxis projects a marvellous landscape, not unlike the one Arte and him are walking in.

Zeuxis: An admirable example of this kind of use of horizontal lines is in Gino Severini's picture "Landscape in Civray", painted in 1909. Severini shows meadows separated by hedges and the hedges run horizontally. The hedges are painted closer to

each other as they reach the horizon. This enhances much the impression of perspective in the painting.

➔ Gino Severini (1883-1966). Landscape in Civray. Private Collection Rau. Germany. 1909.

Arte: I understand that horizontal lines are necessary, for they are the basis on which all living things stand, but they are also somewhat repulsive to me. Horizontal lines emphasised too much in pictures set me ill at ease. I perceive a menacing influence, and feelings of smallness. I feel some of these impressions when viewing Jacob van Ruisdael's picture you showed me before.

Zeuxis: Let's continue further on these horizon lines now. Let's amplify the effect. Several parallel horizontal lines starting from the lower part of a frame and at an ever closer, that is shorter distance from each other, stopping halfway in the frame, create a sense of depth in a picture. Such a set of lines creates an impression of an opening landscape that flees to a horizon. Horizontal lines are much used in landscape paintings for the effect of flatness and wideness of the land that they carry. The grand landscapes of the Dutch landscape painters of the seventeenth century come immediately to mind, but also Dutch marine pictures. Jacob van Ruisdael also indicated several horizontal lines, which start wide apart and come closer together near the horizon in order to create illusions of depth and great distances.
Here also the painter can put thicker lines close to the viewer and thinner lines further away. Try it out, Arte.

Arte draws the plates 9 and 10.
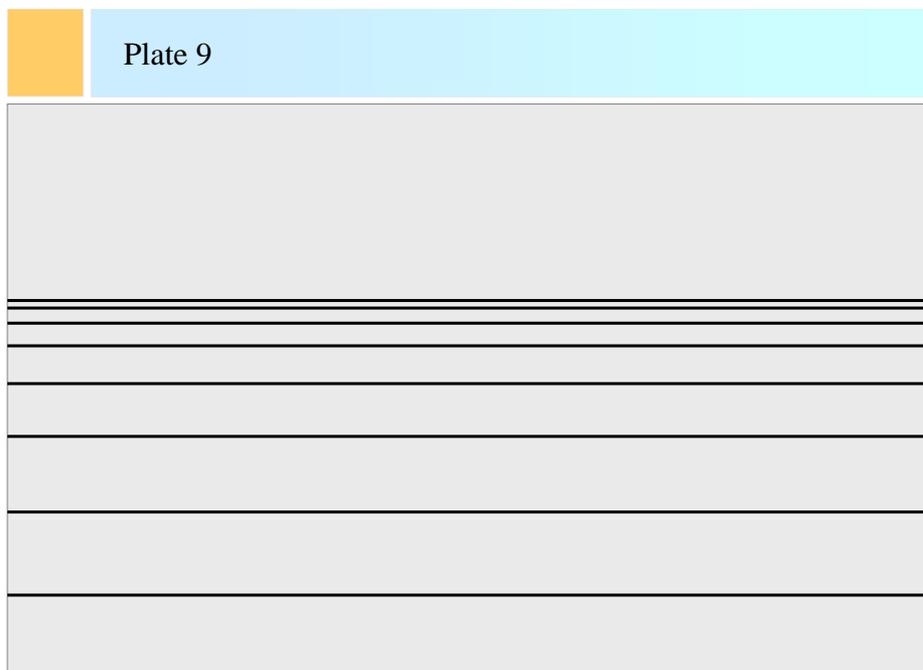
Plate 9

Plate 10

Zeuxis: Using longer lines at the bottom and shorter lines higher up can enhance the effect of fleeing horizontal lines. The ends of these lines then form a pattern of perspective that recedes to an eye-point. Painters can exploit this feature to add subject matter on the left or right and thus create ever more powerful effects of receding space and of depth in a painting. Invisible but strongly suggested slanting lines that recede to the far create this impression more strongly, as is the case with the impression of perspective created by the shortening vertical lines. Try it, Arte.

Arte draws plate 11:

Plate 11
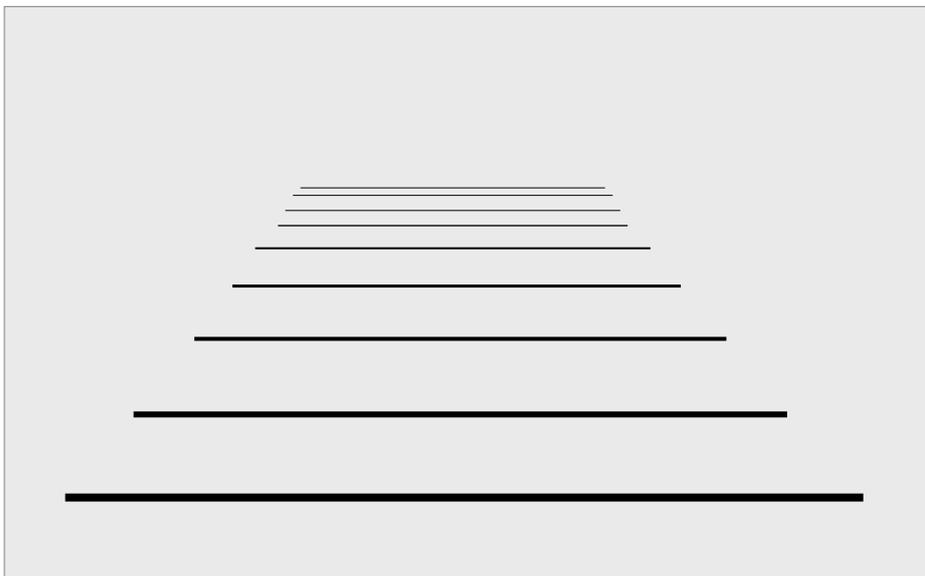
Zeuxis: If we look again to Gino Severini's "Landscape in Civray", we see also these effects very subtly applied.

Zeuxis projects again Severini's landscape.

Zeuxis: Severini painted more trees to the background and thus shortened the horizontal lines of the hedges, as they are painted further away from the viewer. In this way the viewer has a strong impression of a wide-open field and then his or her view is restricted towards the horizon. The effect of the horizontal lines growing smaller adds to the perspective. Moreover, since the horizontal lines converge, the spectator also perceives oblique lines that recede to a vanishing point on the horizon. These oblique lines are present in the painting, but only very slightly, on the left and the right. They limit the front open field, but Severini added them especially in the front part to enhance perspective close to the viewer so that perspective and depth is enhanced there too. Remark furthermore in this painting the high horizon and the horizontal lines in the clouds. The high horizon adds to the impression of depth and wideness of the scene, whereas the long series of clouds enhance the general horizontality of the landscape. We can further modulate this depth, as I told earlier, by applying thicker lines close to the viewer and thinner lines further off. Can you draw the "invisible receding lines", Arte?

➔ Gino Severini (1883-1966). Landscape in Civray. Private Collection Rau. Germany. 1909.

Arte obediently draws also the oblique, invisible lines of perspective of plate 11 on a new sheet of paper, to plate 12:

Plate 12
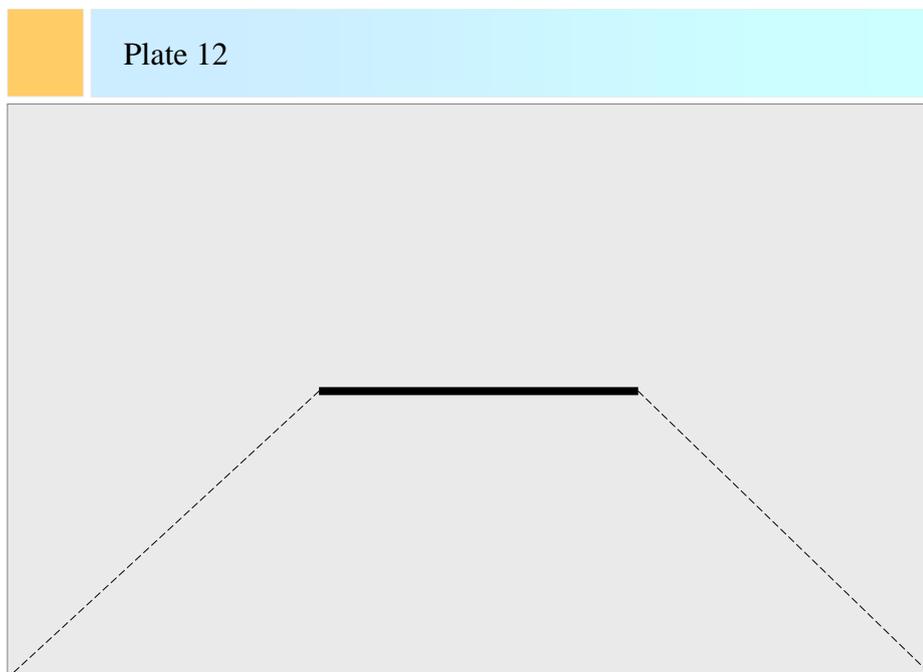
Zeuxis: Fine!

Arte: Zeuxis, do painters use horizontal lines often? You keep talking and talking about them, but there must be more in painting than these boring lines.

Zeuxis: Except for their use in landscapes, painters use horizontal lines sparingly. These lines tend to divide a picture in layers, and thus focus the attention of the viewers separately to each of the layers, which is not always an effect that painters desire since it may destroy the unity of representation of a picture. But of course, such division in bands is sometimes indeed a salient feature, as in some of Paolo Veronese's scenes for instance. Horizontal lines can thus be used to divide a frame in layers, in which then various scenes are painted.

Arte: Who was Paolo Veronese?

Zeuxis: A painter of the seventeenth century of Venice. Actually, he originated from Verona, hence his name, but he worked in Venice mostly. Please draw two equally distanced horizontal lines, Arte, to give us an idea of three frame layers.

Arte complies in plate 13:

Plate 13
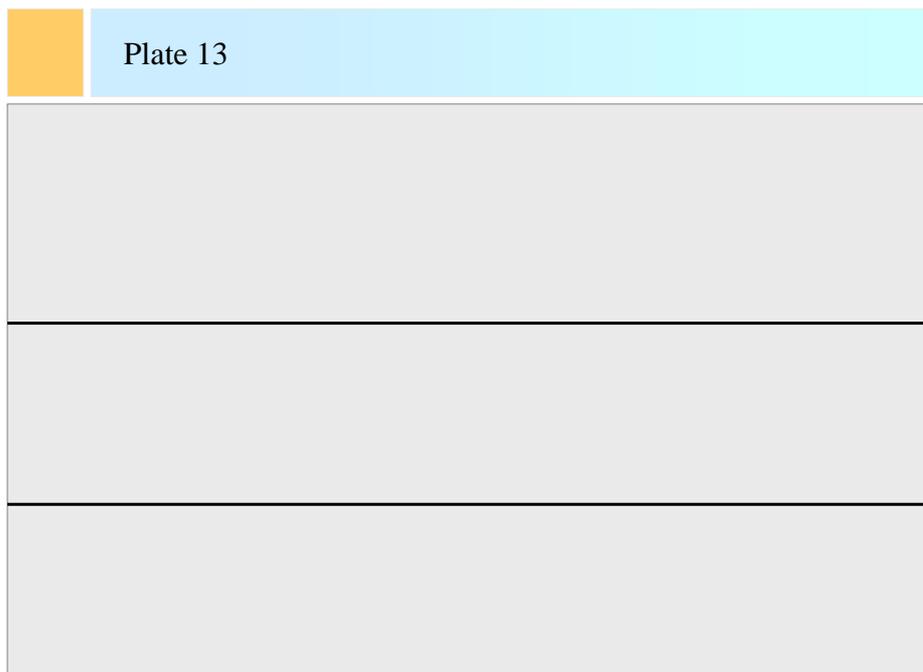
Zeuxis: Great! In Paolo Veronese's pictures we may have a scene with a dressed table below, a long balcony with further action in the middle and in the third, the highest layer, Veronese used to show the cloudy sky with architectures of buildings and towers to form the stage setting.
Strong, long horizontal lines have been so rarely applied by painters in scenes that their re-introduction could come as something of a shock, as a new original idea in representation. Look for instance at "Christ in the House of his Parents" of Sir John Everett Millais (1829-1896).

Zeuxis projects a completely different picture now.

Zeuxis: In this picture the horizontality of the table, together with the vertical directions of the figures, brought a surprising view and unusual feelings into a well-known religious theme.

➜ Sir John Everett Millais (1829-1896). Christ in the House of his Parents. The Tate Gallery. London. 1850.

Arte: That is a surprising picture, Zeuxis. We have been walking for a long time now and I see my house again, there. Can we stop this lesson?

Zeuxis: While we are going back to your home: just a last point. In these first two lessons we briefly discussed vertical and horizontal lines separately. The aspiring verticals and the solid horizontals can be combined, and have been so to constitute one of the main tendencies of abstract art of the twentieth century.
Combinations of horizontal and vertical lines give an impression of inflexibility, of frozen rigidity. Structures composed of horizontals and verticals do not move and cannot be distorted when the lines are fixed together. This is the most elementary combination of lines to form areas in a picture.
Piet Mondriaan and the artists of the Dutch school called "De Stijl" based their views of architecture on such constructions. The combination of strong dark, straight lines meant in the ideas of De Stijl the true representation of the dominance of reason in art. With the combinations of horizontals and verticals, basic squares and rectangles could be formed that were sufficient in architecture. The combination gave an impression of pure utility and of areas really invented by man since such pure rectangles did not exist in nature.
Look, Arte, give me a sheet of paper and I'll show you.

Arte hands over a crayon and a sheet of blank paper. Zeuxis starts drawing plate 14.

Plate 14
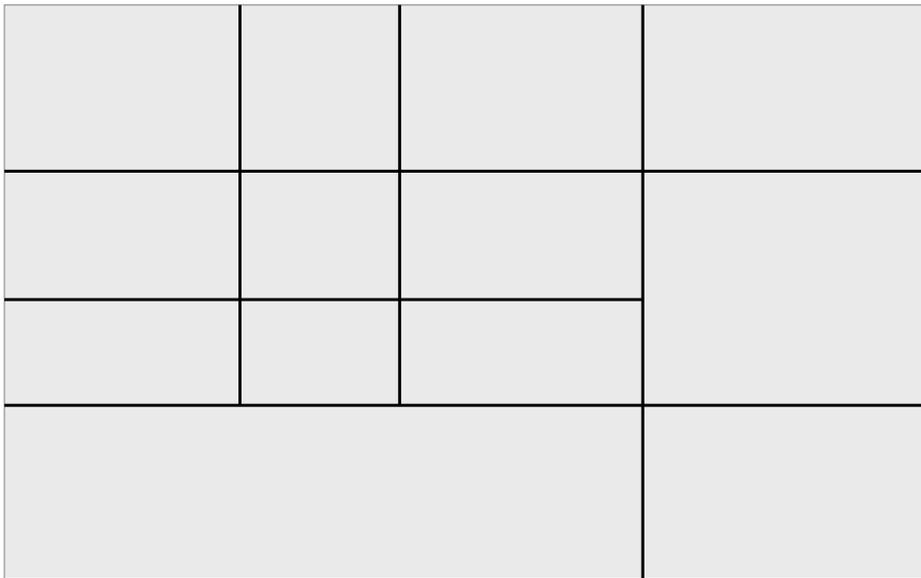
Then Zeuxis positions his screen again and he shows pictures, more talking to himself than to Arte now. Arte looks at him in amazement.

Zeuxis: Piet Mondriaan's style of the coloured rectangles did not evolve at once. Interestingly: one can follow an evolution in his art from small horizontal and vertical lines in the beginning, to the totally structured pictures of his later periods. His painting "Tableau III (Compositie in ovaal)" dates thus from 1914. Remark indeed the oval form, Arte, a form that could not find grace in later views of De Stijl. This picture is a combination of small pieces of vertical and horizontal lines between which Mondriaan painted soft colours. From 1928 however dates "Compositie met rood, zwart, blauw, geel en grijs", and this picture is the final accomplishment of the ideas of "De Stijl".

➔ Piet Mondriaan (1872 – 1944). Table III (Composition in oval). Stedelijk Museum. Amsterdam. 1914.

➔ Piet Mondriaan (1872 – 1944). Composition with red, black, blue, yellow and grey. Stedelijk Museum. Amsterdam. 1928.

Arte: Zeuxis, Zeuxis. You come from far Greece but you are in passion over abstract art.

Zeuxis: Yes, Arte. Abstract art is great to explain concepts of painting.
One last thing. I just have to tell you this! A combination of forms that is much used in architecture, and hence often represented in paintings, is the Palladian front. This was a classical element of design re-invented or re-used by the Italian architect Andrea Palladio (1508-1580). Palladio used a front for his palaces that consisted of four slender columns topped by a long and narrow triangle. The vertical columns give an impression of elation, of aspiration towards the heavens, and hence evoke

spirituality and transcendence. The slanting lines of the triangle also point to the sky, and enhance the effect. Such feelings impress viewers, visitors to the Palladian palaces, so that they stand in silence before the classical dignity of the front. So look, we made a sidestep from paintings to architecture, and as you see, the same principles of design apply to architecture.

Zeuxis draws plate 15.

Plate 15
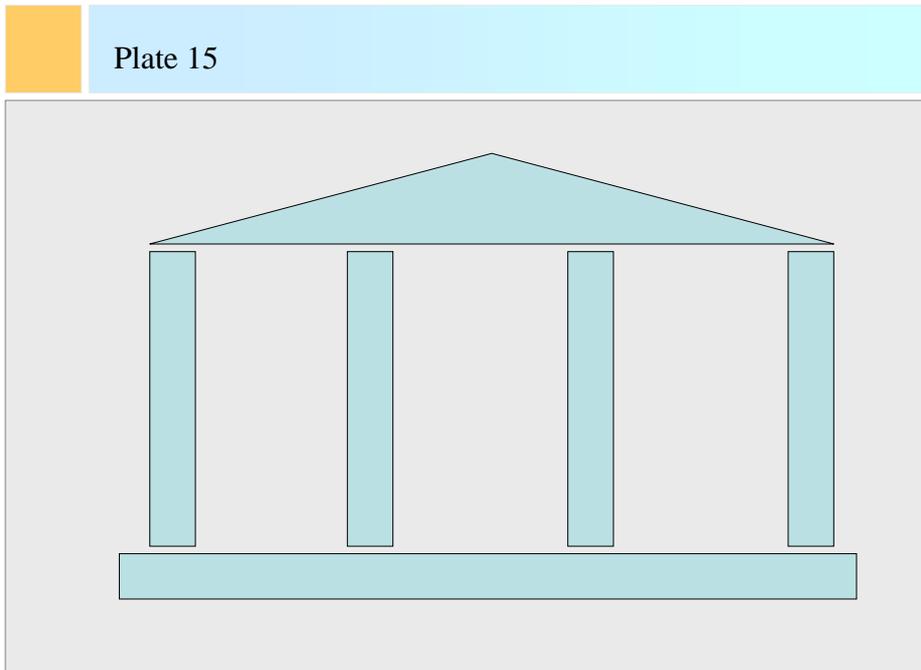
Arte: That was all nice, Zeuxis. I see that you can draw too. But I am home. Here we end with this lesson!

A Discourse of Zeuxis on Structure

When we look at a painting we see areas of colour. The way these areas are distributed over the support of the picture is the composition of the painting. We will of course in Arte's lessons much handle the aspects of composition. But the areas of colour also show directions in the picture. These directions can be thought of conceptually as the 'lines' of the painting and these lines together form the structure that is underlying the composition.

The lines that the human eye distinguishes, often intuitively and immediately without conscious analysis, can be of a varied nature. The lines may be immediately perceived as the borders of monuments or of objects. They can be the central axis of geometrical shapes used by the painter. They may be the general directions of the orientation of the shapes, in the flat space of the canvas. In abstract paintings, the lines may be present physically as segments. The lines form patterns, and these patterns create the structural skeleton upon which the composition of shapes is constructed. Painters often start by drawing a few of these main lines, or they have these main lines in their mind, and then they position the shapes, figures and objects along or around these basic directions.

As an example, to explain the above theory, we take the painting of Hubert and Jan Van Eyck called "The Three Maries at the Open Sepulchre". This picture shows the open tomb from which Jesus has resurrected. The borders of the tomb form long, horizontal segments of lines, and these constitute one of the main directions of the picture. The slab of stone that once closed the tomb has been displaced. The axis and the borders of the slab show oblique directions. These lines are directly visible in the painting. An angel sits on the stone tomb. The angel sits vertically, so that the central axis of this angel figure is a vertical line. Our eye perceives this direction as it conceptualises the scene, and our eyes intuitively follow this direction as they wander over the figure to take in the details. Vertical lines also are in the central axis of the three Maries, three human figures standing next to the tomb on the left. The three soldiers are sleeping, but in our mind and with our eyes we follow a direction that goes from one soldier to the other and that is an oblique direction from the lower left to the upper right. The lances of the soldiers form lines too, and these more or less emphasise the direction of the sleeping soldiers. Now look at the rock formations behind the main scene. The borders of the rocks form oblique lines too, which come together in one point behind the angel. The direction of the three sleeping soldiers, of the stone slab and of the right rock formations seems to be at the same angle. In the far lies Jerusalem, and here again we find a preponderance of horizontal lines. The main lines, the directions that we can distinguish, are thus the oblique lines of the rock formations, emphasised by several other sub-lines (soldiers, their lances, stone slab), the very obvious horizontals of the stone tomb, and the verticals of the angel and the three Maries.

➜ Hubert (1365 – 1426) and Jan van Eyck (1390 – 1441). The Three Maries at the Open Sepulchre. Museum Boymans-van Beuningen. Rotterdam. Around, but after 1430.

Hubert and Jan Van Eyck used these lines to construct their composition on. These lines form the structure of the picture. The structure of this painting consists of many lines. Its verticals, horizontals and oblique lines build a quite complicated structure. In many paintings the structure is simpler, and often based on just one main direction. We will see many examples in these lessons of the structure of compositions. Recognising the main directions of a structure is usually quite easy.

The lines of the structure have psychological value. We know these lines from our daily experiences, so we assign meaning to them intuitively. Some of that meaning stays linked to the lines, even if they are used in an entirely different context, the context of the painting we look at. The painter may have combined the lines into patterns that take some time to perceive, but generally the directions can quite easily be discovered to start the analysis. The lines, even when physically not present, even when they have to be deduced by our intellect as directions of axis of symmetry in the forms, and thus not immediately perceived as such, influence our mind with their psychological value.

Lines evoke feelings. Vertical lines, as we have seen, evoke feelings of elation. Such feelings are of course enhanced by the overall representation, by the subject of the painting and by our further understanding of the many other elements that make up the whole work. Lines are but one element of the whole, but they do support the mood or the emotions evoked in the viewer.

Lesson Three – Oblique lines

Zeuxis and Arte are sitting in the courtyard of Arte's house. The house is empty. Arte has brought a table out and she has prepared her white sheets of paper. She is eagerly waiting for Zeuxis to start, but Zeuxis plays with his fingers in his beard and glorifies in the warm sun.

Arte: Zeuxis, you lazy man. When are we going to learn something today? Will you just be sitting there or will you tell me about the art of painting?

Zeuxis: Oh, I'm sorry Arte, I was thinking …

Arte: Out with it, Zeuxis. What were you thinking about?

Zeuxis. Well, about a painful experience. It is not really the moment to talk about that now, but I was recalling our talk over vertical lines again, and an old story came up to me again.
You see, I was a very good painter once, though I say it myself. Me and my fellow-men, we thought that painting was all about imitating nature. We called that 'mimesis'. Now, I could imitate nature so well that once I painted grapes and birds came in, flying, to peck at them.

Arte: Why, that is a marvellous story, Zeuxis.

Zeuxis: Yes. In this lesson we will talk of another painter who could do that.

Arte: What did that have to do with vertical lines?

Zeuxis: I had a rival. He was called Parrhasios. He was jealous of me. He said he could do better mimesis than me. I laughed at him, of course; nobody could paint better than me. Parrhasios invited me into his studio to show me his own work. I saw a cloth on his panel, so I eagerly lifted the curtain from the panel, only to find that it was not a real curtain but a painted one! I had to concede victory to Parrhasios then, since he had not just deceived simple birds, but the best of painters! And Pliny, the old fool, of course wrote the story down, and ridiculed me for eternity.

Arte: That suited you fine. You got what was coming to you for so much conceit! But you are still the finest painter for me, and a great teacher.

Zeuxis: You sweeten the pain, dear child. Here: I offer you a treat.

Zeuxis conjures up the magic screen and shows a picture.

Zeuxis: This is a painting made by Gerhard Richter, a German painter of your twentieth century. It is a painting of a curtain, made all in grey tones and showing nothing more than vertical stripes of colours. Richter remembered me. At least …
What puzzles me most is that I do not know whom he remembered most: Parrhasios or me.

➔ Gerhard Richter (1932 –). Curtain. Pinakothek der Moderne. Munich. 1966.

Arte, soothing: I am sure this Richter was reminded of you, Zeuxis. But are we again and again going to look at vertical lines? Frankly, I have had seen enough of them!

Zeuxis: No, no Arte. We are going to look at a far more thrilling and exciting subject: oblique lines.

Arte: Oh sweet Jesus! She *points with a finger to Zeuxis and talks to her dog*. This man is a real joker, Parr.

Zeuxis: Parr?

Arte: Yes. Parr, Parr from Parrhasios. I am not entirely illiterate you know. I knew that story.

Zeuxis, proud like a peacock now: Oh! Nice to have called your dog after my … eh … good friend. You know, you should have seen him! He always wore a purple cloak and I never knew a more arrogant bastard! He called himself the "Prince of Painters" once, and he gave himself other flattering surnames.

Arte: Well, was he also not the first to introduce a certain scheme of good proportions in painting and did he not painted faces with elegance, vivacity and grace? Was he not a prolific artist, even if he was a jolly character?

Zeuxis: Eh, eh, hmmm …*Continues.*
So here is about oblique lines! This will be a bit of dry theory, but we have to get through it.
Oblique lines and oblique directions deviate from the natural laws of gravity. They indicate departure from equilibrium. They are unstable, ready to fall to one side or the other. They can only exist for a short while, so they cannot but be as if in perpetual movement. Oblique lines thus create a strong sense of movement. Movement is the basic impression induced in a viewer by slanting directions. This is of course an illusion, since the frame and the whole painting are fixed for eternity, but the feeling is none the less real and one of the wonderful effects of oblique directions in painting discovered only truly in the beginning of the Baroque period. I will tell you of that period later.
The borders of the frame of a painting can support oblique lines, that is have the oblique lines attached to them, or not, and both kinds of lines generate different impressions. We will use two distinct terms, and call these lines supported oblique lines and unsupported slanting lines.
First, we talk of the supported oblique lines.

Arte: Fine for me. When you pronounced the word "movement" you got me interested.

Zeuxis: Supported oblique lines are lines that have their two corners firmly fixed to the corners or to the sides of the frame of a painting. The diagonals of rectangular

paintings are such lines. Arte, dear child, start working. Draw me all the diagonals you can find in a rectangle!

Arte makes the following plates 16 and 17:

Plate 16

Plate 17
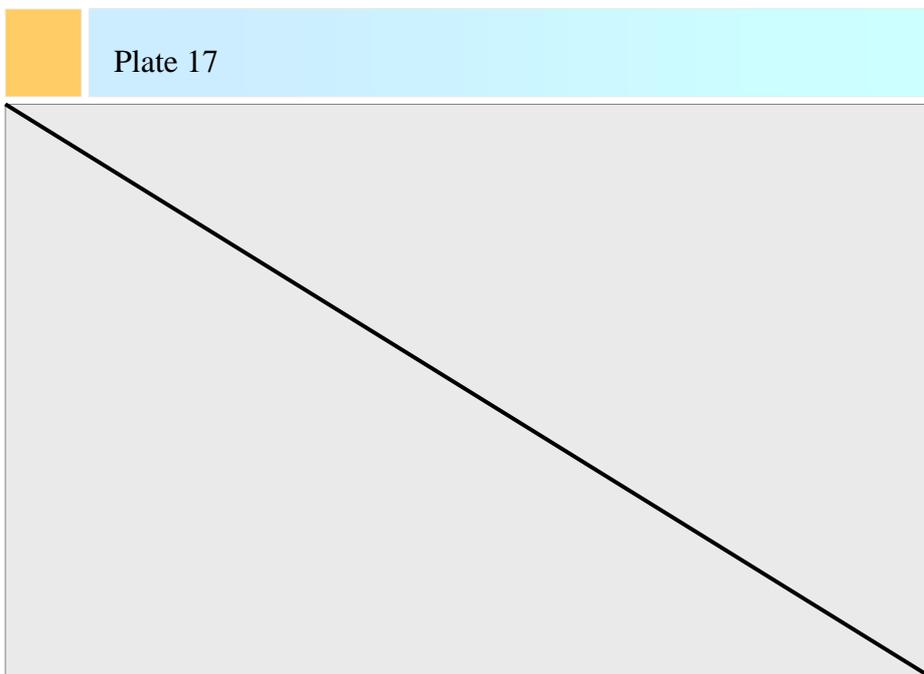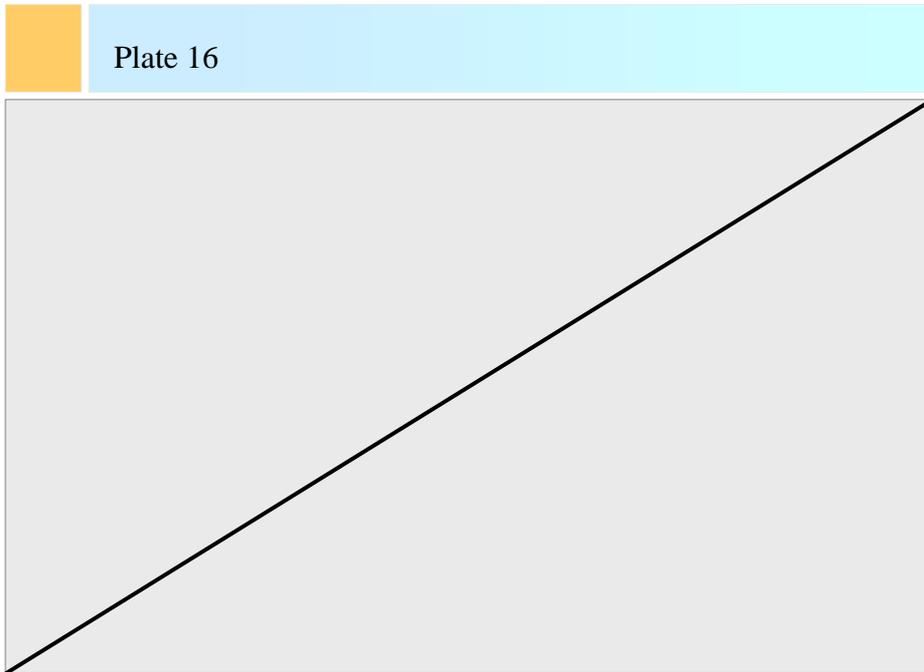
Zeuxis: Great! The art historian Heinrich Wölfflin (1864-1943) noted that the diagonal that runs from the bottom left to the top right is perceived as an ascending line, the other diagonal as descending. We will call the diagonal of your first plate, of plate 16, the left diagonal. And we will call the diagonal of your plate 17 the right diagonal. Recall these terms well, Arte, because from now on we will be using these

words often. So the left diagonal indicates an aspiring movement, the right diagonal a direction downwards. Now, draw the two diagonals together on one new page.

Arte draws plate 18:

Plate 18
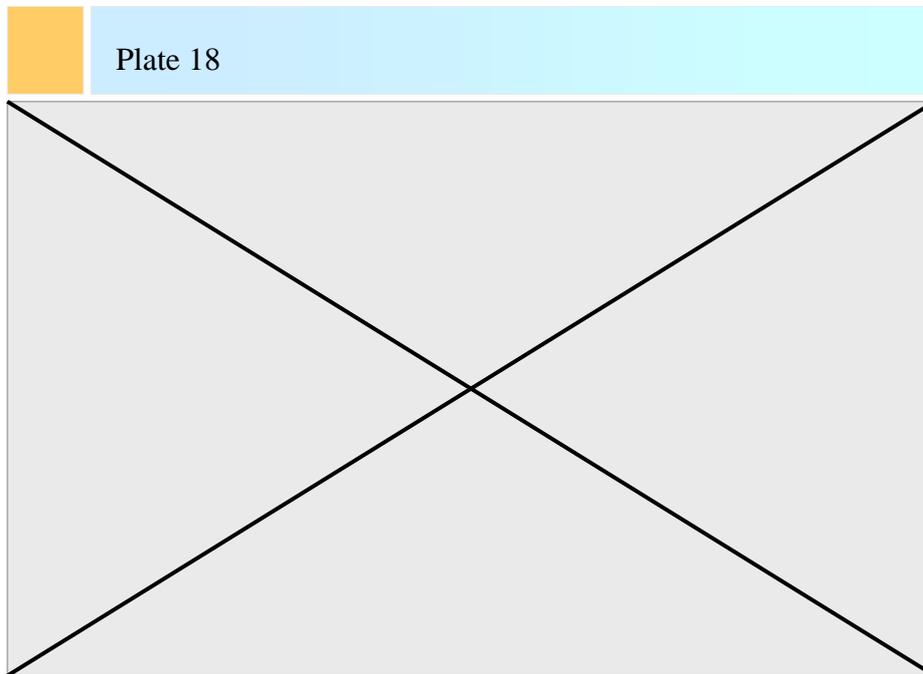
Zeuxis: A picture in which crossed diagonals as directions are used, is the "Three Maries at the Open Sepulchre" of Jan and Hubert van Eyck made around 1430. One can see that oblique lines were used very early in oil paintings, for the van Eycks were among the very first oil painters of Flanders. The two diagonals start from their left and right corners. The ridges of the mountains that descend towards the open tomb show the diagonals. The stone slab that served as the lid of the tomb suggests the left diagonal in this picture. An angel sits on the slab, exactly where the diagonals cross. Remark also how the van Eycks have introduced several unsupported slanting lines in the lances of the soldiers. They may have done this to indicate chaotic sleep. Furthermore they used strong horizontal lines in this picture, in the lines of the long, open tomb. They re-created the impression of solidity and earth, maybe even of death, suggested in general by the horizontal directions. So, the use of oblique lines in paintings is very old, even though such directions still then only supported the rigid structure of the picture.

➔ Hubert (1365 – 1426) and Jan van Eyck (1390 – 1441). The Three Maries at the Open Sepulchre. Museum Boymans-van Beuningen. Rotterdam. Around, but after 1430.

Zeuxis: This time I need you to make a whole set of plates, Arte. You take one paper. Then you draw a line in the middle, either vertical or horizontal. And then draw diagonals again in the halves. You should see what we call the subdiagonals then. What do you get?

While Arte makes the plates and reflects on just how many she can make such ones, Zeuxis relaxes. He spreads his legs, puts his hands behind his neck, and turns his face to the sun. Arte draws the plates 19, 20, 21, 22, 23, 24, 25 and 26 before she stops, sighing:

Plate 19

Plate 20

Plate 21
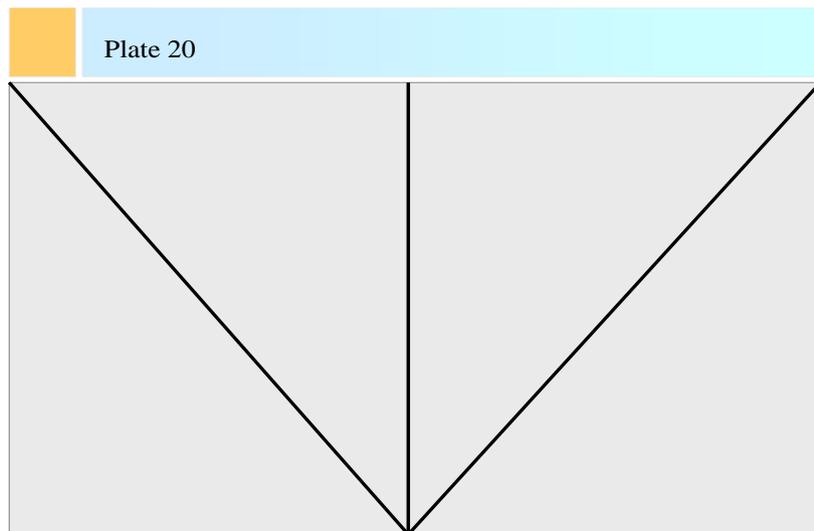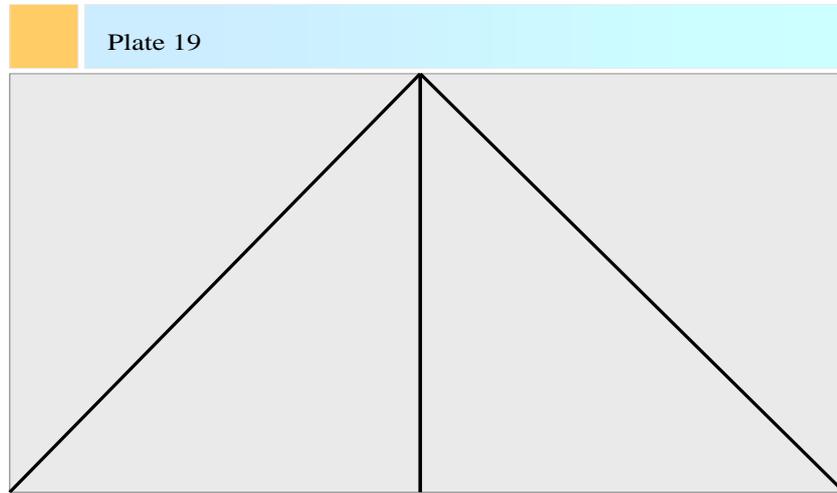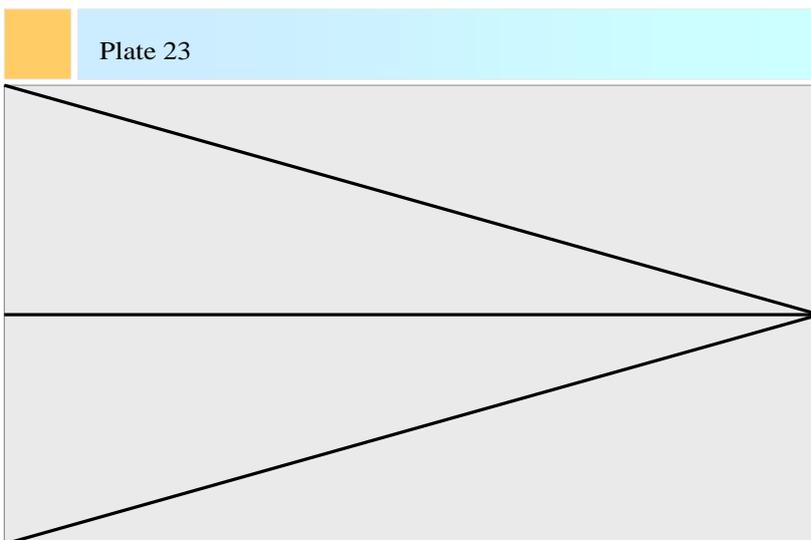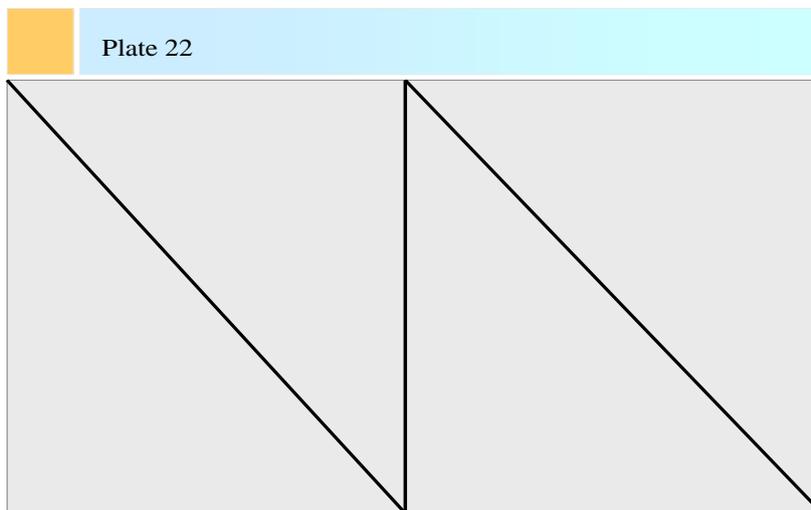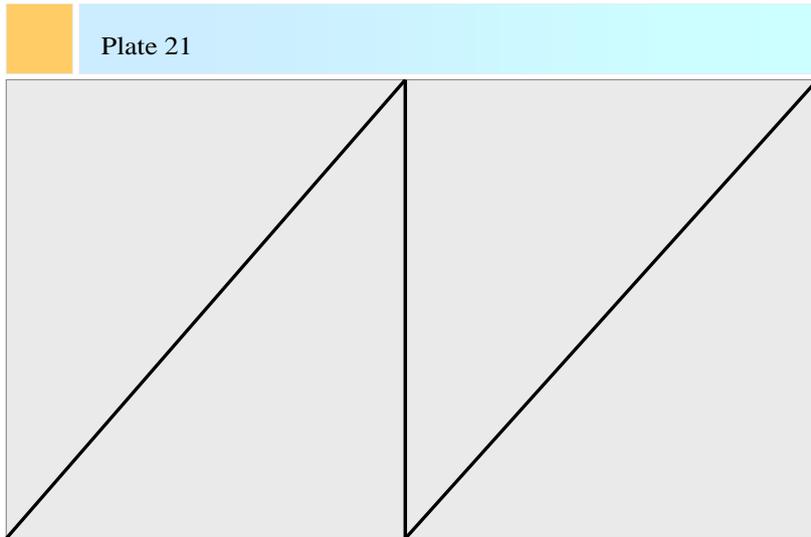
Plate 22
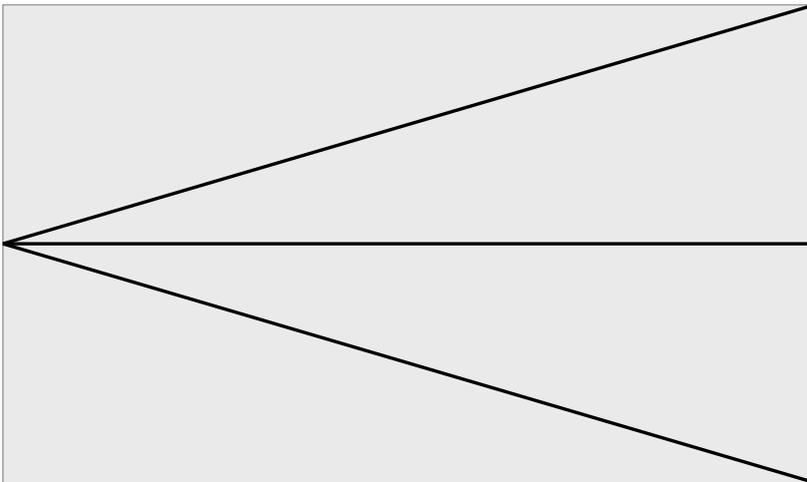
Plate 23
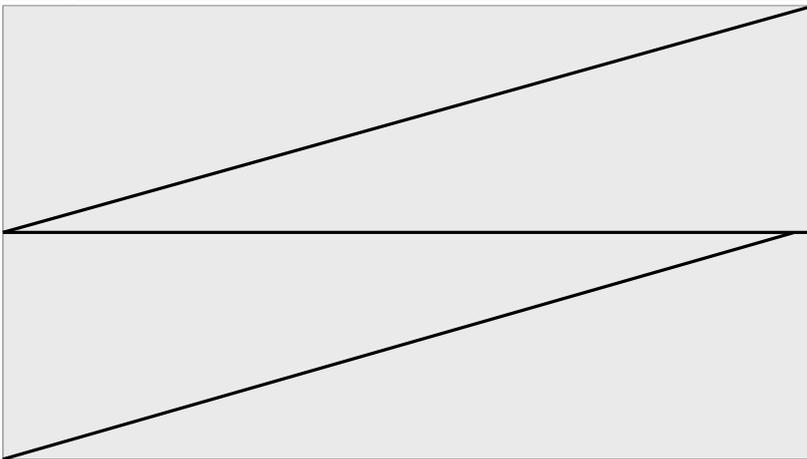
Plate 24

Plate 25

Plate 26
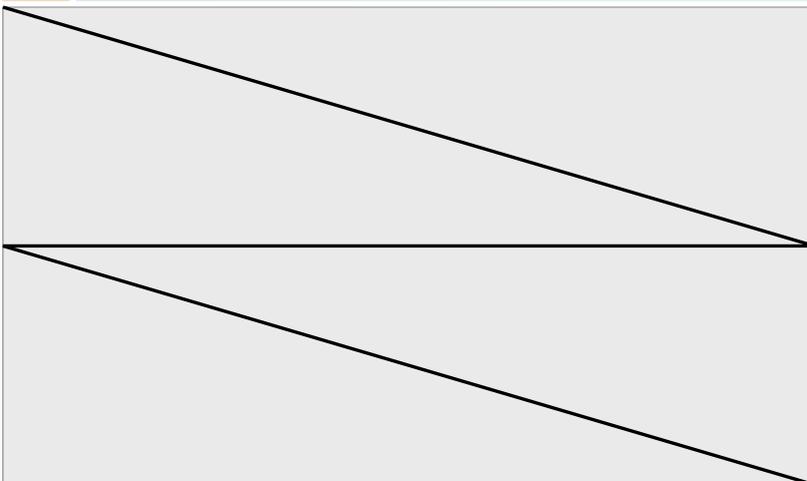
Zeuxis: Wasn't that a great exercise in combinations, Arte? You have a nice mind for geometrics. All great painters liked geometrics. Now! A treat is your reward. Very many painters have exploited one or the other of the divisions of areas that you have obtained. So we are still in lines, but for the first time we will also discuss areas. You have composed quite many such areas.

Zeuxis projects a picture again.

Zeuxis: Paul Signac was a French Impressionist painter of the nineteenth century, who used the subdiagonals in various pictures of landscapes, a genre in which one would not expect them. But look for instance at his "Cassis, Cap Lombard". Cassis is a small village on the Côte d'Azur, one of the most idyllic sites of the south of France on the Mediterranean. In Signac's picture the direction of the hills go to the sea from the upper left to the middle right and the line of the seashore starts in the lower right corner to the middle right. This is a perfect example of the use of the lines and areas indicated in your last plate!

➔ Paul Signac (1863 – 1935). Cassis, Cap Lombard. Gemeentemuseum. The Hague. 1889.

Arte: I know the subdiagonals by now well enough, Zeuxis. How about movement?

Zeuxis: We are still talking about supported oblique lines, Arte. Supported oblique directions are used to indicate movement and to yet give an impression of strong structure in a painting. One of the first masters to exploit the effect was the seventeenth century artist Michelangelo Merisi, called Caravaggio. Caravaggio's "Christ at the Column" is a picture of movement that uses some oblique lines for the vertical diagonals, and lines parallel to them. Slanting lines were known in painting before Caravaggio, but this artist applied them to full drama. Here is the schema in lines of the painting.

Zeuxis projects the dramatic painting of Caravaggio and he draws himself the plate 27 that is the structure schema of Caravaggio's "Christ at the Column".

➔ Michelangelo Merisi called Caravaggio (1571 - 1610). Christ at the Column. Musée des Beaux-Arts. Rouen. Around 1606.

Plate 27
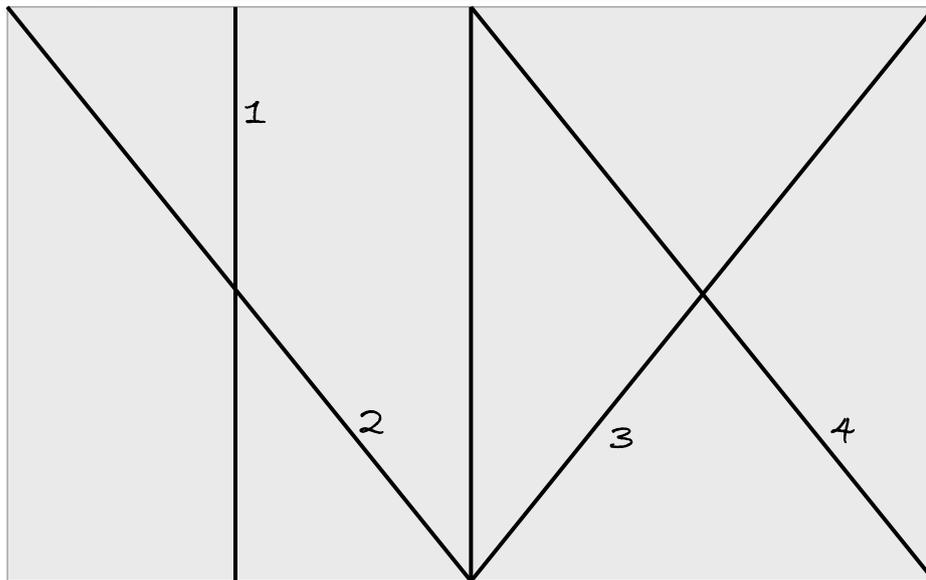
Zeuxis: Imitating nature was considered the greatest way of art when I lived. Only one artist could really do that better than I, I have to confess, and that was Michelangelo Merisi, a Milanese painter called Caravaggio after the village he was born in. But of course, art had evolved too since my times, and Caravaggio painted entirely different from me, even though occasionally he made pictures that I would have been proud of. Caravaggio used the left side of the column against which soldiers torture Jesus to indicate one quarter of the frame (line 1 in plate 27). Jesus leans towards this left, in the direction of diagonal 2. A soldier binds Jesus's hands, and another holds up a whip to lash Jesus. These two torturing arms follow the direction of diagonal 3. Finally, the two men's bodies also are oblique and into the direction of diagonal 4. Caravaggio's painting is clearly a masterpiece, Arte. The overall and instantaneous view of his painting is entirely dynamic, violent action caught at a flash of bright light, in a blink of time. Here is a picture that appears instantly out of the depths of time in all its coarseness and brutality. But beneath the immediacy of the picture, the drama and the expression of violence, there lies strong structure. Caravaggio was not the first Baroque painter to have re-discovered the power of oblique lines. That honour should probably be attributed to Tintoretto, Jacopo Robusti, who lived from 1519 to 1594 in Venice. Yet, no one but Caravaggio applied the technique so overtly and so soon to its full extent.

A question difficult to answer always is whether Caravaggio and other painters first drew these strong lines and then followed them, or whether the structure was created spontaneously, and if the directions were imposed naturally on the artist by his intuition or genius. Both arguments are probably true, painters first following their intuition and then re-ordering that along strong, basic directions of the frame. Caravaggio cannot but have noticed how the structure imposed itself for the scene, whether he calculated it or felt these to be the directions he needed. The result is action in eternal rigidity, now a classic view of a religious theme, and probably the ultimate view of this theme.

Arte: The diagonals of a frame seem to me indeed difficult to avoid. They are basic lines in a picture. I had no difficulty in drawing them all; they come to you naturally.

Zeuxis: Indeed, Arte. Willingly or not, painters are the prisoners of their frame. It is almost impossible for a picture to escape the basic lines of the canvas, which are as we have seen the verticals, the horizontals and the diagonals. But in the beginning of the seventeenth century Caravaggio fully exploited oblique lines for their intrinsic value in the depiction of movement. I believe this to have been part intellectual, part intuition and part imposed by the frame. Caravaggio possessed such a force and violence of expression that he naturally discovered the potential of diagonals for suggesting movement of figures. Caravaggio used diagonals and subdiagonals. He showed movement in flashes of action. His examples were then eagerly copied in the Baroque period to express strong inner emotions. And then, of course, he applied our mimesis. He made very realistic portraits of people.

Arte: But not just Caravaggio could have invented or discovered these effects. Several artists must have used these lines and their effects at the same time, pressed as they were to show strong emotions in their images.

Zeuxis: You are so right, Arte. For instance the Greek painter El Greco, who worked mostly in Spain however, also amply used diagonals in structures and slanting lines to indicate movement, at about the same time as Caravaggio did, and in another country.

Zeuxis suddenly shows a new picture to Arte on his transparent light screen.

Zeuxis: A painter who later applied fully these principles was Pieter Paul Rubens of Antwerp. He did that also in the seventeenth century, but he came later than Caravaggio, and he remained several years in Italy where he must have seen Caravaggio's pictures or copies thereof.
Rubens' "Descent from the Cross", maybe his most famous painting, is a good example of the use of diagonals to induce an illusion of movement of the Baroque period, but still founded in very strong structure. In this painting, Jesus is lowered in a white cloth from the cross. Remark how the movement of lowering the inanimate body of Jesus takes place along the diagonal of the frame. The diagonal departs from the equilibrium of the vertical directions of the crosses.

➜ Pieter Paul Rubens (1577-1640). The Deposition from the Cross. Cathedral of Our Lady. Antwerp.

Arte: Yes, but look: Rubens applied another technique to give the illusion of movement. I see various people at different stages of action as they are lowering Jesus's body. This effect, of action frozen in time must also be a very suggestive technique for the depiction of movement. And I see a few lines now that are not supported by the corners or sides of the frame. You called those unsupported slanting lines …

Zeuxis: You are learning now by yourself, Arte. Soon you will not need me anymore. You also remembered the term well. Unsupported slanting lines indeed are the lines that do not pass in direction through one of the corners of the frame, or are not

otherwise supported or attached as diagonals of constructed rectangles or squares of the frame.

Such lines always induce feelings of unease, of total imbalance, of nervousness, of neurotic inclinations. These lines have been much avoided by painters, unless exactly such feelings of unsettling the viewer were deliberately sought. We saw some such directions in Hubert and Jan van Eyck's painting "The Three Maries at the Open Sepulchre", where the lances of the soldiers went in every direction to indicate chaotic, and deep sleep.

Unsupported slanting lines have not been too popular with painters. Indeed, a painter always prefers to keep a viewer watching his work, whereas truly unsupported slanting lines are difficult to look at for a long time because the viewer dislikes the unrest they suggest and feels out of balance. Often we find them in paintings in which other areas are deliberately introduced to balance these lines, and to create for the viewer again the natural landmark directions of nature.

Unsupported slanting lines cause this effect of nervousness, whether they are alone on the canvas or together in several lines, converging or diverging.

Certain abstract painters have used unsupported slanting lines. These painters knew the value of slanting lines, and they counter-balanced their effect by horizontal or vertical surfaces or lines. Here is an example.

Zeuxis projects an abstract painting.

➔ Kasimir Malevich (1878 – 1935). Supremus Nr 50. Stedelijk Museum Amsterdam. 1915.

Zeuxis: One of such painters was Kasimir Malevich, who worked at the beginning of the twentieth century in Russia. Malevich was looking for an art of the mind, for the art that would represent views that were different from anything seen in nature, and that would prove man's supremacy over nature. His art was therefore called Suprematism. Perfect squares, rectangles, unsupported slanting lines did not exist in nature. Malevich argued that combining these forms might show something of the way men thought and came to spirituality.

Malevich's picture "Supremus Nr 50" contains rectangles and lines that go in all directions, and yet there is a red horizontal rectangle and a perfect, grey square in his picture too. Malevich's great interest as a painter lies in the fact that he made so obvious the basic lines and surfaces that are the analytic basis of works of art.

Zeuxis: I must show you one other wonderful work like this. Look, this one is a fine example of the use of unsupported slanting lines.

Zeuxis shows Arte another picture.

➔ Eliezer Lissitzky (1890 – 1941). Crack! All is shattered! From "A Story of two Squares". Van Abbe Museum. Eindhoven. 1920.

Zeuxis: This abstract composition recognises the dynamic quality of oblique lines immediately. Eliezer Lissitzky, a Russian Constructivist painter of the beginning of the twentieth century made this picture that bears the suggestive name "Crack! All is shattered!" The picture was part of "A Story of Two Squares" made around 1920.

Like in Malevich's painting, unsupported slanting lines give a sense of movement of the shattered square, and a sense of the explosion of squares in its very act.
What are you scribbling there?

Arte shows Zeuxis a few lines she had been drawing absent-mindedly while Zeuxis was talking. She shows plate 28.

Plate 28

Zeuxis: Ah yes. Those are jagged lines. Supported and unsupported slanting lines can give an impression of loss of equilibrium already. But there is worse and you just drew some: jagged lines! These lines can be made to be menacing.
One can form from oblique pieces of lines jagged or zigzag lines. These then express nervousness, suddenness and dynamism more than unsupported slanting lines. Can you give me an example of such a line in nature?

Arte: They remind me of the strokes of lightning that appear in the sky. A jagged line of light can represent lightning, can it not? Lightning is to me the unavoidable danger, a menace from the heavens that catches me always by surprise.

Zeuxis: Zigzag lines are the lines of new, hard mountain ridges and of abysses. They are the lines of broken ice that surges out of the frozen sea. These also are lines of danger, the lines of the cutting edges. Furthermore, the thickness of the lines can be used to emphasise the sense of direction. Look at the picture of "Stetind in Fog" by Peder Balke.

Zeuxis shows a dark picture of a Northern icy sea and landscape.

➔ Peder Balke (1804 – 1887). Stetind in Fog. Nasjonalgalleriet. Oslo. 1864.

Zeuxis: Balke was a Norwegian romantic painter, very much aware of the untamed, wild nature of the Norwegian fjords and mountains. The harshness of the lines must have vibrated in his gloomy and terrified moods. He gave in this picture an eerie, menacing view of the Stetind Mountain. Nature dominates entirely, so that man is insignificant when compared to the angular forces of nature.
Other Romantic painters have used this effect of ice. One such painter was Caspar David Friedrich (1774 – 1840) in his painting of "The Wreck of the Hope".

Arte: These pictures are so gloomy, Zeuxis. I feel like crying when I look at these. And yet, I want to continue forever looking at them, so nice are they. Have you not something more cheerful?

Zeuxis: Sure. I'll show you a painting made by a lady. This painting is filled with light.

Zeuxis shows a picture of a wood, but of a wood strangely depicted.

➜ Natalia Gontcharova (1881 – 1962). The Forest. Museo Thyssen-Bornemisza. Madrid. 1973.

Zeuxis: Look at this! The spiky structures of these intersecting slanting lines really hurt. Natalia Gontcharova applied these feelings to show the danger of a forest in which the thorns refuse access to a wanderer. Her painting "The Forest" is a good example of the use of oblique lines to call powerful emotions of danger and alien environments in a viewer. Gontcharova was also Russian. She and her companion Michael Larionov called this technique Rayonism. Natalia Gontcharova wanted in her picture to show the effects of refractions and reflections of rays of light through the branches of the trees of a forest. A frail human form in the intermingled rays and thorns suggests a warm organism in a menacing, almost crystallised inanimate environment. Gontcharova produced many paintings in this style.

Arte: I would not like to get lost in such a forest! This is a deranging picture.

Zeuxis: There is worse, Arte. Look at this painting for instance.

Zeuxis shows "Corner House".

➜ Ludwig Meidner (1884 – 1966). The Corner House. Museo Thyssen-Bornemisza. Madrid. 1913.

Zeuxis: Intersecting unsupported slanting lines in structures where a viewer normally expects horizontal and vertical lines, is a deranging experience for viewers. These lines suggest a departure from normality. Hence they suggest madness. A good example of this use in pictures is the Expressionist painting of Ludwig Meidner "The Corner House". The horizontal and even the vertical lines of the façade of the corner house are slanting, and that in directions that are even not parallel. The directions of the lines are unexpected and abnormal. The painter thus enhanced the effect of madness, of a nightmare, in an oppressive picture.
Still, if there is a menacing character in jagged lines, straight lines are not the lines of life. Here is what Pat Conroy wrote in his wonderful novel "Beach Music", "No story

is a straight line. The geometry of a human life is too imperfect and complex, too distorted by the laughter of time and the bewildering intricacies of fate to admit the straight line into its system of laws."

Zeuxis projects another picture of jagged lines.

➔ Wyndham Lewis (1882 – 1957). Workshop. The Tate Gallery. London. Around 1914-1915.

Zeuxis: The jagged lines you came to find so intuitively, were at a certain time looked at with much attention. So much so that painters found something mystic in its powers. A small group of English painters worked from about 1915 to 1920 in a style that is now called Vorticism. The American poet Ezra Pound gave the name of the movement. Vorticism wanted to represent successive images superimposed and centring into a vortex. The Vorticism artists used jagged lines to express a brutal, aggressive focusing of perspective of pieces of broken lines towards a centre. There was no sentimentality in this art, a quality the Vorticists shared with most of the abstract artists who worked much with straight and simple, angular forms without curved lines. I show you here a work of the most representative of these artists, Wyndham Lewis, called "Workshop". This painting shows some of the movement towards a vortex, and the dominance of the very angular zigzag lines.

Arte: I see, Zeuxis. But I am not so very interested in oblique, slanting and jagged lines anymore. You explained me enough of that subject. However, in this lesson you used several words that I don't really understand. I heard of some of them before, but I do not really know what they mean.

Zeuxis: Which words were they, girl?

Arte: Well: Baroque, Impressionist painters, Suprematism, Constructivism, Expressionism, Romantic painters. You did explain Rayonism and Vorticism a little, and I suppose these words mean ways of painting but I would like to know more of them.

Zeuxis: These terms are periods of style, periods in which painters showed worked together in a certain way of using the elements of form we have been discussing. You know what? I am going to write letters to you, pieces of text that you can read on your own and in which I will explain such terms. But we I will send you those letters in chronological order of the appearance of these styles. I will not start too far in the past. I will not bother you with ancient Egyptian, Greek or Roman painting. Moreover, very few examples are really left of those periods. I will only write to you on the history of your own millennium so my first letter could start around the year 1000. Would you like that?

Arte: Yes, Zeuxis, I love to read letters. By the way, it is starting to rain. I have to get in. I'd love to continue our lessons, but not tomorrow. Tomorrow I have to travel to Spain with my mother. So it may be a couple of weeks before we see each other again.

Zeuxis: Maybe we can see each other in Spain anyhow. We can maybe talk over a short lesson on decorative patterns of lines. I'll see to it that you get a few letters by tomorrow. Goodbye, Arte.

Zeuxis disappears in a flash of light.

First Letter of Zeuxis to Arte

My dear Arte,

You must know by now, from our first lessons, that paintings consist of lines, shapes, and composition in areas. Colour, content and illusion of volume and perspective are other dominant elements. We still have to look into those, but since you are interested by now already into styles of painting and are eager to know more about the history of art, I will explain you about it all but not all in one time. We will do it gradually.

Western painters have expressed their inspiration and the way they reacted to their society or wanted to change their society, by using all these elements in various ways. I will present some of the styles, without being exhaustive, in approximately chronological order. The following synthesis necessarily remains very sketchy and high-level. It would be easy to find many counter-examples for this kind of categorisation of styles. Many, if not most painters, regularly transgressed the art style of their times, and experimented with other ways of representation.

In all the styles that we will discuss, individual paintings can emphasise just one of the style elements, or apply them all.

We can find paintings that use only vertical or horizontal lines.
There are paintings that consist of primarily simple, large coloured areas.
There are paintings in which we see only the basic shapes like circles, squares and rectangles clearly shown in simple colours, combined in surprising images.
Most Tuscan pictures made during the Renaissance are all about line and design, about clear forms and clear, balanced composition. In fresco art also, mural paintings practiced much in this style in Italy, lines had to be drawn so that the areas could be filled in with colour easily.
Other art styles gave preponderance to colour, to areas that smoothly passed from one colour hue into another.
Later in evolution, painters emphasised only colour to express their emotions.
Pictures can be categorised in figurative and abstract art, according to whether they contain subject matter or not. Emotions of violence, of love, of surprise, of admiration are sometimes easily obtained from paintings that show known scenes of humans to viewers. Content always enhances a picture in the mind, but pictures without subject matter can induce rich emotions too.
Painters can use the flat canvas and stick to that medium, or enhance the texture of the paint.

Such variety was not reached at once. The variation grew over time, as new means were discovered to enrich the arts.

It is a fascinating story, Arte, to follow this evolution to ever-richer means evolved, how generation after generation added a new aspect, whether it is knowledge or art. This happened sometimes in a slowly advancing way, sometimes in a rapid,

revolutionary vision by the insight of a few geniuses or of one genius, who we call here the avant-garde.

I will propose in a series of letters an overview of the various art styles and tendencies that have succeeded each other in the history of art. I will use generally accepted definitions and names of the styles. I will indicate which style elements changed to the period or movement. You can then look over this evolution in order to better understand the trends in art, and you may remark how each evolution was an evolution in one or more of the elements of painting as we analysed them in the first of our lessons.

The styles that appeared will be presented in my letters illustrated by one or a few paintings. The choice of these pictures is always difficult. It is a vain effort to represent thousands of paintings that were made more or less to a coherent set of style elements, but only more or less, by one or a few pictures. In using a typical example for a style, we would negate the individuality of the artist. Rare are the painters that entirely applied form according to the reasoned and defined styles, as recognised by art historians. Historians have sought in their categorisation the common characteristics of paintings, whereas it is individuality that must be lauded. I have preferred often to show paintings that were at the fringe of the movements, to denote the variations within a style, and to show evolutions to the particular style. I will also prefer sometimes to show you paintings of lesser artists. Indeed, many paintings of the most famous artists are very well known and documented in elaborate detail in many works. Furthermore, it needs to be recognised that the style trends overlap and interplay, and that will be very apparent in many examples.

Edward Lucie-Smith, an art critic who is contemporary to you, wrote at the occasion of an exhibition on Neo-Academicism [B22]: "Patterns of innovation do not on the whole evolve smoothly … they tend to progress in a series of violent jerks."

Transitions in style can be thus usually traced back to one or a few artists who better than others could grasp the end of an era and dramatically, in obvious ways, point to new roads in art. This has been the avant-garde of the period. These were the innovators, the revolutionaries of art. We pass briefly over the transitions initiated by this avant-garde from one style and school to another. The transitions have to some extent already been hinted at in the previous explanation of the various styles. I will explain here further how each new art form evolved one of the elements of painting. The evolution was in line, in forms, in composition of forms, in colour, in coping with the illusion of volume, and in space and content. I will illustrate the evolution in art with examples, and analyse these works according to a process that I will propose to you somewhat later in our lessons, which is by separating the aspects of the work and our reaction to it by first impression, then discovery of the skills of the artist and finally in recognition of the value of the work.

Now, let the paintings talk. Each painting has a fascinating story to tell.

Your loving friend,

Zeuxis

Romanesque Art

Romanesque was the art form of the Early Middle Ages, a period approximately from 800 to 1150. It was the style of the Frankish and Norman occupants of Gaul and Italy. Romanesque art evolved out of the classical Roman and Byzantine style elements, and spread over Western Europe. Most Romanesque paintings of Western Europe have disappeared. Yet, the important Romanesque churches for instance were completely covered with pictures and colourful decoration, and so were the palaces of the nobility and the mansions of the wealthy merchants and bankers.

Romanesque religious painting in churches and abbeys date from Carolingian times (from the reign of Charlemagne) in the ninth century. The priories and abbeys founded by the Clunisian Order were richly decorated with mural frescoes, but the later Cistercian Order, from around 1150 on, even if it continued at first to build in Romanesque architecture, banned decorations of sculpture and painting. Even Cistercian austere thought had to ply for the insatiable hunger for images of humans however, so that Abbot Suger re-introduced wonderful images in his first Gothic cathedral of Saint Denis in Paris, and Gothic cathedrals came to be decorated again. But still: fewer frescoes are to be found in Gothic churches than in the early Romanesque churches. Gothic art would emphasise images in the stained glass windows of its cathedrals, less on its walls.

Romanesque was very narrative in style. Art forms like colour and line were thoroughly subservient to the stories that were told in the pictures. Much decoration in abstract patterns, both in straight or jagged lines and in fluid lines, was used in churches or on palace walls. Byzantine influences in mural frescoes were still felt.

Romanesque paintings show figures in simplified forms that we would call primitive now. Compositions were linear, clear, seldom superimposed. Each narrative element received separate attention. The Roman rounded arch was a predominant feature of Romanesque architecture, and is thus also found frequently as style element in paintings.

Mostly pure, simple colours were used. Blue paint was extremely expensive, and difficult to be acquired; so it was sparely applied in smaller areas. Painters used bright and contrasting colours in general, and many ochre red and yellow colours were used, as ochre earths were readily available. The painters gave no particular attention to colour, except for its decorative effect.

Too much of Romanesque painting was lost to be able to draw general conclusions on content. The art that remains is religious art however, mainly portraits of Saints or scenes of the Old and New Testament.

Perspective and three dimensions, and elements to create space in general, were hardly known or given attention to. Chiaroscuro was used in draperies of figures in the Byzantine way. Shadows were rarely emphasised, also in images of buildings. Architecture was usually represented as seen parallel to the viewer, so that no fleeing lines or shadows were necessary. True dimensions of figures and constructions or

plants were rarely respected. The idea of a building behind a figure or next to a figure was more important than the actual dimensions of that architecture, as compared to the height of the figure.

Most of the Romanesque painters have remained anonymous.

The Ark of Noah in the Abbey of Saint Savin
Painted around 1100

The abbey of Saint Savin in France dates from the ninth century. The decorations of its church are from the eleventh century, but may have been made for the greatest part at the end of that period. In this church can be seen the most valuable, old and beautiful Romanesque mural paintings of France. More than sixty episodes from the Old Testament can be admired on the nave vault alone. The church is entirely Romanesque, its round arches apparent everywhere, in the windows as in the forms that join the columns of the long nave. The nave vault has a total surface of four hundred sixty square meters, and all this space must have been filled with polychrome paintings, as all the other vaults and walls of the church and the crypt. This was a habit for Romanesque churches. We see these mostly nowadays completely devoid of decoration, as the plaster with the paint has fallen down over the centuries to show now only the clean, white stone walls. At one time however, all the interior walls of the churches were covered with paintings in strong colours and even the sculptures of the porches were in polychrome. The decorations were laid on a coating of fine sand and slaked lime, to a fresco. The lime, once it had absorbed the pigments of the colours, hardened on drying, and thus perpetuated the hues on the vault of Saint Savin.
The episodes of the pictures of Saint Savin are very narrative, as shown immediately by the high number of scenes in the vault. About sixty scenes have survived and at least a dozen more must have been painted there before 1100.

We take only one of these scenes to show a few Romanesque figures of style. One of the most spectacular pictures that catch the viewer's eye when he or she looks at the vault is the Ark of Noah.
Romanesque art in churches like Saint Savin was a very popular art, naïve in depiction but not naïve in objectives. The first goal of the artists of Saint Savin was to draw attention to stories of the Bible. The artists therefore made simple pictures that were direct and plain, with few symbols, and with a kind of charming earthiness in expression. Spectators saw picture after picture in one architectural and decorative whole so that - more than each individual scene - the assembly of the pictures must have been truly impressive, and have been the greatest, most impressive work of art of the surrounding countryside.

The lines of the Ark are horizontal, parallel to the long side of the nave. No stylisation of forms and lines was sought. We see the Romanesque arches as utilised in all of the windows and vaults of the church also in the structure of the housing of the boat. In that structure is a simple hierarchy. There are several floors filled with figures. Four-

legged animals are seen below. On the first floor are the birds of heaven, closer to God and thus more mysterious. They are drawn higher than the horses. The human mind and spirit is swifter still, so the human figures look out of the top windows. This theory is repeated on the left since the prow of the boat is in the form of a dog's head and the dog looks very expressively, and in a very funny way, at Noah's dove or raven.

The mural frescoes stayed close to reality, even though the picture of the Ark was a completely imagined boat. The boat consist of long planks nailed together, and it looks much like a Norwegian Viking ship as might still have been seen in Normandy by the artists. It is as if indeed the painters had seen boats like this and been interested and puzzled by the way such ships were constructed. We feel a naïve surprise here at the wonders of the construction, so that the boat is depicted with pride in detail. For the devote people of the village of Saint Savin, such a strange boat was exotic enough to make them think of far lands and of times past.

Two large figures, which are totally in disproportion with the rest of the paintings, catch mysterious capers. What these two do on the deck is difficult to determine. Are this Noah and his son inspecting the roof and looking whether all is well? If yes, imagination of this idea was more important than a realistic rendering, and this is what we might expect, since academic rules and information exchange on the art of painting was still unorganised and rudimentary. If Noah had to be shown working on the roof, Noah could not have been shown as a small figure, for that figure would not have been remarked from down in the church. And Noah was a great figure of the Bible, so he had to be shown as great as he was in the mind, and not necessarily as the man was in reality, and as compared to the size of the boat in the picture. The artists of Saint Savin who worked at the nave were apparently simple, straightforward people. They may well have been master artists that worked at one church after the other, but who only made the design of the scenes, whereas more local artists drew and coloured the pictures. The master artists saw examples in other Romanesque churches. They imitated an artisan style of representing Bible stories, as these needed still to be taught. The artists knew the Bible well, but they did not think too much about more delicate and more intricate detail than the essence of the story.

The painters of Saint Savin have not painted what they saw. They did not observe nature, humans and objects, with the eyes of realists, to imitate them in their pictures. They painted more the concept of things as they imagined them in their minds. They painted a boat like the archetype of a boat, and they painted an image of the humans in the boat, but the two images were not in the right proportions because viewers would have it so more difficult to recognise the people in the ship. Moreover, the people were at least as important as the boat, so why not paint the figures as large as the ship?
The painters of Saint Savin painted more what they knew than what they saw. And this fact was to the benefit of the viewer. The painters knew that if they would surrender to their senses only, their message would have been much more difficult to interpret.
The images of Saint Savin are crystal-clear and hence very efficient in communication, the main aim of the pictures. Ernst H. Gombrich (1909-2001) said on this, "The whole history of art can be considered in terms of the struggle of painters to paint either what they saw with their mind rather than what they saw with their eyes.

The last part of the previous phrase is even a contradiction for we cannot see with our eyes alone, our mind blends many things, concepts, images together to form what we see ultimately".

The artists did have a feeling for grace and elegance however. Look for instance at the robes of the figures on the deck. The flow of the folds indicates a beginning of refinement, of more eyes for nice detail, and for an introduction of elements of embellishment for grace's sake only. There is also a sense of drama in the water flowing under the boat and in the drowned men that can be seen in front and behind the Ark.

Some rudimentary decoration of a green frieze as background was added, but the Saint Savin artists had no eye for landscape. They were only interested in the story of the great men of the Bible. Much of the colours have probably faded, so that the only hues that are now still to be seen in this Ark of Noah are green and much brown or ochre. Blue pigment would have been difficult to obtain. Red, black, white and green were therefore indeed the main colours of the palette of the painters.

The boat is shown parallel to the viewer, so that no perspective is shown in the scene of the Ark. The other pictures of the nave also lack perspective, as these rules had not yet been rightly observed. We can discern some chiaroscuro, but no use of shadows on the ground. Volumes are almost entirely shown in the robes of the figures, hinted at in the way the folds drape around the bodies, much in the Byzantine style. This was the only style element the Romanesque painters knew to create illusion of volume. Volume is shown by line alone. Yet this does not mean that the painters had no feeling of depth. The Ark evokes an impression of volume, and so do the figures. These are definitely not just flat shapes. So we see how observation of nature and reality had started already, before becoming mature in later periods. In a few pictures of the nave a frugal landscape is hinted at, but only shown by a few flowers and a few houses. Perspective was very naïvely shown by setting the houses of the background in a somewhat oblique position.

The abbey of Saint Savin was founded around the year 800. Its mural frescoes date from the end of the eleventh century. Art in France was still Romanesque then. Saint Savin was a precursor for the grandest abbey that Western Europe would know, for the abbey in the French region of Burgundy called Cluny. Saint Hugues of Semur (1024-1109) was a monk in Saint Savin before he became the abbot of Saint Martin of Autun, and councillor of Bernon who would be the first abbot of Cluny in 909 [F19]. The abbey of Cluny was thus founded in the beginning of the tenth century, a hundred years later than Saint Savin. Bernon built Cluny I, and this church was consecrated in 927. Bernon's abbey grew prosperous, so that Cluny II was started around 948. Hugues de Semur, the eldest son of Damatius, Count of Semur, was in the meantime abbot of Beaume-les-Messieurs, and became in his turn abbot of Cluny in 1049. The largest and most splendid church of Cluny, now called Cluny III, was built from 1088 to 1130, at the initiative of Abbot Hugues de Semur.

Hugues must have known the vault paintings of Saint Savin. Cluny III must have been extensively covered with magnificent mural frescoes also. Cluny III was the largest church of Western Europe until Bramante's Saint Peter's was built in Rome. It was a church about 187 meter long and 75 meter wide in the largest transept. This imposing

church was destroyed in the eighteenth century, so that very little of the building - and no wall painting – is left. Cluny's mural frescoes must have been painted thirty to forty years earlier than the paintings of Saint Savin. But Hugues had travelled to Rome and to Spain; he was a man with an international vision. Would such a man have remained satisfied with the rather naïve pictures of Saint Savin, or would he have wanted better, more sophisticated pictures? We will never know!

 Cluny's frescoes do not exist anymore, so we cannot answer this question. But Hugues had a small chapel built for his private devotion, not far from Cluny, at Berzé-la-Ville, the "Chapelle aux Moines". The wall paintings of Berzé, dating from 1110 to 1120, have been preserved, and they are just marvellous! They are more sophisticated than the Saint Savin paintings, but also seem to have been more influenced by the Byzantine traditions, whereas the ones from Saint Savin look entirely, wonderfully local.

France's middle and southern regions counted many grand Romanesque churches and abbeys, and especially Burgundy was rich in such monuments. When Cluny and its abbots became too rich, and also too lax in their monastic rules, a few monks desiring more spirituality in their monastic life, founded a new abbey just a few tens of kilometres to the north of Cluny. Robert, abbot of the Clunisian abbey of Molesme, founded the abbey of Citeaux in 1098, and here new austerity and closer observance of Saint Benedict's advices became the rule. One of its now best known monks, Bernard de Clairvaux, who had come to live in Citeaux in 1112 before becoming the abbot of a daughter abbey of Citeaux, Clairvaux, preached the first crusade at Vézelay. He argued against the Clunisian philosopher Pierre Abélard, and together with other monks of Citeaux he enforced a movement of religious renewal. From 1122 to 1156 Peter the Venerable was abbot of Cluny. Whereas Bernard de Clairvaux (1090-1153) persecuted Pierre Abélard, Cluny protected the philosopher, took him in, and Abélard could die peacefully in Cluny. Peter the Venerable of Cluny, Bernard de Clairvaux, the Cistercian, and Abbot Suger of Saint Denis, from whom originated the genesis of Gothic art, were contemporaries. Also the Abbey of Saint Denis had first taken in Abélard, under Abbot Suger's predecessor, but Suger disapproved of Abélard and later even had the nuns of Argenteuil expelled. The prioress of these nuns was Héloise, Abelard's mistress. With time, Cluny lost influence and Citeaux prospered.

Cluny had continued the Carolingian tradition to decorate its churches. But Cluny's appeal waned. Cluny had founded about two thousand priories, all over Europe, of which the abbot and leader was the sole abbot of Cluny. Cluny had only about twenty abbeys, which were independently led. Cluny thus represented a central model of monasteries.
The Cistercians had already founded 350 abbeys around 1200 from about 15 in the first two decades of 1100. Citeaux spawned finally around 750 abbeys over Europe so that its expansion in the twelfth century was comparable to the expansion of Cluny in the eleventh. Each of these abbeys was led by an abbot, who was autonomous in his management of the abbey. Citeaux represented the distributed model with autonomous management in monastic life. Citeaux proved in the next decades to become far more influential than Cluny.

Citeaux commanded inner silence and piety, and proclaimed that these should not be distracted by images, by sculpture and paintings. The early Cistercian monks sought

meditation and devote prayer in their churches. In that they did not want to be distracted by pictures or sculptures. Therefore the Cistercian order banned sculpture and frescoes from its churches, and simplified its architecture.
Bernard de Clairvaux, one of the most important early Cistercians, wrote in 1125 his "Apologia ad Willelmum Abbatem Sancti Theodorici", an apology to his friend William or Guillaume de Saint Thierry, in which he stated that no painted figures, no sculpted figures save the wooden crucifix, no precious stones, no gold or silk could be tolerated in Cistercian abbeys and only iron chandeliers but no items of the cult in gold [G122]. Superfluous decoration was abandoned, the dimensions of the Cistercian churches were more modest, and windows were colourless, walls whitewashed. Even in manuscripts the richly decorated first capitals of a chapter had to become monochrome. In 1150, the Chapter General of the Cistercians added, "We interdict that sculptures or paintings be placed in our churches and in other places of the monasteries because when they are looked at, one often neglects the usefulness of good meditation and the discipline of the religious importance." [G131.] It would be difficult to be clearer, and it meant the temporary end of decoration of churches.

Luckily, Abbot Suger of Saint Denis (1081-1151) disagreed. Bernard de Clairvaux and Suger engaged in polemics, but Suger's worldly power as the main advisor of the King of France matched the spiritual might of Bernard, and an equilibrium of understanding set in between the two men, so that Bernard could preach what he wanted and Suger could remain the aesthete. And gradually, with the Gothic splendour of France's cathedrals erected to the example of Suger's church of Saint Denis, images and sculptures were introduced again, first in stained glass windows and then in decoration by painting of the columns and walls. The Cistercian abbey churches would stay devoid of decoration, but cathedrals built to Suger's ideal were painted again, even if frescoes were indeed avoided. But painted and sculptured altarpieces were put in predominant places. The altarpieces became larger, and if at first they contained mainly sculptures, later, in the late thirteenth century, they became painted polyptychs. Then later still, canvases with oil paintings were also hung in the churches.

One cannot but admire the grandness and earnestness of spiritual elevation of the first churches built by Cistercian monks. But Cistercian art centred on architecture, inner richness instead of outward show of the splendour of God's universe; and that meant the end of interior decoration, so the end of Romanesque mural religious frescoes. Cistercian art was in its beginning, in the twelfth century, still Romanesque art, but it gradually evolved to the architecture of Abbot Suger of Saint Denis near Paris, to Gothic. Religious painting in Cistercian monasteries and churches simply stopped, so that the Carolingian Romanesque tradition was broken.
Citeaux emphasised private devotion and study, so that the art of mural frescoes almost ended, but the pictorial arts continued in the manuscripts, in the books copied and enlivened with illuminations in the austere scriptoriums of the Cistercian abbeys. With time, the illuminators would become oil painters, but for that, art history would have to wait until the beginning of the fifteenth century. Abbot Suger transferred his attention from frescoes to the stained glass windows of his Gothic churches. The frescoes on the grand scale of Cluny and of Saint Savin, of the early Romanesque churches, ended thus with Citeaux.

Rests of Carolingian frescoes and Clunisian painting can be found in isolated places, in rare and badly damaged mural frescoes of France. We mentioned Saint Savin and Berzé-la-Ville. There are Carolingian frescoes dating from around 850 in the crypt of the abbey of Saint Germain in the town of Auxerre (Burgundy). There are twelfth century frescoes in the cathedral of Saint Cyr and Saint Julitte in Nevers. There are thirteenth century pictures in the cathedral of Saint Stephen of Auxerre, as well as in Saint Peter's of Brancion. More examples remain. But these are mere rests of what once was a great art of painting, quenched by the advent of the Cistercian Order.

Great examples of Romanesque Western-European paintings remained preserved in small churches of the Pyrenees regions, many of them in Spain's Catalonia. The Catalans restored many of the frescoes by taking them from the 1920's on away from the walls of the mountain churches, and bringing them to Barcelona. It might have been better to preserve the paintings in the churches themselves, but that would have been a very costly and arduous task. The frescoes were kept in the museum of a large city, where more people could and can admire them. The paintings are now wonderfully displayed in the grand Museu Nacional d'Art de Catalunya, the MNAC of Barcelona. That museum is remarkable, not only for these splendid Romanesque paintings, which are unique for Western Europe. It is also a magnificent palace of the arts, one of the grandest museums of Europe.

The above paragraphs on the pictorial representation in the churches of France proved a typical evolution for that country and for the churches that were under the influences of the Abbeys of Cluny and Citeaux. Italian churches however, were less touched by Citeaux rigour, so that many churches of the Gothic period remained covered in their interior with frescoes there. The Gothic spirit touched less Italy, and still less as one moves south.

The paintings in the church of Saint Savin are doubly remarkable. They are the oldest mural paintings of France and among the very oldest found in Europe. These paintings represent a multitude of Bible stories. These prove the erudition of the artists, but the representation remained naïve and primitive in detail and sophistication of art. Yet, we have learned to understand why the artists preferred this mode of representation.

This decoration should be seen in its entirety and in its splendour of colouring in a large Romanesque church, as it was in the eleventh century. Such effort of imagination is impossible of course, since many of the scenes have disappeared and the colours have faded. Yet, the entire work must have been dazzling and impressive.

The church of Saint Savin en Gartempe still exists. What happened to Cluny and Citeaux? Cluny III was enormous. It had two main towers, five bell towers, over three hundred windows, and its walls were so high that although it was a Romanesque building its walls needed a form of buttresses to support the weight of the roof. The church of the Cluny Benedictine monks must have been as richly decorated as Saint Savin, and that in the grander style of Berzé-la-Ville. At the time of the French Revolution, Cluny's twelve remaining monks were only a ghost of the former pride of the abbey. The basilica was abandoned, and then sold. Merchants used the church as a quarry, blowing up the vaults with dynamite. We may regret the destruction of Athens and Rome and of the glory of the Ionian cities around the Mediterranean. When we

say that this was the gradual work of uncivilised hordes, then Cluny's destruction in the period from 1793 to 1823, in just thirty years, was also the work of Barbarians. Cluny's destruction was the main cultural crime of Western Europe. Together with Cluny very many other cathedrals and basilicas were destroyed: the towns of Tours, Bruges, and Liège lost their main churches to demolishers and stone merchants. But as the French Revolutionaries tore down the major cathedrals of European Christianity, there were just too many other smaller, as well as imposing churches to destroy to eradicate Christianity. And Napoleon Bonaparte had to conclude an agreement with the Pope to be crowned Emperor. Citeaux knew a similar fate as Cluny and was entirely destroyed, so that only one building, its old library of the fifteenth century, remains.

Gothic Art

Gothic was the main art form of the later Middle Ages, used approximately from 1150 to 1500. It was the style of the magnificent cathedrals erected first in the regions of Northern France that you love so much, Arte. At the end of the fourteenth century, Gothic evolved into the Late Gothic or International Gothic style, which was still even more refined in elegance. During this period painters had more eye for nature in landscapes and thus painted ever more realistically, like in the Italian Renaissance, with which International Gothic was partially contemporary. The North of Europe stayed about a hundred years in this style, while Southern Europe had already evolved to Renaissance.

Emphasis was given to vertical directions and lines, as epitomised in the high Gothic churches of Northern France, Belgium and England. Rigid vertical directions were used, aimed at showing the aspirations for the divine and the heavenly.

Gothic paintings show elongated figures in graceful, static poises. It was an art of sublime dignity. Compositions of figures and landscapes were mostly very symmetrical and well balanced, also in the colour areas.

Mainly pure colours were used in Gothic paintings. Blue paint was extremely expensive, but was sometimes lavishly applied for commissions of the wealthy. Painters used pale colours in general, which were the chalky hues of frescoes, but many exceptions to this rule exist. They applied nicely contrasting complementary colours, such as red and green, blue and yellow.

Although some portraiture existed during this period, Gothic art was always religiously inspired, and thus of a devotional nature. Figures and interiors or landscapes were however shown in full, intricate detail. Figures might be shown in differing lengths according to their status in society, especially in northern pictures. Symbols were very important. Unity of time needed not to be respected in a painting. Much attention was given to detail for a decorative purpose in the Late Gothic. Especially the patterns of the fine interior stonework of Gothic windows are typical of this period.

Perspective and three dimensions, and space in general, were hardly worthy of attention. In later periods, detailed representations of elements appear, and illusions of real space were better created.

Some of the greatest painters of this period were Cimabue, Giotto di Bondone, Duccio di Buoninsegna, Gentile da Fabriano, the Limbourg Brothers, Pietro Lorenzetti, Lorenzo di Monaco, Simone Martini, Della Quercia, Hubert and Jan Van Eyck, Rogier Van Der Weyden, and Hugo Van Der Goes.

The transition from Romanesque to Gothic was gradual, even though certain individuals more keenly perceived the possible change of times. Suger, the Abbot of the Abbey of Saint-Denis in France (1081-1151) is supposed to have given the first design for the new type of church. From that moment on, the other novelties in art evolved. Gothic developed in France because of the addition in wealth of Flanders

and of France's Picardy and Burgundy regions, but similar evolutions took place in Germany, Spain and the North of Italy. It influenced strongly English art, but it touched less Italian architecture and pictorial representation in Tuscany and further south. Gothic painting was a maturing of Romanesque art, whereby painters grew more conscious of nature, departed from pure narration, and grew more aware of beauty for beauty's sake. Hence also should be noted some evolution to stylisation in figures and in more elaborate decoration.

The Three Maries at the open Sepulchre

Hubert (1365 – 1426) and Jan van Eyck (1390 – 1441). Boymans-van Beuningen Museum – Rotterdam. Painted around 1430.

The general impression that we receive of the painting is one of delicate beauty. We are attracted by the splendid colours, the blue and red and green colours of the scene on the left, by the nice broken white of the angel and the overall warm brownish hues of most of the picture. We are pleased at the warmth of the colours, by the splendour of the details that we cannot but notice at even a first sight.

When we start to explore the picture, we are of course drawn to the magnificent colours on the left. The dominant directions here are vertical, as the Virgin Mary and Mary Salome are standing in a severe, solemn poise of dignity. We recognise the Gothic strong verticals and the Gothic long robes painted in the intricate details of their folds. We see true chiaroscuro here, the shadows playing wonderfully in the folds, and these folds are not indicated anymore purely by their lines as in Byzantine art. The overall impression of verticality is supported by the white angel and by the lines of the towers of the city. When we look for the forms, we see that the central dominant shape is the long, horizontal tomb. The lines of this tomb contrast with the dominant verticals, and they also contrast with the vertical figure of the angel. The picture thus gives an impression of solidity combined with grace. The figure of the angel breaks the solidity of the tomb.

The composition of the painting is in the traditional open V. The V is formed by the two diagonals, two strongly supported directions. The right diagonal (starting from the lower right) can be discerned in the lines of the rocks on the left. But the sleeping soldier in yellow, the knelt Magdalene and the standing Virgin Mary and Mary Salome enhance that line. The left diagonal (starting from the left lower corner) follows the long lines of the lid of the opened tomb and then to the right continues in the lines of the rocks, and even in the high tower on that right. These lines to the upper right are even more supported by the lines of the long lances, and the long arrow, which lie on the right, and even in the heft of the sword of the soldier sleeping in front of the tomb. It is furthermore remarkable how these oblique lines are associated with the soldiers, whereas the more tranquil vertical lines, which we perceive as being more natural lines, are associated with the Three Maries and the angel. The van Eycks probably wanted to indicate that the sleep of the soldiers was not normal, but something dangerous, mysterious, and cataclysmic.

The colours of the painting are marvellously presented, and they are as shining as ever with the van Eycks. Mary is dressed in blue, the Magdalene in red, and Mary Salome in green. We find here the three primary colours of the additive colour process, but also the three colours that were considered the most beautiful in Van Eyck's times. These three colours contrast with the yellow robe of the sleeping soldier in the front, and with the broken white of the angel. Most of the beauty of colours is situated on the left and front, but van Eyck brought some balance in that by putting symmetrically to the Magdalene red hues in the boots and in the round hat of the middle soldier. Van Eyck also placed a hint of white on the legs of the rightmost soldier. All these light colours are painted against a generally darker tone background. The colours thus contrast more, and become of a brighter saturation. Remark especially the magnificent white and golden colours of the angel, sitting in the exact centre of the picture and at the intersection of the open V.

Van Eyck showed the soldiers asleep. In each of the Maries we can see another expression of the faces. The angel, wearing a golden staff of authority, is not just painted merely static as in early Gothic. The angel holds its hand forward in a soothing gesture. The van Eycks brought therefore a hint drama in their picture. Here is a narrative element that was already present in Romanesque times, but the movements of the figures are natural and graceful in this picture, sophisticated in depiction and solemn. This is Gothic dignity and nobility, as suited a painter of the courts of Burgundy.

The brothers Hubert and Jan Van Eyck introduced a few symbols like a white flower in the lower front, the pots of balm in the hands of the Maries. The tomb, combined with its open lid, forms the sign of the cross on which Jesus died.
Splendid details can be discovered in the play of light in the middle soldier's armour and in the golden helmet at his side. One would suppose light came from the right and indeed, the sun seems to come up from beyond the horizon on the right. Van Eyck used splendid chiaroscuro in the robes of the angel and also on the cloaks of the ladies to show their forms. This is of course mostly rendered in the angel, and this figure presents thus a showcase for the skills of the painters.

The Van Eycks were not very right in their drawing of perspective. They still used a parallel perspective, as one can see in the receding borders of the tomb. These lines are parallel. The open lid of the tomb points to the sun, its lines leading us to the landscape of the background. The painters showed there a detailed view of Jerusalem. This view seems to be correct. It is not just an imagined view of any oriental town. The van Eycks, both of them, or one of them, might have been to Jerusalem, or at least they had seen pictures or drawings of the town as seen from its heights. But they painted their contemporary Jerusalem, because the cupola of the Mosque of Omar can clearly be distinguished, a Muslim mosque. That mosque existed in the van Eyck's times, but it was only built centuries after the death of Christ and later than Christ's entombment. One discovers furthermore a landscape with green meadows, many flowers, and even a flock of birds that fly in the air. The van Eycks had discovered nature, whereas the Romanesque painters before them did know the individual elements of nature like plants and birds, but they had only eye for the individual elements and not for the whole grandeur of an unfolding complete landscape. The van Eycks show their landscape as marvellously as their figures.

Over the town hangs a white and blue sky. The painters did not know the right geometrical, linear perspective for architectures, but they sure knew aerial perspective, in which they painted the lower sky in paler hues than the high sky. The yellow-whitish glow over the horizon enhances the impression of depth and distance in the painting.

The three Maries came to embalm the corpse of Christ. In the Bible story that was only Mary Magdalene, so the painters changed the subject somewhat. Christ is resurrected, and only an angel is at the tomb, telling the women not to worry for Jesus has returned to the Father. This is Easter morning; a date of special meaning, since with the resurrected Jesus starts Christianity.

The painting of the "Three Maries" was painted after 1430, during a time that Jan Van Eyck was already working at the court of the Duke of Burgundy. From around 1440 Jan stayed in Bruges, before that in the town of Lille. The painting could have been made in either of these two cities. Just before 1430, Jan had been sent to Portugal to paint the portrait of the princess Isabella, the future wife of Philip the Good, Duke of Burgundy. Hubert died around 1426, so although the picture is generally ascribed to the two brothers, Hubert can only have had a minor hand in the work.

We find many Gothic elements in the picture. The women are painted in static vertical poises so that the solemn dignity of Gothic devotion shows.
Here is what Heinrich Wölfflin (1864-1943) wrote about the Gothic style, "There is a Gothic department, with its tense muscles and precise movements, everything is sharp and precisely pointed, there is no relaxation, no flabbiness, a will is expressed, everywhere in the most explicit fashion. The Gothic nose is fine and thin. Every massive shape, everything broad and calm has disappeared. The body sublimates itself completely in energy. Figures are slim and extended, and appear as it were to be on tiptoe". [G87]
Landscape was being discovered; plants and birds are painted in sophisticated detail. There is an enormous evolution of sophistication between the local Romanesque art of Saint Savin and the skill of the van Eycks. The van Eycks were truly geniuses, as well in composition, art of lines and colours, as in vision, eye for nature and intelligence of depiction. A work such as the "Three Maries" can be admired in all aspects of the contemplation of a work of art, and give pleasure at all stages of viewing.

Madonna of Santa Trinita

Cenni di Pepi called Cimabue (ca. 1240-1302). Galleria degli Uffizi - Florence.
Painted in 1280.

Pictures of the Virgin Mary were commissioned for almost every church in Europe. One of the most important symbols of Jesus's message of love and empathy had to be present at least once in each church where the congregation gathered. Some of these paintings were destined for the High Altars of churches dedicated to the Madonna. The early Florentine and Sienese painters of the thirteenth century followed Byzantine examples and showed Mary on a throne, as she would reign in the heavens. This

queen would intercede to her Son, Jesus Christ. Jesus was a man, and as he was part of God, he was also strict and austere. Jesus's message was one of pure love, but he had retained also God's image of the avenger when in wrath. A softer image was welcome. Mothers forgive their children more, so when you had done something wrong where could you better turn to, to be forgiven, but to a mother, to the Virgin?

Mainly two different kinds of images were needed of the Virgin. In the "Throning Madonna" or "Maestà" paintings, Mary was the Queen of Heavens. She was the one who sat with God and who would intercede with God. In the "Humility" pictures, or "Umiltà"', the Madonna was the sweet mother, the model as every woman should be on earth. This Umiltà Madonna was the example of how women should care for children, be beautiful, and always be sweet, compassionate and humble.

The three most famous "Maestà" paintings are the large pictures made around the end of the thirteenth century for the main altars of Florentine churches by Cimabue, Duccio di Buoninsegna, and Giotto di Bondone. These are still very much under the Byzantine influence, but starting with Cimabue over Duccio and Giotto, one senses an evolution to liberation in form, colours and feelings, that presages the splendours to come of Western European painting in Florence, Siena, Flanders and Wallony. A less well known, strange but equally interesting and beautiful picture is a Madonna of Bohemia, Czechia, called the Madonna of Glatz.

These pictures, especially the Maestà's, were images of pure religious spirituality. They had no other subject but the Virgin Mary. They represented the Virgin as a Queen, idealised, elevated, of a beauty and dignity that did not exist on earth. Yet we will show how evolution to images closer to humans crept in.

European pictures of the Madonna with Jesus followed Byzantine examples. Throughout the Dark Ages and the Early Middle Ages, no Court was as splendid and as legitimate as the Imperial Court of Constantinople. The influence of that East Roman Empire was not just felt in Eastern Europe and the Near Orient. Venice, especially, held many trading and cultural links with Constantinople, and built its churches on Byzantine models. The Throning Madonna paintings in which Mary is seated on a throne holding the infant Jesus in front on her lap is a Byzantine theme called "Nikopoia". The Nikopoia was a Byzantine painting that supposedly brought victories to the Emperors of Constantinople and that was brought to battlefields by Emperor Justinian. Indeed, images were then supposed to retain some of the power and soul of the depicted. One should not underestimate such ancient feelings on pictures. Many centuries later, the Muslim forbade making images of Allah, and even of all humans for much the same reason, also because Moses forbade it to the Jews in the desert, and that interdiction continues till today.

Another Byzantine example was the "Hodegetria", often a standing Madonna image or showing Mary only up from the waist, holding Jesus with her left arm and showing Jesus in a sign of adoration with her right hand. Yet another presentation was the "Eleusa", in which Mary looks melancholically towards Jesus's coming Passion. In European pictures of this kind Jesus often holds symbols of the Passion or of his glory and power.

Three different men made three Maestà panels for three different churches of Florence. The oldest one, painted by Cimabue, was made for the church of Santa Trinita, the Holy Trinity. The youngest one was painted by Cimabue's pupil, Giotto, for the church of Ognissanti, All Saints. The Madonna Rucellai of Duccio was made for Santa Maria Novella; it stood there in the Rucellai chapel. The panel took its name from this chapel. The Rucellai were rich wool merchants of Florence.
The panels are called Maestà's, after Santa Maestà or Holy Majesty. They show a reigning Madonna sitting on a throne in heaven, surrounded by angels.
Another kind of paintings of the Virgin Mary is called Santa Umiltà, or Holy Humility. These show Mary in more humble scenes, lovingly caring for her son. The Maestà's represent the majesty of the Virgin, as would be appropriate for the major image on the main altar of an imposing Florentine church.

The Cimabue Madonna is still very much in the iconic Byzantine style. The Madonna is a Nikopoia, but in the pose of a Hodegetria, as she holds Jesus and points at him with her right hand. Jesus points to the heavens and holds a roll of scripture, a symbol of the New Testament and of the fact that his life was ordained – written – by God the Father. Cimabue thus already departed somewhat from the very tradition of Byzantine icons, but this change should not be attributed to him alone as earlier pictures exist from Tuscany of just this image.

Mary is dressed in a long wide blue robe, the maphorion, which hides her forms and completely encloses her head. The robe is covered with gold to indicate the folds. This cloak of Mary forms the dominant surface in Cimabue's painting. Byzantine pictures had a particular way of showing the draperies on figures called the damp-fold style. This style was named after the damp, clinging appearance of the folds. The dress clung to the body, and thereby suggested the curves of knees and legs. The dress suggested delicately the contours of the body. In true Byzantine style the folds were drawn in lines, and uniform colour surfaces were painted between the lines. Emphasis was on the lines to indicate the volumes. The Florentine painters however, varied the colours between the lines, and they drew fewer lines. By varying the colours from bright to dark, by letting thus the light form the folds, they adapted the damp-fold style to newer Italian evolutions. Thus the Byzantine damp-fold style evolved during Gothic times in Europe, and we can see the evolution at work in the pictures of Cimabue, Giotto and Duccio. We can see the early style transformed to softer representations already in Cimabue and also how this artist introduced the play of light on the robes. We must note here that varying the colours to show volumes of human bodies was very much in use in ancient Roman times, so the style may simply have evolved from examples of the ancient Roman examples, the more so because some of the fine early frescoes were discovered in those times.

Cimabue's Madonna shows the boy Jesus, who is likewise completely dressed in a cloak. He makes a blessing sign, and both he and Mary look directly to the viewer. The throne is an elaborate structure, which must represent the heavenly throne, separated from the earth. Columns support the heavens. Under the columns are the prophets Jeremiah and Isaiah, holding their prophecies written on scrolls. In the middle are Abraham and David, from whose lineage Jesus was born. The figures left and right are looking upwards to the Madonna, whereas Abraham and David look directly at the viewer. The angels, emphasising the authority and the hierarchical

structure of Roman Catholic religion, support the throne. They are eight, maybe representing the musical octave, and they were painted somewhat smaller, in the medieval way, to indicate their subordinate role.

Cimabue knew the receding lines of perspective, and used them in this painting. This is not yet full perspective, the lines are still mostly parallel, but some are more at an angle than others are. The laws of perspective were not yet discovered in Cimabue's time, but his painter's eye has captured the essential.
The throne makes the picture rigid, strict. Cimabue softens this strictness by the various tilts of the heads of the persons: Mary keeps her head mildly inclined towards her baby, and also the angels have their heads inclined, although symmetrically so to the central axe. This same axial symmetry is applied throughout the whole picture.

The Maestà of Cimabue is an imposing painting and large as it is, more than 2 meters high, it was worthy of the master altar of Santa Trinita. Paintings have been set on altars ever since the Gothic period. The habit continues till this day in European churches. It was the only image churchgoers had that could represent to them what the religious world looked like. So, of course the priests and the painters took great care to what image was represented. These pictures could - much better than the long preaches - convey a message of grandeur and majesty of the Divine Kingdom. The people, merchants and artisans of Florence, would need a central picture to look at during the religious ceremony, to help them imagine what the heavens were about. The painters were thus of the utmost importance to the commissioners, and only true genius painters were good enough to deserve the confidence of the clergy and the rich families that would pay for the images.

Little is known of Cimabue. He was born in Florence around 1240. He died in that same city in 1302, although he worked in other North Italian towns as well, such as Assisi and Pisa. In Italy he is sometimes called the father of painters. Cimabue was the first painter of whom Vasari gave account in his 'Lives of the Artists' printed around 1550. Vasari wrote somewhat pompously of Cimabue, "Eventually, however, by God's providence, Giovanni Cimabue, who was destined to take the first steps in restoring the art of painting to its earlier stature, was born in the city of Florence, in the year 1240." For Vasari, Cimabue restored Italian art to the splendour of Roman antiquity.

We know of painters from times before Cimabue, but he is the first of which we have major, well-preserved works. And he was the master of Giotto, who would really liberate painting from its older representation forms. Cimabue still painted very much according to earlier iconography, even though his personal style appeals to us more than anything made before him.
Look for instance at the mosaics of the Florence Baptisterium. There is a mosaic dating from the very beginning of the thirteenth century depicting the Madonna on her throne. It resembles very much Cimabue's painting: the same figures with the same robes, same colours, a blessing Jesus on the lap of his mother, somewhat on her left knee. Cimabue knew these mosaics. He laid mosaics himself, as in the Dome of Pisa.

Florentines consider Cimabue more than any other painter the first artist of their town. Vasari already recalls that Cimabue made a Madonna for the church of Santa Maria Novella that hung between the Rucellai chapel and the chapel of the Bardi da Vernio

G46. Vasari told that the figure was larger than any that had been painted up to that time, and that Cimabue was gradually adopting something of the draughtsmanship and method of modern times. "As a result this painting so astonished his contemporaries that it was carried to the sound of trumpets and amid scenes of great rejoicing in solemn procession from Cimabue's house; and Cimabue was generously praised and rewarded for it."G46. This procession scene appealed to later Romantic painters of the nineteenth century. Frederick, Lord Leighton made in 1853 to 1855 a picture of this "Cimabue's Madonna being carried through the Streets of Florence", which was much admired and bought by the Royal Couple Queen Victoria and Prince Albert of England.

Vasari told this story more than a hundred and fifty years after it had happened. His sources may not have been very reliable, the story merely an anecdote remembered by the Florentines. The most famous Madonna of Santa Maria Novella is Duccio's Rucellai Madonna originally made for the Compagnia dei Laudesi of that church and later transferred to the Rucellai chapel. So, either Vasari's account pertains to a lost Madonna of Cimabue or to the Santa Trinita painting. The veneration of the Florentines for Cimabue did not stop there. In November of 1966 a cyclone brought such heavy rains to Florence that the Arno flooded the townG25. Cimabue's Christ, a huge painted cross, was torn from its wall and was found floating in the dirty waters of the inundated city. The heavily damaged cross was put on a cart and transported, pushed by men, through the town, to higher grounds. The Florentines stopped their work, came out of their houses, knelt in the water, and signed themselves in silence when Cimabue's cross passed.

Madonna Rucellai

Duccio di Buoninsegna (ca.1255-1319). Galleria degli Uffizi - Florence. Painted in 1285.

Duccio de Buoninsegna's Maestà is a second evolution away from the Byzantine presentations. The Madonna is still clothed in the maphorion, but the cloak is softer and less formal. One can see the ending of the robe and the seams gently curving, so that the cloak is lighter. Our eye follows the playful, sinuous line of gold on the dark blue robe. These meandering decorative lines are typical of Duccio. He modified entirely the Byzantine damp-fold style, in that he emphasised the substance of the cloth, let it play by itself instead of merely by the lines of the body, and he definitely exploited the decorative effects of the folds.

In Duccio's picture the head of the Madonna is still enclosed. Mary seems gentler, but holds her head inclined, just as Cimabue painted. Little Jesus is not wearing a heavy robe as in earlier pictures, but a light shirt in flesh colours. He does not hold his hand to a blessing anymore, and Mary has her hand on his knee, in a tender caress. She is not solemnly showing the child. Duccio painted Jesus without a scroll in his left hand. Jesus holds his robe, and that robe is painted in the Byzantine style with clear golden lines used to indicate the folds of the cloth. Jesus's right hand does not point upwards. Jesus stretches his arm and seems therefore to bless the angels on the left of the panel.

This is a natural movement that breaks with tradition, and shows an effort to bring the holy figures closer to the viewers than before. Unlike in the Nikopoias also, Jesus does not look straight at the viewer, a feature that was still obvious in Cimabue's picture.

The scene is more intimate and more elegant, more refined. The throne also is lighter: only curtains form the background. The stiles of the throne still resemble Cimabue's, but the base is also lighter, gentler, and finer. The sides of the throne are covered with coloured panels, which remind of Florentine furniture worked with inlays of "pietre dure", multi-coloured marble intarsias. All this indicates a growing refinement and sense of decoration. The thirty medallions of Saints and biblical figures on the frame also enhance decoration. Sophistication, elegance and ease of living were on the move.
Elegance and harmony can also be found in the colour symmetries of the robes and cloaks of the angels and in their poises.
Duccio was more aware of the realistic representation of space than Cimabue. Mary's throne is smaller than Cimabue's, thus stands prominently out against the background. There are less angels and they are smaller, so that the whole frame is simpler and brighter. Cimabue's angels are standing on part of the throne, Duccio's angels seem to fly in the air and hold the throne up. This adds to the sense of lightness.

Duccio was born in Siena in 1255 or 1260, half a generation or so later than Cimabue, but both painters worked in the same period. His first pictures appear in his native town in 1278. Duccio died in Siena in 1319. All his known activities were exercised in Siena, except for the Rucellai altarpiece, which was commissioned around 1285. We see him in this Maestà and in other paintings as a tender painter, showing some of the feelings that Mary inspired, and evolving to innovation, further on than Cimabue. The gentleness and naïve sweetness would become a predominant feature of the Sienese painters, as opposed to the more formal Florentines.

Cimabue and Giotto were fresco painters; of Duccio only panels are known. Note that although Duccio was a Sienese, and although Siena and Florence were rival towns, an important family of Florence found no problem in giving him an order for a main piece of art to be shown in a major church of Florence.

Madonna of Ognissanti

Giotto di Bondone (ca. 1267-1337). Galleria degli Uffizi. Florence. Painted in 1310.

Giotto's Madonna is very different. Mary is still robed in the maphorion, but there is no gold to indicate the folds: there are more shades of colour here than in the two previous Maestà's. The robe is half opened, and we see shades of Mary's chest. She is a real woman now, less a heavenly queen. This must have brought her image more intimate to the viewers, more close to their everyday world.
In the Giotto picture the Byzantine damp-fold style is abandoned. Giotto used a way of presentation in which the material of the robe seems to have more importance than the contours of Mary's body. But Mary's form is heavy, probably not anatomically

right and not elegant, but it is there. Giotto was a Florentine realist, more concerned with the immediate image than with decoration, even though he tried more than Cimabue to introduce decorative elements to enhance the noble image of the Virgin.

The shirt of Jesus has become almost entirely transparent, but the anatomy of the child seems somewhat clumsy. Jesus's body is too robust, his legs too thin, and the shirt clings artificially around the child. Anatomy was not the strength of Giotto. The blessing sign of the right hand of the baby has returned as in Cimabue's Maestà. Jesus again holds a scroll in his left hand, as in Cimabue's painting, and he holds likewise the fingers of his right hand upwards, here however more in a sign of blessing. Mary's right hand however, has the same pose as in Duccio's painting: tenderly on the child's knee.

Giotto has turned the throne into a chapel, perspective is used, and the architecture is as light as with Duccio. Giotto reached a dramatic effect of space with the perspective of the throne panels. His throne is in marble, and like Duccio's inlaid with very many small motives of white and red marble. Giotto's decorations are still more delicate than Duccio's, however. The open panels suggest windows, airy lightness. By their sharply receding forms they create more space and volume than the Duccio and Cimabue scenes. Giotto wanted to emphasise more than Duccio the majesty of the scene, which he obtained by setting the throne and Mary as in a chapel. By doing this, Giotto brought more weight and volume in the Virgin and Child, indicating thereby their importance to the scene.

In Giotto's Maestà there are again more angels, as with Cimabue, but the two angels at the bottom are smaller and dressed in white, so that they are lighter. The standing angels also are longer and more slender, adding to the impression of airiness. Remark how an angel offers the crown to the Madonna. Another one presents to Jesus the pyx containing the Eucharist, a symbol of the child's future passion. Two angels further below offer a vase with red roses and white lilies, also symbols of the Virgin Mary. The Italian painters did not use so profusely medieval symbolism as the northern artists of Flanders and Germany; yet Giotto shows here he knew all these means. As in all three paintings, there is axial symmetry and harmony in the colours. Here also we find eight angels, the same number, but also four apostles, which may represent the Four Evangelists, and two female figures who probably represent Mary Magdalene (carrying the pot of balms to anoint Jesus) and Mary Salome (carrying a crown) who were with the Virgin Mary at Jesus's tomb.

Behind the Virgin, on her throne, we find star motives, here in snowflake patterns. Stars also can be found on Mary's robe in Duccio's picture. These refer to the star of Bethlehem that announced the nativity. The star was a symbol of Mary. She was often called in the Middle Ages the 'Stella Maris', the star of the seas. The golden stars on the deep blue robe of Mary in Duccio's painting was the standard for many later paintings; we find this motif back for instance on the maphorions of Fra Angelico and of Botticelli.

Other similar common elements, probably of Byzantine origin, can be found elsewhere in the panels. Thus in Cimabue's painting, the Madonna's halo consists of a circle of small blue dots and red diamonds. These details are also on the golden halo of Jesus in Cimabue's picture. Exactly the same small blue dots and red diamonds are

positioned in the same pattern of four blue dots and one red diamond in the halo of the child in Duccio's panel. Duccio paid a subtle tribute to Cimabue, as Giotto paid an equally subtle tribute to Duccio.

Paolo Veneziano, a painter of the early fourteenth century, the founder of the Venetian school and a painter still of Byzantine style applied these same dots in several of his pictures. They can be seen in his "Virgin and Child", now in the Courtauld Institute Galleries of London, as well as in a painting on the same theme in the Accademia of Venice.

These details are a remnant of Byzantine symbolism. The heavenly Jerusalem in Byzantine pictures had walls studded with oval sapphires, rectangular emeralds and white pearls. A fifth century mosaic of the heavenly Jerusalem in the church of Santa Maria Maggiore in Rome shows these precious stone patterns in the walls of the Golden Gate. We find such patterns of gems repeated often in pictures of the throning Mary, and also of Christ. Precious stones captured light in unusual ways, and were resplendent with rays as no other material. Christ was the light of the world, and the heavens were a source of pervasive light. Thus, the precious stones were associated with the Godly light. In the 'Revelation of John', an angel shows to John the Holy City, Jerusalem, coming down of heaven from God. John wrote that "It shone with the glory of God and its brilliance was like that of a precious jewel, like jasper, clear as crystal" [G121]. And furthermore, "The foundations of the city walls were decorated with every kind of precious stone" [G121]. John the Evangelist mentions stone names that can be variously translated, like diamond, sapphire, lapis lazuli, emerald, turquoise, carnelian, crystal, beryl, topaz, agate, jacinth and amethyst. The twelve gates of the city were twelve pearls.

The Virgin Mary was thus associated by the jewels she wore and the gems in her halo with the Holy City. Art historians love these details for it shows them the force of tradition and the scrutiny with which the artists of various towns and schools scanned each other's works.

Giotto, Cimabue and Duccio knew the importance of balance and harmony in art by tradition. We would be tempted to state that Giotto has more followed Cimabue's example than Duccio's. Was that an overt tribute to his teacher?

Giorgio Vasari wrote that Cimabue found Giotto as a shepherd boy drawing on a stone and that he took him in as his pupil. Vasari wrote, "One day Cimabue was on his way from Florence to Vespignano, where he had some business to attend to, when he came across Giotto who, while the sheep were grazing nearby, was drawing one of them by scratching with a slightly pointed stone on a smooth clean piece of rock. And this was before he had received any instruction except for what he saw in nature itself. Cimabue stopped in astonishment to watch him, and then he asked the boy whether he would like to come and live with him. Giotto answered that if his father agreed he would love to do so. So Cimabue approached Bondone, who was delighted to grant his request and allowed him to take the boy to Florence. After he had gone to live there, helped by his natural talent and instructed by Cimabue, in a very short space of time Giotto not only captured his master's style but also began to draw so ably from life that he made a decisive break with the crude traditional Byzantine style and brought to life the great art of painting as we know it today, introducing the technique of drawing accurately from life, which had been neglected for more than two hundred years." (Translation: George Bull [G46.]) We find in this text two elements that were very dear to the Florentines of the Renaissance: the art of drawing and the art of drawing from life.

Giotto di Bondone was born in Vespignano, Vicchio di Mugello, near Florence, in 1267. He died in Florence in 1337. Giotto was first mentioned in Florence in 1301, but his first surviving work was the Arena Chapel of Padua. These mural frescoes date from 1304 to 1313. Giotto was a fresco painter first, but he also worked at mosaics, such as in the Saint Francis Cathedral of Assisi. He painted tempera panels such as this Maestà, for which the paint pigments were bound by egg-yolk, as oils were not yet known for painting. He was also an architect: he designed the Campanile, or bell-tower, of the Dome Santa Maria dei Fiore of Florence. Giotto worked at the Campanile from 1334 on but died before he could finish the tower. When this Maestà was painted, he already had accomplished his greatest masterpiece: the frescoes of the Santa Maria del'Arena chapel in Padua. His Maestà was made when he was at the height of his painter's profession, capabilities and art. While Giotto was working in Padua the Popes left Rome, the centre of fresco painting, to permanently reside in Avignon. So Giotto returned to Florence, and he worked for instance on the frescoes of the church of Santa Croce. From 1328 to 1334 he painted at the court of Anjou in Naples. After 1334, he returned to Florence for the last time, to work at the cathedral. From that time dates his participation in the design of the Campanile tower.

The Madonna of Glatz

The Master of the Madonna of Glatz. Gemäldegalerie, Staatliche Museen Preussischer Kulturbesitz. Berlin. Painted around 1343-1344.

The three Maestà's of Cimabue, Duccio and Giotto, are undoubtedly the great masterpieces of early Italian art. Equally great masterpieces were made in the north. It would be impossible not to mention the Madonna of Glatz.

This Maestà dates from a somewhat older period than the three Italian Maestà's, since the panel was painted around 1343 to 1344. The panel stood in the town of Glatz or Kladsko, a town in Silesia that was part of the diocese of Prague in Bohemia, our modern Czechia. The Madonna stood in the church of Glatz, the hometown of the future first Cardinal of Prague, Ernst von Pardubitz.[G67] Von Pardubitz would also be buried in Glatz after his death in 1364. The dates of 1343 and 1344 refer to the appointment of von Pardubitz as Bishop (1343) and to the year in which Prague became an Archbishopric (1344).

The Madonna of Glatz could be an evolution of the Sienese Maestà of Duccio. It resembles Duccio's refined sweetness and elegance more than Giotto's solidity. The Madonna of Glatz is elegant with elaborate decoration and one perceives at first sight a tendency not to realism but to exaltation. The picture shows all the buoyancy, outcry, and brilliance of the High Gothic period combined with various styles of Italian and German origin to an astonishingly mature work.

The Madonna of Glatz is a throning Madonna in the traditional Byzantine style. She is seated on a throne, and has Jesus on her lap. She is clad in a blue robe and in a

splendid rich, red cloak. Here already is a deviation from the traditional depiction of the Maestà, for the colours of robe and cloak are inverted. This allowed for a picture that was more joyful and brilliant, more pleasing to the eye in the bright colours. The Master of the Madonna of Glatz, the anonymous artist of whom we know nothing, transformed the Byzantine damp-fold style of Mary's cloak in the Sienese way. The Bohemian master evolved Duccio's changes still more, to a dazzling complexity of sensuous lines. The draperies have their own life here. The lines and shadows still show the curves of the body of the Virgin in the Byzantine style, but these are so well combined that we really feel physically the softness and lightness of the fabric. The curves of the folds are then also emphasised by golden decorations and intricate patterns, which are painted delicately, and are a feast for the eye. These patterns are lilies, the royal pattern of France, but also a symbol of purity of the Virgin. The tautness of the damp-fold style was less marked in the Cimabue and Giotto Maestà's, and we see the style entirely transformed to the decorative grace of Duccio in this Bohemian picture.

There is also ample magnificent detail to discover in the decorations of the robe of Jesus. The golden pattern continues on Jesus, but the patterns are different. Since Jesus was still more important than Mary was, the painter lent all his attention and patience to the decoration of Jesus's dress. Gold is also used in the haloes of Mary and Jesus. We find here the Byzantine traditional blue and red stones in Mary's crown, and in the halo of Jesus. The stones are set in Jesus's halo in the star pattern that we discovered in Duccio's picture. It is remarkable how in cities and cultures so different, that lay so far apart as Florence and Prague, separated by the Alps, the old imagery of Byzantium was remembered and copied. Yet, the elegance and grace of the Madonna of Glatz are far more an evolution of Duccio's views and of Simone Martini's views than of those of the Florentine masters Cimabue and Giotto.

The Madonna of Glatz is a refined, sophisticated, richly decorated picture that must have taken much patience to its master, and hence a long time in work. That means always that wealth must have come to the region in which such a masterpiece was made. Here the wealth came from a man called Charles of Bohemia, elected as Emperor of the German nation. Charles IV was elected Emperor only in 1346, but he had already been ruling Bohemia in his father's name since 1333. He was born in Prague, and apparently he liked the town. When he became Emperor, he chose Prague as his seat. Prague became even more a centre of the arts. The town was only a Bishopric, but it was raised to an Archbishopric in 1344. Charles arranged that. Indeed, Charles had been brought by his father to France to be educated there, and one of his tutors was a French nobleman who became his friend. This tutor and friend of Charles was appointed to the Papacy in 1342 as Pope Clemens VI.

In the Middle Ages, and in particular in the period we are interested in, of the last half of the thirteenth century and the first half of the fourteenth, German Emperors were still elected by the Prince-Electors of Germany, and dynasties had not yet stabilised. In 1273 Rudolph of Habsburg was crowned emperor of the Holy Roman Empire of the German Nation, then Adolph of Nassau in 1292, followed by Albert of Habsburg. But in 1298 the count of Luxemburg, a region close to France was elected as Henry VII. Henry VII received Bohemia in 1310 as a personal property from the Bohemian nobles, and he handed rule of Bohemia over to his son John, who would hence be called John of Bohemia. John did not become Emperor in his turn. At the death of

Henry VII, two Emperors were chosen by different fractions of Prince Electors, the same year 1314. These were Ludwig of Bavaria, or Lewis, and Frederick of Austria. The two emperors fought each other in a civil war until Lewis won the decisive battle of Mühldorf in 1322. Lewis made Frederick a prisoner. He had to face new challenges however. This time the dispute was with Pope John XXII. In the meantime, John of Bohemia made friends in France. His sister Maria was engaged to King Charles IV of France, and John turned around the Popes. John had a son, Wenzel, born in 1316. John brought his son Wenzel to France to be educated there, changing his name to Charles. The nomination of Lewis of Bavaria remained always contested.
Pope John XXII had already pronounced that Lewis was not the rightful Emperor, but the majority of the Prince-Electors recognised Lewis anyhow. John of Bohemia profited from the confusion and from his close links to France and the Popes. In 1342 a friend of Charles of Bohemia was appointed to the Papacy. This was Clemens VI. This Pope declared Charles as Emperor in 1346, against the still living Lewis. Charles was thirty years old. That same year 1346, John of Bohemia died in the French army at the battle of Crécy, fighting against the English. But Charles IV had not participated in that battle. Lewis of Bavaria died the next year, and Charles was easily recognised as the rightful next Emperor of Germany.

Charles IV was born in 1316 in Prague. He ruled Bohemia as from 1333, barely sixteen years old. He liked Prague, and stayed in this city also after his coronation as Emperor. He embellished Prague. He had a fine stone bridge built over the river. He modified entire quarters of the town. Charles spoke five languages fluently; he was a very learned man. The poet Petrarca lauded him in his poems. In 1348 Charles founded the first German university in Prague. But the nineteenth century German historian Friedrich Schlosser tells of Charles that the Slavs, the French and the Italian had educated him. He wrote that Charles combined thus the hidden nature of the Slaves, the diplomatic abilities of the French and the perfidious, egoist and political arts of the Italians. Charles was Emperor during the great plague epidemics that ravaged Europe especially in 1348 to 1350, but he closed the country hermetically, and thus saved Bohemia from the worst outbreaks. Also during his reign, Germany continued to be the scene of wars and battles between the princes. The Madonna of Glatz dates from just before the period of the great plague epidemics, from 1344, when man could still feel triumphant, and have an unwavering faith in Christianity.

From the date of 1344 also started the construction of the Gothic cathedral that is one of the prides of the city of Prague. A French architect, Mathias of Arras, who had previously built the cathedral of Narbonne, was called in. Arras lies in the North of France, in the Artois region, where the finest Gothic cathedrals were erected first. Mathias died in 1353, so a German master mason called Peter Parler took over. Prague Cathedral became the finest monument to Christianity of Bohemia. Charles also had himself built a new palace and castle outside Prague, called Karlstein after his own name. The finest Bohemian painters and sculptors decorated Church and palace with frescoes.
Charles had been raised in France. His wife was a French noble lady, Blanche de Valois, who was the sister of King Philip VI of France. Blanche died in 1348 but Charles had seen enough of the rayonnant splendour of Gothic art in France, like the Sainte Chapelle in Paris, to want also to shine and use this art to glorify his power. The Bohemian artists knew undoubtedly French and Italian art. Maybe Charles took them with him on his trips to France and Italy, as members of his court.

One only has to glance at the Madonna of Glatz to see the Sienese influences. These Sienese influences could not only be seen in Italy. We know that Simone Martini worked in Avignon, and since Charles' friend was Pope in Avignon, the artists may have come in contact with Sienese styles also at the papal court. But Charles' artists remained anonymous. We only know of one name, Theodoric, of the painter of the frescoes of the chapel of the Karlstein castle, but we have no biography of him.

In the lower left corner of the "Madonna of Glatz" we see the donor, Bishop Ernst von Pardubitz. He is painted much smaller than the Virgin, and even than angels, in a demonstration of humility. This was the habit in medieval art. Ernst's bishop's staff lies at the feet of the Virgin, and this staff is sharply pointed to a dangerous pike. Ernst will decidedly defend the holy faith in the name of the Virgin. Mary is seated in an elaborate structure of a throne, entirely in the great Byzantine tradition of a throning Madonna. Somewhat higher than Bishop Ernst one can discern through the windows or the loggia low black walls on either side. These may refer to the enclosed garden, a Marian symbol from the Song of Songs of the Bible. This symbol was frequently used in medieval and Renaissance pictures.

The Virgin's throne is the most elaborate of the four Maestà's we present here. It is also of wood, maybe made of the Lebanon cedar of which is also referred to in the Song of Songs. [G67] The Master of Glatz turned the throne into an elegant splendour of exaltation that we do not find even in Giotto's Maestà. The throne is heightened on the left and right by towers pierced with high windows to enliven it, and to make it as light in structure as the Gothic cathedrals. We are used to these elevated lines in the French Gothic churches. The Master of Bohemia in this entire picture expresses the same feelings of an incantation to God.

In each window appears an angel. Each angel is rendered in detail; each robe and each cloak is decorated as in a miniature Book of Hours. Most of the dresses of the angels bear the star sign of the Virgin. The two lowest angels have magnificently coloured delicate wings. They are in different poises. One angel carries the golden ball with cross, the sign of imperial dignity and the symbol of the reign of Jesus. Mary also on her blue robe has this symbol right behind Jesus. The left angel has a gesture as if it wants to make us a witness to the glory of Mary and Jesus on earth. All angels look to the Virgin, and their lines of sight cross at her face. Higher up, two angels painted red only appear with their heads and arms out of smaller windows. They hold incense burners, and thus they envelop the scene in fine scents. This also is an image from the Song of Songs.

Still higher up, two angels again are seated on top of the tower structure, high up against the upper border of the frame. These are dressed in white. In the folds of their robes one remarks the old Byzantine damp-fold influence, and even the angular style of draperies popular in Germany a century before. In Germany, in the later part of the twelfth century appeared a new trend in the Byzantine damp-fold style. It lasted until the first half of the thirteenth century. The folds in this new Gothic style were painted in very angular, almost metallic, flat and spiky shapes. This style has remained known in only few pictures. It is most striking in an altarpiece from the Cathedral of Soest in Westphalia. Less angular forms gradually evolved from this indigenous German style. The difference in style between the draperies of these two angels and of the cloak of the Virgin is striking. In Mary's cloak Sienese influences are obvious; the draperies

have their own substance, and the flowing borders are gracefully decorated. In the angels the Byzantine damp-fold style, germanised to the spiky metal-like Westphalian style is also clear. We have with the Master of the Glatzer Madonna an artist who was well aware of these various modes of representation, and it seems as if he showed his knowledge proudly in a blending to his own decorative aims.

The master of Bohemia was creating space, and he used space splendidly in his picture. When we compare his throne with the structures of Cimabue and even Giotto, the evolution is clear. The master of the Madonna of Glatz created depth wherever he had some surface to cover. He gave ample illusion of space in a masterly composition. Whereas with Cimabue the throne remains almost two-dimensional, the Bohemian master was dissatisfied with his flat canvas, so he tried heroically to sculpt in space. Remark the towers of the throne, the Gothic turrets that launch themselves to the skies in the upper part of the frame, and of course the two chapel-like light structures flanking the turrets.

In these two chapels the master of Glatz painted two lions. With these elements he added symbolism, for the lions refer to King Solomon. They are a reference to the Royal power of Bohemia, later to become Imperial power, the power of Charles IV. Furthermore, we already encountered various references to the Song of Songs. This poem was called in Germany "Das Hohelied Salomons", the High Song of Solomon. The Madonna of Glatz was therefore designed as an incantation to the King of Bohemia, the later Emperor Charles. Other symbols of kingly powers are the sceptre worn by the Virgin and the gold ball with the cross, representing the Christian world.

The Song of Solomon lauds love to a lady. That beloved was black in the song. Maybe because of that the Virgin of Glatz has a dark face. We know of a long tradition of black Madonnas in Eastern Europe. Some of these were simply sculptures covered with silver, blackened over time by oxidation. The Madonna of Glatz is one of the striking examples of this tradition. One can imagine other symbols to the Song of Solomon, although these references are less obvious and must remain conjectures. Thus the wooden aspect of the throne is enhanced. The painter showed explicitly the fibres of the wood. As we mentioned already, this might be a reference to the Lebanon cedar with which is compared the face of the girl. The Virgin is a slender lady, slender also as Lebanon cedars. And on top of the frame we find the star of the 'Stella Maris' as Mary was called, a theme repeated on the robes of the angels. Further symbols can be found in the painting. Jesus holds a small scroll of paper in his hand. According to the Gospel of John, Jesus was the word become flesh, the action of God. The scroll represents the written word. Finally, an angel seems to hold or bring the golden halo to Mary. Mary was enthroned, a theme called the Coronation in the heavens.

Just how mannered and elaborate the decoration of this picture is, is most strikingly demonstrated in the Gothic green coloured chapel ceiling, high above Mary. The last piece of surface had to be used in a final dramatic show of skill and space. Behind the whole scene, the uppermost angels hold a gold brocaded dais with splendid motives of Marian flowers, eagles and griffons. These are all Royal symbols. The Italian masters used merely a uniform golden background. The Master of Bohemia must have wanted to surclass these painters in splendour.

The Virgin Mary wears a white veil that contrasts nicely in colours with her dark face and her splendid cloak. The face of the Virgin is serious, introspective and distant. But is a real woman's or girls' face of character, whereas one has the impression that Cimabue's and Giotto's Maries remain types. Mary here has fine features, and in a dignified way she does not look at the viewer, also contrary to the Virgin of the Giotto Maestà. Mary holds her face inclined, and the same direction is given to the face of Jesus. Mother and child are in symbiosis.

The anonymous Master of the Madonna of Glatz had other objectives with his picture than Cimabue, Giotto and Duccio. The Tuscan painters made pictures of personal devotion. Yes, they wanted a painting that could be admired for their heavenly inspiration, but these geniuses wanted also to bring Mary close to the viewers. They worked for republican city-states and for an audience that consisted of intelligent merchants and artisans, who each had worked for the grandeur of their towns. They worked for an audience that had known a long, almost immutable Byzantine tradition. The Madonna of Glatz was made for the exaltation of a royal and noble, more arrogant audience. Splendour and worldly glory had to be shown. Tuscany had to be over-classed by show of intelligence in symbols and by grandness of decoration. The Madonna of Glatz is complex in its imagery, and elaborate in its decoration. It displayed wealth and extravagance in the exaltation of the concept of the Virgin linked to a Solomon, one of the greatest Kings of the Bible. This Byzantine tradition had to be adapted for a worldlier picture. In the patience and skill with which it was painted, we recognise however a universal genius. The picture can be compared with the splendid pictures of Flemish Gothic that came more than fifty years later. The Madonna of Glatz is a pictorial splendour of the exaltation of the figures of the New Testament.

Conclusion

Cimabue, Duccio and Giotto were the most important among the painters of the new age of Western Europe. This was not yet its Renaissance or new birth, but the ingredients were created by men of their times. It was birth before re-birth. We see clearly in the Maestàs, as in other of their paintings, this new evolution that broke slowly but steadily with the old Byzantine images that were still prevalent in Italy throughout former ages. The Madonna of Glatz was a Middle European picture of a pomp and magnificence that would not be seen anymore until after the plague epidemics of the second half of the fourteenth century.

Why Maestàs? Sir Kenneth Clark has written about the remarkable concept of the Holy Virgin in European civilisation[G1]. No other religion but Catholic Christianity emphasises so much the image of a gentle woman and of a woman caring for a baby. The cult of the Madonna introduced a very civilising element in European history. Every churchgoer saw the Maestà images, be it in earlier times in mosaics or in sculptures. The Maestà's went back to Byzantine traditions. We have many wooden sculptures of the Madonna in Western Europe, from the eleventh, twelfth century certainly. Many are magnificent, polychrome coloured, and all represent a Madonna seating on a throne with Jesus on her lap. They are called "Sedes Sapientiae" and one can still find them today in small Catholic country churches of France, Belgium or

Germany. A Sedes Sapientiae remains the emblem of the University of Louvain in Flanders/Brabant, a university founded in the fifteenth century.

These images and sculptures were the only images of pure, altruistic love that existed. And they were there to be seen and to be referred to at all time. They meant that mothers would go to heaven if they cared well for their children. They forced men to respect women and families, and they spoke of the virtue of a caring "pater familias". Love itself was of a higher realm. Love was aesthetic, pure and of the heavens. So, for Europeans, marriage became not just the sharing of solitude, the sharing of sex or the sharing of fortunes. Marriage should and could lead to a higher objective, to a transcendence that instilled respect, care and love in the spouses, and that would lead to retribution in the life after death.

The Madonna was one of the most powerful civilising influences the Catholic Church has introduced. No wonder then that the greatest painters of their age were asked to use all their genius and intelligence to offer splendid images of the Virgin. When these men painted, they thought thoroughly about their subject, with all the intelligence that was certainly not less than the intelligence of modern man. What was the image about? What should be the effect? Why this kind of painting at all? How best to please the wealthy commissioners? What did the commissioners want to obtain as effect with such a painting? What would they like, so that payment would be assured and next commissions to be received? So, naturally, the painters would reflect profoundly on the sense of the Madonna in life, and represent majesty as well as tenderness. Majesty was represented since the earliest times. It was necessary now to show that a higher state should be pursued in life.

Gradually, according to the changes in society, Cimabue still emphasised the majesty. But Duccio especially, and other Sienese painters, introduced the representation of feelings of tenderness and caring love in their paintings. Giotto was the more rational artist, but one who used his rationality and realism to show the human feelings still more. His Maestà is the best representation both of the majesty in the universe and the loving tenderness of the Madonna that has become so much a part of European mind and heart.

From these early pictures on, evolution in the art of painting Madonna's in various free, individual ways grew into the Renaissance.

Lesson Four – Curved lines

Arte and Zeuxis are strolling in the gardens of the Alhambra of Granada. The time is early and tourists have not yet arrived to disturb the peace of the grounds. They walk through the long lanes of the Gardens of the Generalife, while the water fountains spray their arches in the air. Flowers bloom everywhere, so that at the splendour of the colours unfold to eager eyes.
Arte grasps Zeuxis' hand, and they walk in solemn silence towards the citadel. Arte gasps when they enter the building and walk on, until they arrive at the patio with the Fountain of the Lions. Arte looks up at the wealth of intricate stone decorations, where pattern after pattern intertwine in ingenious ways.

Arte: Wonderful, wonderful, Zeuxis. All this beauty and work was dedicated just to a few people in the fifteenth century. Yet, the masons and sculptors who made this, and who have remained anonymous must have been great artists in their own right.

Zeuxis: I am sure they were, Arte. The word "art" comes from "artisan". Artisans led to art. Artisans had to produce fine objects, and by and by the masters among them were honoured. They took more pride in their work until what they made was such a wonder we called it "art".

Zeuxis and Arte stay a long time in the citadel to admire the nicest corners. Then they return to the gardens and sit in a peaceful corner under a tree.

Zeuxis: I sense you wish to learn somewhat more, Arte.

Arte: Yes. It has been a fortnight now that we have travelled wide and long. So long that it bores me a little. What can you teach me here?

Zeuxis: Well, we have seen so much about straight lines before, and here we are in a decorative paradise. So I thought we would discuss for a change curved lines and decorative patterns.

Arte: All right. I look forward to it. What do you call curved lines? What do they represent?

Zeuxis: Curved lines are the lines of human emotions. They are not the lines of reason. Curved lines are the forms of fluidity, of liquids and of organic growth like you saw in the Gardens of the Generalife. They represent warm life. Curved lines are the lines of human flesh, of animals. They are the round curvatures of the bodies of man and woman. They are the lines of eroticism, but also of earthly poetic love, of lyricism. Curved lines are the forms of the clouds passing slowly by in the sky. Yet, these lines can also be modulated in thickness, and be painted as arrows to give senses of direction and to enhance the quality of flow.

Zeuxis draws the plates 29 and 30 in the sand.

Plate 29
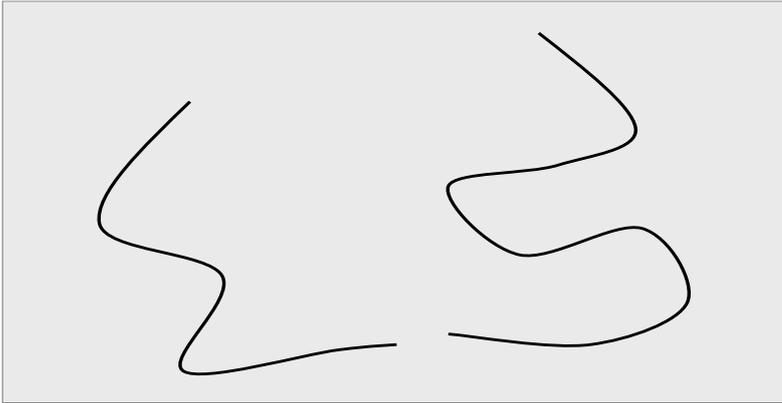
Plate 30
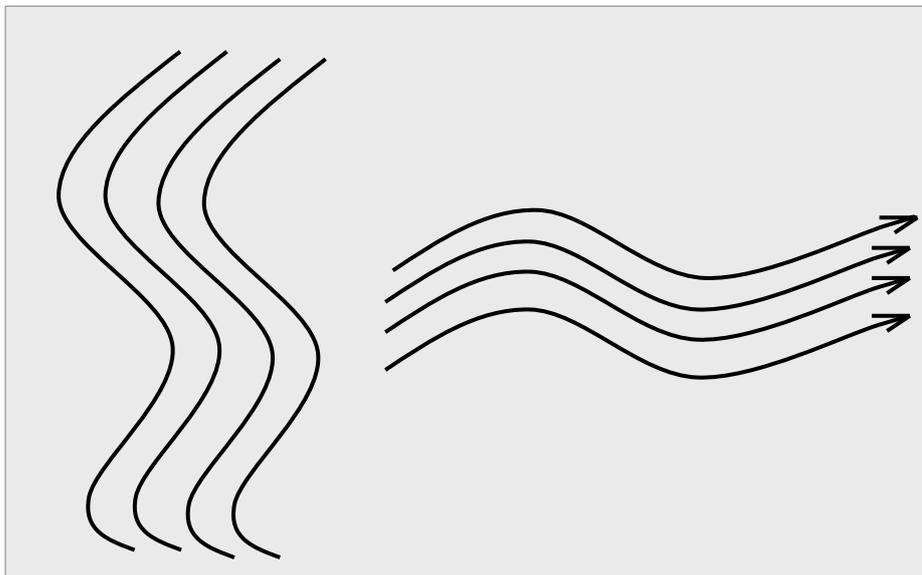
Zeuxis: Curved lines can have various properties, just as vertical, horizontal or oblique lines. We have not much emphasised these characteristics before, but lines have width, direction, and they can be sharply focused or not. They can even be interrupted and then lines can be dotted or consist of pieces of equal or of unequal length. Lines can be thick or thin, of equal width or of uneven width. They can be sharp or blurred in focus. They can have a direction like an arrow.

All these characteristics can be exploited by painters, but these qualities have mainly been used in drawings without colour other than black and white. In drawings or engravings the characteristics of lines are more important than in painting. In painting, obvious, clearly visible lines have mostly been avoided, as they emphasise contours, which do not exist in nature. Lines then have mostly to be interpreted as directions or as delineations of coloured areas.

Curved lines are the lines of emotions that enter our heads and that vibrate throughout our bodies. Emotions induced by curved lines are powerful. They affect us, penetrate us, and cannot be stopped because they have an organic character that is so near to our own very nature. Curved lines introduce forceful rhythms in a picture. Let me illustrate that for you with an example.

Zeuxis lifts his hand and against a tree appears his magic screen. A picture lights up on the screen.

➔ Edvard Munch (1863 – 1944). The Scream. Nasjonalgalleriet. Oslo. 1893.

Zeuxis: Look, Arte, Edvard Munch, a Norwegian painter, made a picture of the effect of screams on man. His "The Scream" of 1893 shows well how the curves of emotions penetrate the man, even though he tries to shield his ears and head. This image illustrates well how organic curved lines are, and Munch had captured this idea perfectly. What do you feel when you close your eyes and think of curved lines?

Arte: The scream you show me is also a horrible painting, Zeuxis. It is not a picture for the peace of this garden. I hope curved lines and emotions never possess me the way this man Munch painted. To answer your question, curved lines represent for me the flowing movement of liquids as we just saw in the gardens. They are the lines of soft waves on water surfaces, of water flowing along a slope. They flow like water, the principal element of life. Curved lines are for me the lines of flowers we saw, of softly sloping hills of nature.

Zeuxis: And there is no limit to the combinations of curvature. Curves can be open or close. Fully closed curvatures form circles, ovals and other closed round forms. These are inward seeking and give an impression of protection like eggs protect embryos. Curved lines protect, don't they? Let me show you a few lighter paintings.

Zeuxis changes the picture and a painting that Arte has already seen before appears.

➔ Vladimir Baranoff-Rossiné (1888 - 1942). Adam and Eve. Collection Carmen Thyssen-Bornemisza. Museo Thyssen-Bornemisza. Madrid.1912.

Zeuxis: The painting of Adam and Eve by Vladimir Baranoff-Rossiné well represents these concepts. Curved and circular forms form the whole picture. The warmth of the sun generates all life; thus the sun's forms are everywhere, and especially in Eve. Circling and curved lines were used by a mostly French group of painters called the 'Orphists' in first figurative and then abstract paintings of the beginning of the twentieth century. One may state that in Western Europe abstract art evolved out of these experiments. Frantisek Kupka, of whom we already showed a painting, was a member of this movement, as were Robert and Sonia Delaunay. In a sense, though still figurative, Baranoff-Rossiné's picture is very much an early Orphist image.
In Baranoff-Rossiné's picture, the rays of the sun are straight and radiate outwardly. But to represent the sun's benevolent warmth, the rays are often painted with undulating curves. Curved lines are smooth and soft and warm. Earth, sun and moon are round. The human organs have round forms. Curved lines in abstract paintings take away the hardness of vertical, horizontal and oblique lines, and they thus introduce a warmer, human feeling.
We have talked about straight and curved lines. Now, one can combine these. I'll show you a painting of an artist who did that frequently.

Zeuxis projects a painting of Giorgio de Chirico.

➜ Giorgio de Chirico (1888 – 1978). Meta-physical Interior with Hand of David. Collection of the Foundation Giorgio and Isa de Chirico. Rome. 1968.

Zeuxis: Giorgio de Chirico, a painter of - as he himself called - meta-physical images combined angular, straight and oblique lines with organic curved lines. He was an Italian painter of the twentieth century. Look at his picture "Interno metafisico con mano di David", or "Meta-physical Interior with the Hand of David". In this painting de Chirico set a frame with an image of the hand of the David of Michelangelo against the hard lines of the drawing tools of the engineer. But the hand of the David is not in marble, and around the central scene are the curved lines of classic volutes, or the curves of the openings of the sound box of a violin. The curves and the hand represent the poetical, soft human element. De Chirico thus obtained a lyrical effect in a cold world.

Arte: That was a really nice picture, Zeuxis, and I liked the strange, ancient setting. Curved lines are to me also the lines of courtesy!

Zeuxis: Ah, then here is the summum of courtesy and grace!

Zeuxis projects a new picture.

➜ Sandro Botticelli (1445 – 1510). The Annunciation of the Castello Church. Gallerie degli Uffizi. Florence. Around 1489.

Zeuxis: Curved lines, while indicating emotion, are the curves of elegance and grace, of courtly humans bowing to each other in respect. One of the best examples of this use of curved directions is Sandro Botticelli's "Castello Annunciation". We see in this picture both the angel and the Virgin engaged in curved movements of respect and of the emotions of the Annunciation. This was for its time a new, very lyrical representation of the Annunciation theme, and we feel how Botticelli through the curved directions expressed the elegant, soft emotions of the Virgin at the announcement of her pregnancy. Remark how far this grace is from the strict lines of the Gothic sculptures that adorn the cathedrals of the north of France.
We have always supposed that curves are generally strongly bowed, and in at least one place inwardly curved. But also only slightly curved lines can induce gentle, almost organic feelings.

Arte: You told me you would explain patterns of decoration.

Zeuxis: All the types of lines we have encountered previously can be combined to intricate patterns. These patterns have often been used in decoration, and as the patterns were copied over and over again, they are now the recognisable imprints of various cultures.
Since the seventh century for instance it is forbidden by Muslim religions to depict humans and even other elements of nature. The Prophet Mohammed read in the Hebrew Bible that Moses had forbidden making idols. The same concept is adopted in his Koran. Therefore, the Muslim painters have taken the decorative patterns of lines, as you saw in the Alhambra, as their sole means to express the originality of their culture. The inter-linking patterns are of the most elaborate, intelligent, graceful and

surprising of the world cultures. Moreover, these patterns are usually patterns of straight lines.

Other patterns exist in other cultures, so that one can easily characterise a culture by its particular decorative pattern. I cannot show you all these patterns, and it would be boring at this stage to categorise them according to cultures of civilisation. But everybody knows the Celtic marvellous inter-twining patterns of lines, as for instance used in the Book of Kells. This manuscript book of the New Testament is a most wonderful example of Irish art dating from the 7th to the 9th century of our era, and of Irish insular art. Here the patterns are not of straight lines but of curved lines.

Zeuxis opens a book and he browses through the pages, showing them to Arte.

➔ The Book of Kells. Folio 34r, Christi autem generatio. Trinity College. Dublin. Probably 9th century.

Zeuxis: Line patterns of either straight lines or curved lines have been used as ornament in architecture of all centuries and civilisations. You saw one of the most marvellous examples in the Alhambra.

The experimenting artists of the twentieth century could not but notice and be fascinated by these patterns. A Belgian artist Pierre Alechinsky, took up this kind of art and combined the decorative patterns as friezes around similar larger themes. The patterns of curved lines have no meaning, and they exist for no other reason but to appeal to the inner mind of the viewer in undulating motions.

➔ Pierre Alechinsky (1927 -). Sometimes it's the Opposite. Musée d'Art Moderne. Brussels. 1970.

Arte: I see, Zeuxis. But time runs out. That was only a short lesson but I have to go back.

Arte stands up, and Zeuxis disappears.

Second Letter of Zeuxis to Arte

My dear Arte,

In the previous lessons we analysed some of the qualities of the mainly invisible lines that are at the basis of the structure of a painting. Viewers do not immediately see these lines. They see areas of colour first, and primarily the areas of pure hues. They need to go through a process of intellectual analysis to discover the main directions, so that the order and design of the painter is laid bare. Viewers have to go through much the same process to discover the subtleties of composition.

I write you this letter to teach you a few concepts of composition and to introduce our future lessons, which will all handle this subject.

By composition we will mean in our next lessons the distribution, not anymore of the main directions, but of the two-dimensional forms painted on the canvas of a picture. The forms are nothing more than the areas of colour, which are positioned in an obvious, easily perceived way against a background that participates less conspicuously in the narrative or in the expression of the message of the picture. The areas are recognised after a while, either as surfaces that merely represent themselves, or as forms that have meaning. In both cases the forms constitute the scene, the representation of the message.

The background and the scene are the two main parts of the composition. The following paragraphs will be more concerned with the forms of the scene than with those that constitute the background. The background supports the scene, but viewers will usually find less obviously delineated forms in the background.

A viewer does not immediately perceive the structural skeleton of the picture. Likewise, a viewer does not become immediately aware of the design the painter used, which is of the composition of a painting. The overall patterns of distribution of coloured areas strike the viewer, and the impact of the visual perception evokes emotions in him or her without conscious analysis. The viewer's mind reacts intuitively, without being aware intellectually of the design, of the patterns of the shapes. Our next lessons will be about the analysis of these distributions of shapes, and I will show what the overall structural areas can be, in which painters organise their compositions.

The psychologist Rudolf Arnheim wrote in 1954, "We might observe that when by some circumstance the mind is freed from its usual allegiance to the complexities of nature, it will organise shapes in accordance with the tendencies that govern its own functioning. We have much evidence that the principal tendency at work here is that toward simplest structure, i.e., toward the most regular symmetrical, geometrical shape attainable under the circumstances" [G96.]
We will start by analysing these regular, symmetrical, geometrical shapes that our mind seems most able to distinguish behind the complexities of the details of figures,

plants, monuments and landscapes of real paintings. Abstract art will help us most in understanding our basic feelings towards these shapes.

With that we are at the second stage of how painters work while conceiving of a painting.

Painters have the idea of a scene in mind, vague and still much in the way of an emotion, rather than in real forms. Then they draw a few lines on the canvas or the paper, which will be the general directions of the structure of the work. Around these lines then painters draw a few simple shapes, mostly geometrical shapes of also only a few lines, which will outline how the main forms will be positioned in the painting. This is the crude and basic composition.

Painters do not always consciously and rationally proceed this way. We have examples of unfinished drawings that bear complex, finely detailed parts in one corner of the paper, and that thus does not seem to have been started based on an obvious underlying design. It is without doubt however that the structure of lines and the distribution of forms in the composition were then clear in the mind of the draughtsman or painter before the first details were depicted. The mind-image of structure and composition is so present in the mind of the painter, that detail can appear first. The real lines of structure and the real forms of the composition need not be physically present in a preceding blueprint. Nevertheless, we also have many examples of drawings and of crude paintings, sometimes tens of them for one final painting, testifying to how much painters worked and worked over details only of the structure and of the distribution of forms.

More on that in our next lessons.

Your dearest friend,

Zeuxis

Renaissance Art

The beginning of the fifteenth century marked a new era for humankind. Especially in Italy, the city-states became focus points of wealth generated by trade. The epidemics of the plague were less virulent than in the previous century, and the Hundred-Year Wars between France and England were in their last stage. Man became more aware of his own capabilities, instead of being a mere play-ball of fate. According to Neo-Platonist views, man was a sparkle of the deity brought down to the earth. This spiritual origin of man was emphasised and brought to the forefront in art. Man was born anew, and hence the word of Renaissance or re-birth was found appropriate for this period. Theorists also saw the period as the re-birth of the significant and elegant Roman art of the first centuries, of the art that was increasingly being re-discovered in sculptures in Rome.

Renaissance art had its core in Florence and Tuscany. This art form developed first in Italy and then slowly gained northern regions. When Italy and Tuscany in particular could be in Renaissance period already in the beginning of the fifteenth century, it took in many instances until the beginning or the middle of the sixteenth century until the full impact of the Renaissance art was noticed and used by northern painters.

Lines and directions were still mostly vertical in Renaissance art. This indicated the dignity of the Renaissance period. But graceful gestures broke the rigidity of International Gothic. Florentine artists emphasised the design of the compositions, as much as the lines around figures and objects. Venetian art emphasised more the colour areas and the power of colour in paintings, for their own value to induce emotions. Curved flowing positions came to break Gothic rigidity, as for instance in Sandro Botticelli's pictures.

Composition was often based on the stage area of composition. Balanced and symmetrical shapes were the rule. The Tuscan artists emphasised rules of fine design based on the observation of the natural rules of nature, which were in the Renaissance mostly centred on man and his urban environment. Pyramid compositions were used for portraits in later periods. Portraits were painted at first in profile, later in front and still later in more free poses.

Mostly very pure hues were used, although certain artists started to experiment with other hues and harmony of analogues. Examples of this are in the pictures of Piero Pollaiuolo. Symmetries in colours and balance in complementary colours were the rule.

Emphasis for the Florentine artists was on line instead of on colour, so that well-delineated areas were painted in one colour each; but in Venice the importance of colour was emphasised.

The Renaissance art was still mostly devotional, but since knowledge of classic antiquity and its art and philosophies obtained full attention, also many themes of classic antiquity were used. One of the earliest examples of an artist who painted many classic themes was Sandro Botticelli.

Italian Renaissance art was characterised by imitation of nature in intricate detail, grace, elegant design, realistic space, and spiritual representations. Portraiture and

classic scenes slowly gained more importance. Religious scenes came to be more humanised than before. The Renaissance also introduced the first the use of the nude for the glorification of the human body.

The compositions of structure of the Renaissance were made entirely according to the rules of linear perspective, and often followed strict geometrical patterns. The rules to obtain realistic space and depth were discovered, and the Golden Mean concept for harmony received full attention. Chiaroscuro was also well known and used. Aerial perspective was applied, mainly in northern landscape paintings.

Some of the painters of this period were Masaccio, Masolino, Filippo Lippi, Sandro Botticelli, Giovanni Bellini, Andrea Mantegna, Pietro Perugino, Piero Pollaiuolo, Piero della Francesca, and Andrea Verrocchio in Italy. German painters were Albrecht Altdorfer, Albrecht Dürer, and Adam Elsheimer, among many others. Flemish and Dutch painters were for instance Quinten Massys, and Henry Blès.

The Renaissance added to International Gothic full knowledge of perspective, knowledge of detailed chiaroscuro, and of still more realistic mimesis of nature. In the Renaissance, more complex compositions were devised, and themes from ancient mythology were added to the many religious themes from the New Testament. Most pictures remained of a devotional character, but mainly due to the invention of oil painting, panels could be made more easily for the palaces of the wealthy. Narrative had made place for the contemplative qualities of beauty. This was also only an evolution of the spirit of the society of the Late Middle Ages, since a longing for sophisticated beauty became engrained completely during this period of the fourteenth and fifteenth centuries. Renaissance added to this trend, and embellished it with themes and subjects of classical antiquity.

The Madonna of the Magnificat

Sandro Botticelli (ca. 1445-1510). Galleria degli Uffizi. Florence. Painted around 1487.

The temptation to show a picture of Sandro Botticelli as an example of Renaissance painting is irresistible. But many of his paintings, such as the "Birth of Venus", are so well known, that we prefer to present an equally marvellous but lesser admired picture, his "Madonna of the Magnificat".

As a contrast with Gothic examples, Botticelli's Madonna could not be better chosen. We see a tondo, a round panel, a form almost never used by Gothic painters even though the most marvellous expressions of Gothic art are the round coloured windows in the cathedrals. A first impression of Botticelli's painting induces sweet, agreeable feelings of soft and gentle love, as accentuated by the more than wonderful colours which dazzle us with their brightness, yet interact so harmoniously as to be a visual

miracle. We cannot but immediately notice the richness of detail and the extraordinary skill of this painter in the delicate ornaments of the golden crown. The overall composition is in symmetry with two balanced masses of figures on either side of the tondo.

The colours are really splendid in this painting. Botticelli used a dark blue on the maphorion, the Virgin Mary's traditional cloak, to enhance the nice red of the robe. Where the red should border on the blue, Botticelli added a golden lining to the blue cloak. The blue is therefore enhanced by its complementary colour, yellow, whereas the red of darker tone, since lower on the body than the cloak, is enforced by the yellow-gold. In other places, Botticelli darkened the red.
Botticelli mainly used the three painterly primary colours: red, blue and yellow. These colours had an additional meaning in the late Middle Ages and the Renaissance, since they were the colours of the Trinity. Yellow was the colour of God the Father, blue the colour of the Holy Spirit. These colours were sometimes inverted, yellow being associated with the Father and blue with the Spirit. But red was always associated with the Son.
In Botticelli's picture, Jesus is dressed in white linen, but he is seated against the red cloak of Mary. This red is close to purple, the old imperial colour of the Tyrian purple. Red and purple were often still considered much the same colour in Botticelli's times. Red clothes were also among the most expensive of the Renaissance, and Jesus is seated on such a cloak.
Black and green are absent from the painting. White, the hue of cleanliness, purity, is very present however. It is fair to assume that the hues Botticelli used have religious meaning.

One could not find a better example of the principles of the law of simultaneous contrast of Michel-Eugène Chevreul than in this painting.
In the foreground, on Mary's left arm, the bright light plays marvellously on the colour and brightens the red sleeve to an entirely other colour. Beneath, the blue cloak continues, and it flows into a lighter blue hue of the youth on the left. Yellow is the complementary colour of blue, so Botticelli could enhance the blue hue by giving the colour yellow to another youth's robe, on the left towards the middle. And Jesus, the baby, is also painted in broken hues of white and yellow. The white veil behind Jesus forms the transition between the red of Mary's robe and the bright colour. This white also serves as a transition between the two so different hues that are the blue and the broken white of Jesus and the red and this same soft colour. Neither the blue nor the red is thus hurt, and the colour of Jesus's flesh is somewhat more pronounced. Botticelli did not know Chevreul's discoveries on the simultaneous contrast of adjacent colour areas, but he had an exquisite painterly eye, and feeling for colour combinations.

A harmonious painting needs symmetry, also in colours. So: the red of Mary's robe is answered on the left by another red patch, here in the youth on the left. There are some bluish undertones in this colour, especially in the youth's sleeve, as it is in contact with lighter blue. Again the colours seem to blend, to be in agreement with each other. Botticelli must have known that contrasts of blue and red are dangerous so he added colour patches that blend the two, and bring them in agreement. There are yellow, golden stars on the sleeve of the youth on the left, and that is the complementary colour of the blue of the young man lower down. But the red and

yellow of the sleeve never touch the blue. These colours are separated from the blue areas by the pale hand and by the golden locks of the young man in blue. Finally, when there is the dark blue cloak of Mary down below, Botticelli brought symmetry to that mass of colour in the dark blue circles of the cosmos above. This cosmos was the realm of the divine symbol that sends its golden rays down at Mary again. Remark the full aerial perspective over the landscape of the background. Botticelli thus brought balance of colours in his picture.

The most remarkable aspect of the use of colours in Botticelli's magnificent "Magnificat" is the incredible correct intuition of the artist for the value of hues. Michel-Eugène Chevreul was the first to note the contrasts of hues and to propose to separate non-complementary colours by white or black. He wrote on the strengthening of hues of juxtaposed complementary colours. That was in the middle of the nineteenth century. Botticelli worked in the fifteenth century! It cannot be a coincidence that he separated all vivid colours from each other the way we have remarked in his "Madonna of the Magnificat". Botticelli must have felt that to reach absolute harmony, colours had to be isolated, or that a transitory colour had to be inserted between contrasting hues. That enriched each colour to the crisp splendour of his pictures that has remained unequalled.

Botticelli's frame is a tondo, a round form in which composition is always difficult. Botticelli solved this here by forcing two masses of figures symmetrically to the outer borders. That left open space in the middle, the equivalent of the open V. In this open space, even though there is not much place in a tondo, Botticelli succeeded in creating a wide and far landscape. He used some form of linear perspective even, for a river winds just next to Mary, and that river narrows as it flows to the far. Furthermore, the painter set the horizon quite low, so that our feelings of elation are enhanced, since the picture shows Mary higher against the earth, the landscape. The upper part of the composition was thus free, and here Botticelli could place the heavenly crown over Mary, held by two hands and arms enveloped in delicate, white linen. So high in the air, Botticelli had to continue with a light image. He could not have forced a heavy, massive object here. Remark therefore the grace of the light crown, consisting only of fine golden threads and the fine, delicate, long hands that hold the crown. The bands of almost invisible, fluffy silk that hang down from the crown, and that like a web or veils of spirituality descend over the Virgin, also enhance the feeling of airiness.

Botticelli's Madonna is all beauty of colours and composition. What strikes most in this picture, however, is its grace. We see curved lines everywhere. There are no static, solemn lines of Gothic anymore in Botticelli's picture. We only see organic forms, warm and loving. The figures are not hard and elongated but round and soft. The baby Jesus is well in flesh, and also the faces of the Virgin are round. The angels are slender but full. We see nice round cheeks, full red lips, golden curls that flow. We are far from the long, thin figures of Van Eyck, far away from the strict vertical or oblique poises of the Flemish Primitives and well into graceful figures inclining to each other, holding each other in loving embraces, instead of seeing the calculated poises of a Ducal Court of Burgundy. We sense that society must have changed much to engender new feelings in it, feelings of becoming a better place in which people are more cared for, and in which more attention is given to emotions. Emotions could now be shown and were not necessarily considered a weakness in the Renaissance, as compared to dignity and honour.

Botticelli added symbols in his painting, as was the habit in the late Middle Ages, so that a few forceful elements of style of those times continued to be used in the Renaissance.

The baby Jesus holds a pomegranate. That was a fruit of paradise filled with red, small, juicy fruit balls. A soft core with the red colour for blood, the blood left by the Christ during his Passion, was the symbol of Jesus.

The Virgin Mary writes in a book, and the open pages show a few phrases in which we can read "Magnificat anima mea". These were the words that the pregnant Elisabeth said to the equally pregnant Mary in the mountains, when Mary visited her. This Visitation theme was also a very frequently painted scene of the Virgin's life, and Botticelli nicely referred to that in his picture. Mary had travelled to Elisabeth to find her pregnant of John the Baptist. Elisabeth touched Mary, and recognised God inside the Virgin. She then said the words that have been retained in the lines of the "Hail Mary", the most widely spoken little prayer of Christianity.

The open book is also an old symbol, because Mary was often shown in paintings of the Annunciation scene before a book. The book denotes the Book of Wisdom out of which Mary's mother, Anne, instructed the Virgin. Moreover this Book of Wisdom was always associated with King Solomon, who was supposed to have written this book, as well as the Song of Songs, a long Bible poem out of which many symbols were taken for the Virgin.

We can notice in the lower right the elements of a chair. Botticelli painted the Virgin seated, holding the baby, as in many Maestà pictures of his predecessors. But in the traditional Maestàs the Virgin was shown in front. Botticelli broke of course with the tradition and showed Mary more to the side.

he pictures of the Throned Virgin go back to early Byzantine icons. In these, Mary was always seated on a throne with the baby Jesus on her knees. With the Book of Wisdom, this image was sometimes called "Sedes Sapientiae", or the Seat of Wisdom.

The curves of the chair are in the form of a sun, which is in symmetry with the sun above. Botticelli may thereby have hinted at the divine aspect of Mary and the Neo-Platonic idea of the divine in humans.

Finally, also Jesus points to the book. In many pictures Jesus holds a scroll in his hands, referring to what he once told in the New Testament that all was written by God before his life was lived.

There are many more such details to discover in Botticelli's painting. Remark for instance the red-blue veil around Mary's neck, which continues on her head. This colour matches the colour of the sleeve of the left angel, and thus renders justification to that colour for its own sake, even when we know that the colour was a transitional one. Look also at the golden star of God, the sun, which sends its long rays over the scene. Discover the dark green far landscape. Look at the golden curls on the angels, marvellously painted. Look at the golden linings of Mary's cloak, at the delicacy of the veils. Discover the well-detailed chiaroscuro in the folds of the linens of Jesus or in the robe of the white angel on the right side. Find more symmetry in the colours of the red-blue sleeve of the left and the veil around Mary's shoulders. Discover other symmetries in the angels. The number of these angels is three, as in the number of the manifestations of God in the Trinity.

Marvellous also is the play of the eyes in the figures. The three angels of the left look at each other but two of them look at the third, to the one dressed in blue. That one

looks at Mary, of course dressed in a blue cloak, so that our sight would not be disturbed by what Chevreul called the successive contrast, since the colours continue. Our sight is led to the Virgin and Mary looks to Jesus in a soft gaze of loving care that the baby returns. So all the eyes stay confined on each other and within the picture. Intimacy is thus preserved. No figure of the scene stares out at the viewer. The viewer is not really invited into the picture. This is distant, intimate grace. We are allowed to look at the scene, but we are not invited to participate in the heavenly family.

The greatest difference between this picture of Botticelli and Gothic art lies in the grace, the elegance and the sweetness of the lines. Moreover, Botticelli placed his figures close to the viewer, so those only parts of their busts are seen. This closeness, inviting the viewer to look at the intimacy of a family scene, broke with Gothic. In keeping the viewer at a distance by a few painterly elements, Botticelli conformed to International Gothic art. One can see the evolution away from Gothic, and yet also how this painter retained an unbroken line with his tradition and culture, as we remarked already in Botticelli's use of Marian symbols. The closeness to the human form was new in art. From now on the painters would involve the viewer. But the dignity of Gothic was preserved.

So both our phases of first Impression and of Discovery leave us with feelings of the highest admiration. Who was the Botticelli? The painter Giorgio Vasari investigated on his life, and wrote about him not too long after Botticelli's death. Botticelli lived from around 1445 to 1510. The "Madonna of the Magnificat" was made in 1487. Vasari was born in 1511, so he could not have known Botticelli, but he might have heard other painters and Botticelli's family talk of the painter of the 'Magnificat'. And indeed, Vasari tells a few nice anecdotes taken from Botticelli's life.
Vasari's "Lives of the Artists" was published in 1550 and dedicated to Cosimo de Medici. Vasari and Botticelli were both Florentines. Vasari tells that Botticelli was a student with Filippo Lippi. His true name was Alessandro di Mariano Filipepi, Mariano Filipepi being the name of his father. Botticelli was at first apprenticed to a goldsmith called Botticelli and Sandro got his own name from that artisan and artist. Sandro seemed to have been a joyous and gentle person but also one who could not hold on to money. He was rapidly very famous in Florence and Italy. He was even called on by the Pope Sixtus IV to paint in the Sistine Chapel.
Botticelli became in his later years a follower of Savonarola, who preached a very strict religious life in Florence, and who even caused a rebellion in the town directed against the Medici family. The Signoria of Florence ultimately burned Savonarola as a heretic. Botticelli was an obstinate member of Savonarola's piagnoni followers, and Vasari wrote that Botticelli abandoned his work so that the artist grew very poor as an old man. That must have been just in the years after the "Madonna of the Magnificat" since that painting was made in 1487 whereas Savonarola was executed in 1498.

Giorgio Vasari told of a tondo, a very highly regarded work that was to be found in the church of San Francesco outside the Porta a San Miniato of Florence. Vasari only wrote that this was a circular picture with a Madonna and some angels, all life-size. It could be that the "Madonna of the Magnificat" was this picture, of which we thus have an account of the sixteenth century.

Sandro Botticelli was a very devote man in his later years. The spirituality and elevation of mind shows in his painting. So here was a painter who could also be

admired for the way he lived and thought about his works. Botticelli was the perfection of an evolution that passed from Romanesque over Gothic to the Renaissance. If perfection was reached, only a revolutionary new art in lines, forms, colours and presentation of content could create further energy and advance in art. That would first be Mannerism, and then Baroque art.

Lesson Five – Composition and shapes

Arte and Zeuxis are again sitting by the small river that flows peacefully, not far from Arte's house. It is still spring. Many birds happily fly around them. They have started early, for what Zeuxis has promised to be a long lesson. Arte has her easel before her, and a thick pack of sheets of white paper lies on the stand. She has a black crayon in her hand.

Zeuxis: Have you read my letter on composition, Arte?

Arte: Yes, Zeuxis, I did. I am all ready. But as I know you, we will start with the essentials.

Zeuxis: We will indeed.
It is a trivial statement, Arte, to say that paintings are within a frame, within an outer from that determines the limits of the picture. Painters receive their frame mostly as a given. They can only create their compositions within the boundaries of the frame. Basic structures are inherent to the dimensions of the canvas, and painters cannot but naturally conform to the basic areas of the frame.
The frames used in oil or tempera paintings are usually square or rectangular in form. When rectangular, the longest sides can be held up right, and we will call that a standing frame, or serving as the base in which case we speak of a resting frame. Such positions have been used frequently. Landscapes are often painted in rectangular frames with the longest side below; portraits have often the shortest side as base. Other forms of frame exist, and another form that has been occasionally used is the tondo, which has an oval form. Painters used even completely round frames. The tondo can be considered as a rectangle with rounded corners for our means of analysis, even though the oval forms, when they are more pronounced, are a considerable challenge for the artists.
Can you draw a few frames, as you believe might exist, Arte?

Arte draws several frames in the plates 31 to 35.

Plate 31
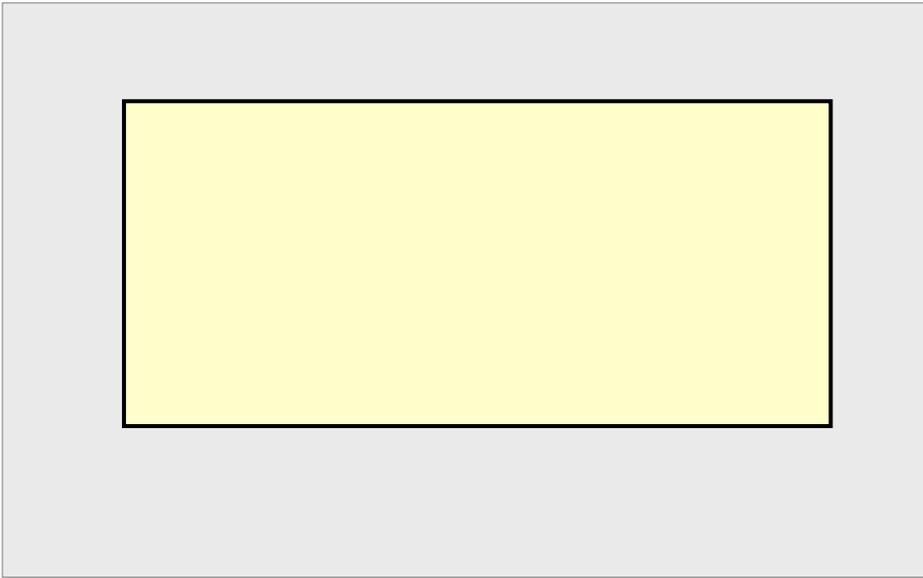
Plate 32
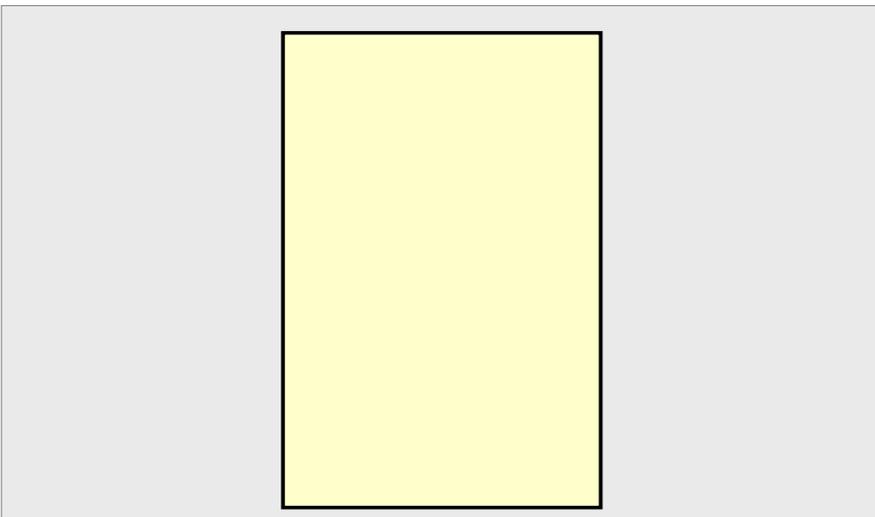
Plate 34
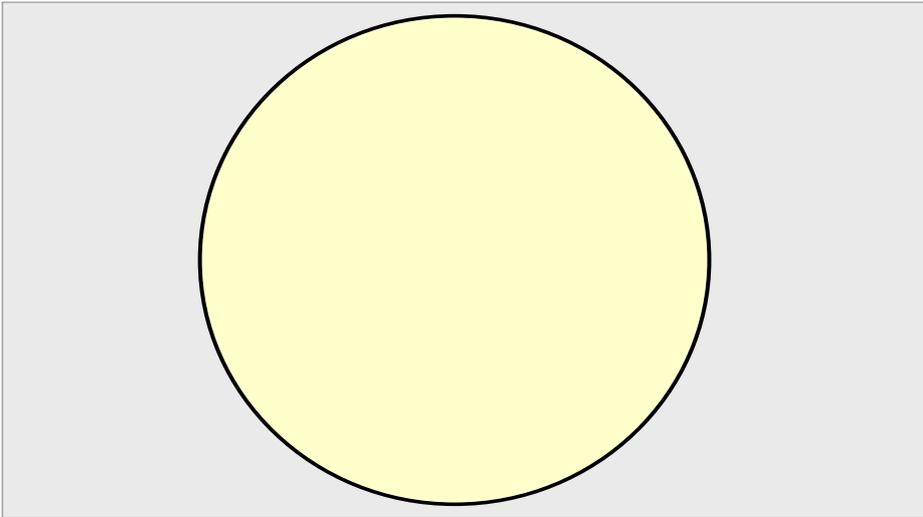
Plate 33
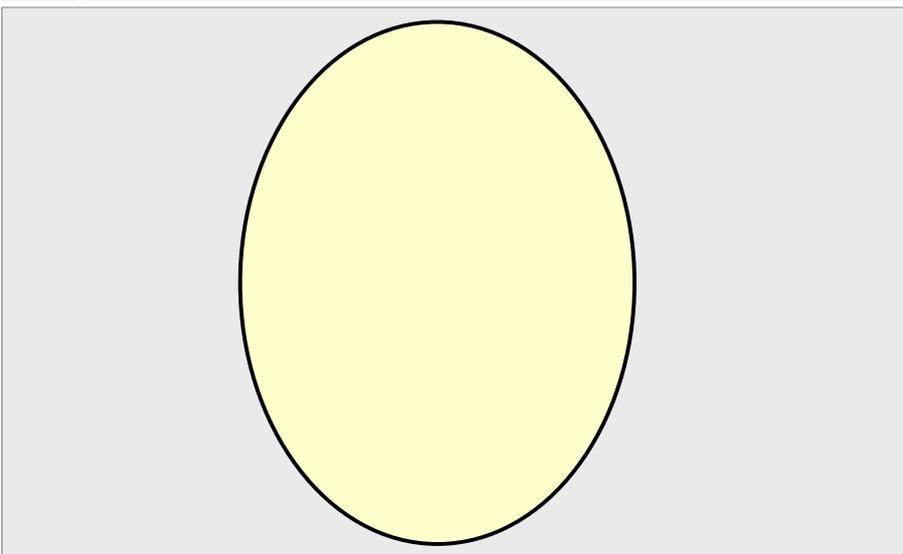
Plate 35
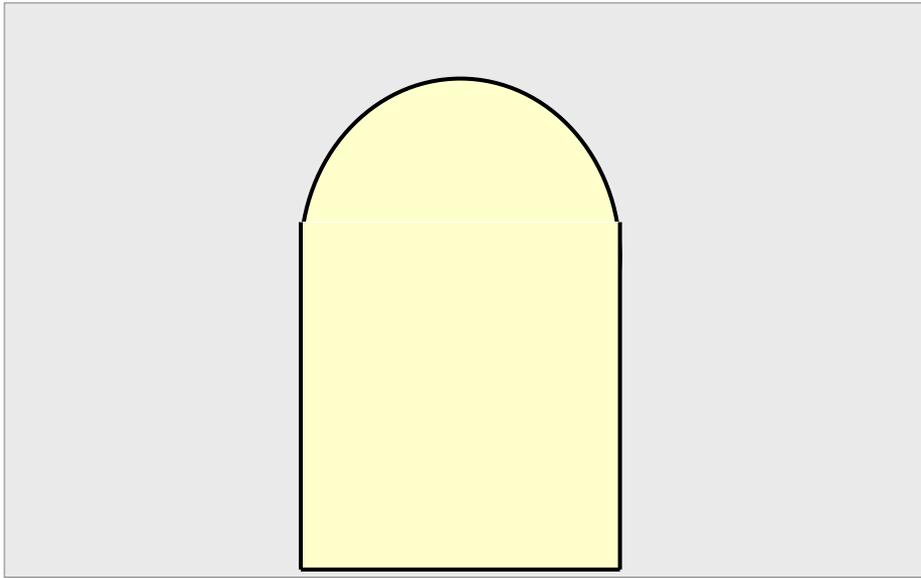
Zeuxis: Quite good, Arte! You drew a few frames that painters have used to tend their canvases on. You drew no trapezium, and that is right too. Forms like trapeziums or other complex frames have almost never been used, because they present very difficult challenges of composition for the artist. Such forms, like the tondo and the circle, have also been more difficult to constitute with wooden planks, or with wooden frame structures for canvases.

The dimensions of the frame are of course very important. Epic scenes of history come only to their full right in pictures of large dimensions. More intimate scenes will not suit in large frames, so the dimensions of these paintings have remained more modest. In this way the dimensions of the frame explain much of the primary intentions and feelings of the artist.

Artists have used the frame boundaries in an explicit way, drawing for instance human figures only in half against the sides. They then emphasise the frame to the viewer, expressing the limitation of the medium, but at the same time they appeal to the imagination of the viewer, so that he or she would imagine the scene beyond the boundaries of the medium. Other artists make the viewer forget about the frame.

Arte: That would then be in the same way as when I look through a window at the unveiling landscape of our meadows and the river, so that I forget about the window and only see the landscape.

Zeuxis: Yes, Arte, dear. And since you mention windows: windows can be painted inside a frame and show another scene or a background landscape. Windows then are frames within a frame, containing usually a picture in its own right, a picture within a picture. Such representations are powerful attractors of attention for viewers. So much so, that using a window view in a painting may be so conspicuous that it draws too much attention away from the main scene. The painter will have – unless he uses the

effect for its own value – to balance the window in a picture with other strong attention points in the scene.

Zeuxis: Now that we have talked about frames, we can embark on a few words about the basic areas of composition inside the frames. The basic areas of composition in a frame are derived from the main elements of the frame, from its sides and corners. The basic areas of composition are obtained by dividing the frame either horizontally or vertically in equal parts. Rarely more than three such subdivisions were used however, since more than three would mean areas too small and too many for one picture. When more scenes were necessary, painters preferred to paint on separate panels and juxtapose the pictures independently. Can you draw these areas, Arte?

Arte draws the plates 36 to 39.

Plate 36

Plate 37

Plate 38
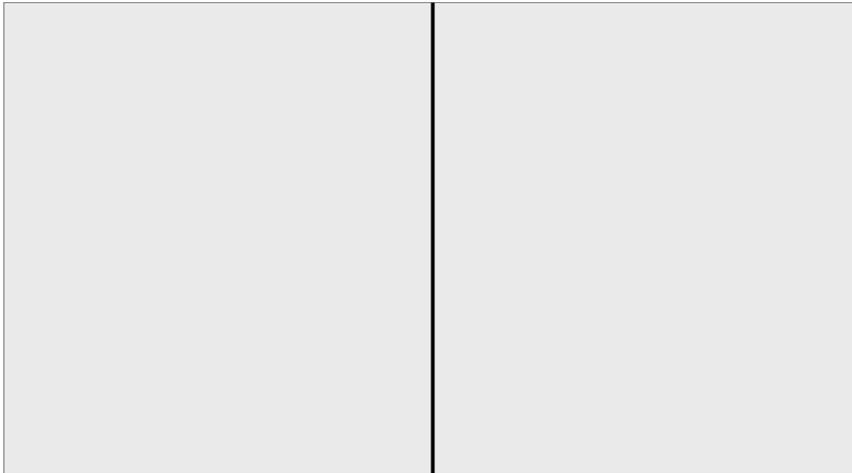
Plate 39

Zeuxis: All right. You got the hang of it, Arte!
Basic areas of composition also are the triangles formed by the corners of the frames.
These are then the triangles under and above the diagonals. Painters used the lower
triangle to present a scene of figures and the higher triangle to show a background
landscape or the sky. There is usually a feeling of elation, of a spiritual growing sense
of the scene in such compositions. Do you understand what I mean, Arte?

Arte: I think I do, Zeuxis. Were you talking of these?

Arte draws plates 40 and 41.

Plate 40
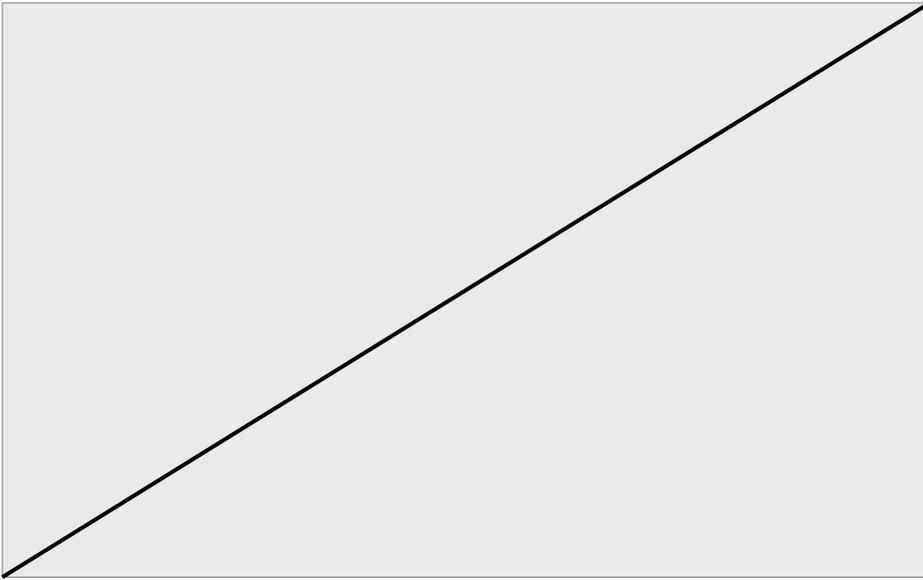
Plate 41
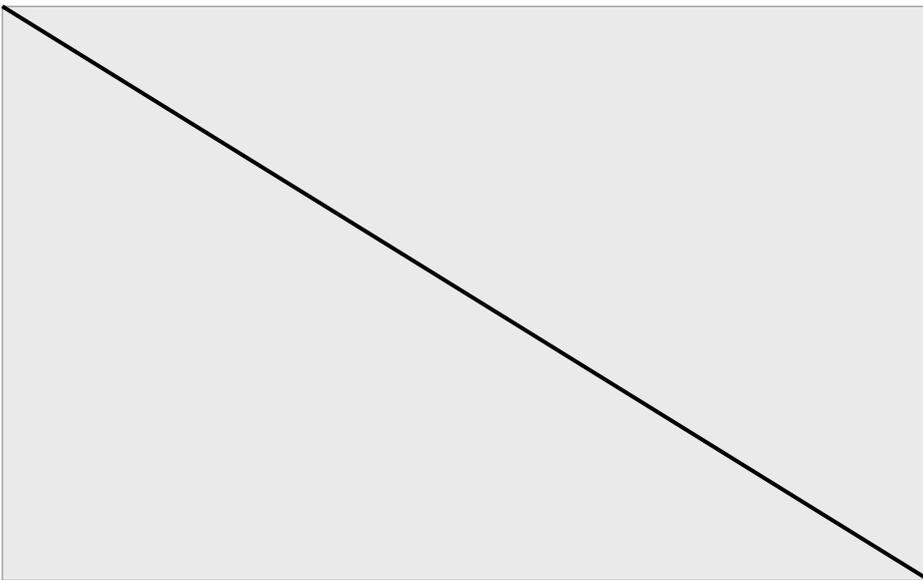
Zeuxis: I was indeed, Arte. Remember we already saw these in a previous lesson? There are really not so many of these basic areas. It is time for an example. I love a painter called Sébastien Bourdon.

Zeuxis projects a painting of Bourdon.

Zeuxis: Sébastien Bourdon was a French artist of the seventeenth century. He fully exploited the triangles under the diagonals in several of his paintings. I show you here

the "Martyrdom of Saint Andrew". Saint Andrew was crucified on an oblique cross. Bourdon showed the moment that this cross is dressed, and when Andrew gives himself entirely over to his longing for Christ. Bourdon used the left basic triangle in his picture. Most of the figures and the action of the scene are positioned in his composition below the diagonal.

➔ Sébastien Bourdon (1616 – 1671). The Martyrdom of Saint Andrew. Musée des Augustins. Toulouse.

Zeuxis: Some more theory. Further subdivisions can be used when the frame is divided vertically in two or more parts. One then obtains several triangles, but more importantly two areas that we call the "Pyramid" and the "Open V". These are very important areas of composition, Arte, and painters have used them more than you can imagine!

Arte: I am very expecting to hear about it, Zeuxis.

Zeuxis draws plate 42.

Plate 42
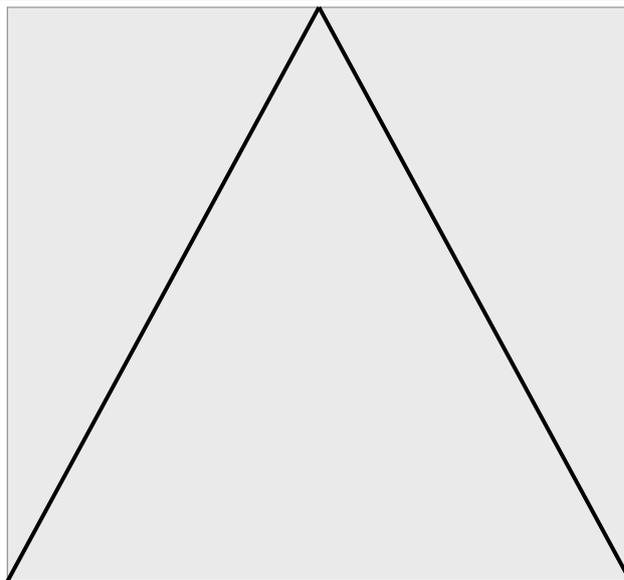
Zeuxis: The "pyramid" is a triangular form obtained by drawing two oblique lines from the middle of the top side of the frame to the two lower corners of the canvas. The term "pyramid" indicates a volume, whereas here we only see a triangle surface. In most paintings however, this area was used to show a three-dimensional form in space, a pyramid or a cone.
We will use here the term to mean the triangular zone.

The pyramid area was much used in portrait paintings, and indeed most often painters have filled this zone with an illusion of volume in the form of a cone.

This pyramid area has a solid base in the lower side of the frame, so that the portrait of the model, or several figures together, was solidly founded. The attention of the viewer is then focused through the direction of the slanting lines to the top, where one usually finds the face of the main person that stood for model.

This structure is a structure of intimacy with the viewer. It is a structure that gives an impression of closeness, of inward focusing with the viewer himself as the base. The view of the spectator naturally flows upwards, and in this elated way arrives at the focal point of final attention, the face of the model. Variants of this structure, whereby the lines of the pyramid are lowered, so that they do not reach exactly the upper border of the frame and so that the top of the pyramid stays lower, of course exist also.

Arte: Can you illustrate that with a real painting, Zeuxis?

Zeuxis thinks; then he makes a painting appear on his magic screen.

➔ Hyacinthe Rigaud (1659 – 1743). Louis XIV, King of France. Le Louvre. Paris. 1701.

Zeuxis: Hyacinthe Rigaud made a portrait of Louis XIV, King of France in 1701. He showed the Sun King in all his courtly grandeur. Remark the pyramid structure in this picture, Arte. Rigaud opened to the right the blue brocaded royal cloak to form one side of the pyramid, and he put on the right a low, small table and cushion covered with the same tissue to form the other side of the pyramid. The portrait glows of royalty and arrogance, and all the lines focus naturally at the face of the king. Hyacinthe Rigaud's picture is a good example of the cone or pyramid, and very many portraits show this structure. Sometimes the pyramid is formed by low elements that add at the base such as children playing around a woman. A most classic image is that of the Virgin Mary with the young Jesus, and John the Baptist playing at her feet.

Arte: I think I understand well, Zeuxis. That was not so difficult. How about the "Open V"?

Zeuxis: Essentially, the "Open V" is the pyramid inverted. This basic structure is the exact opposite of the pyramid. With the "Open V" two oblique lines go from the middle of the lower basis to the left and right top corners. This basic structure gives an impression of openness, of a widening view into the depths of the space lying in the open V. Can you draw it, Arte?

Arte: Well, if it is the opposite of the pyramid, then it must be something like this.

Arte draws plate 43.

Plate 43
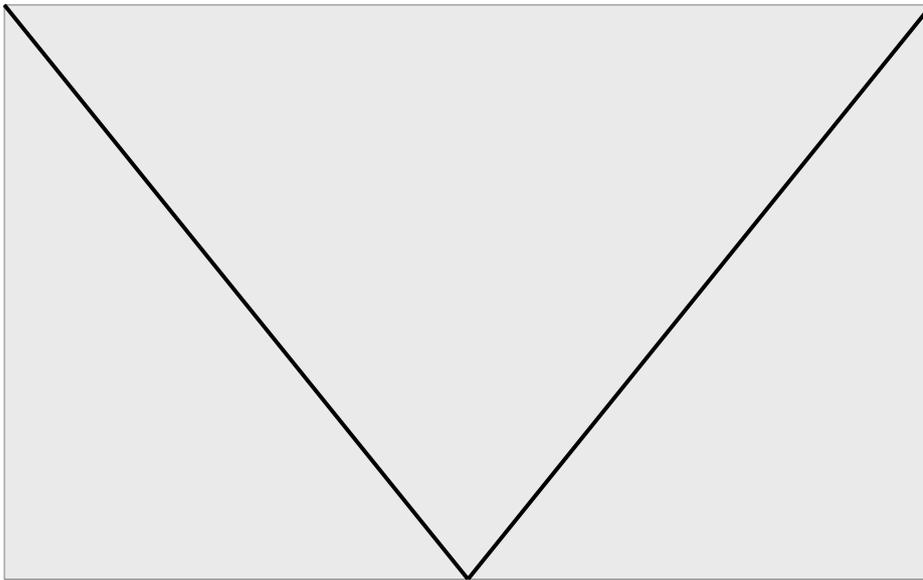
Zeuxis: The "Open V" structure has been much used in landscape painting. We find the scenes, dense forests or mountains to left and right, in the left and right triangles, whereas usually a widening and deepening landscape lies in the open V. The open V can also be constructed in the triangle above crossed diagonals.

Zeuxis projects again Hubert and Jan van Eyck's picture.

➔ Hubert (1365 – 1426) and Jan van Eyck (1390 – 1441). The Three Maries at the Open Sepulchre. Museum Boymans-van Beuningen. Rotterdam. Around, but after 1430.

Zeuxis: Look again at the picture of the "Three Maries at the Open Sepulchre" of Hubert and Jan van Eyck that you have seen a few times in the previous lessons. The van Eycks used the crossed diagonals as the basic structure of composition. We see a splendid widening view of the city of Jerusalem in the open V of the top triangle, above the crossed diagonals.

Arte: I see this area of composition in that picture. I'll draw it for you.

Arte draws the plate 44.

Plate 44
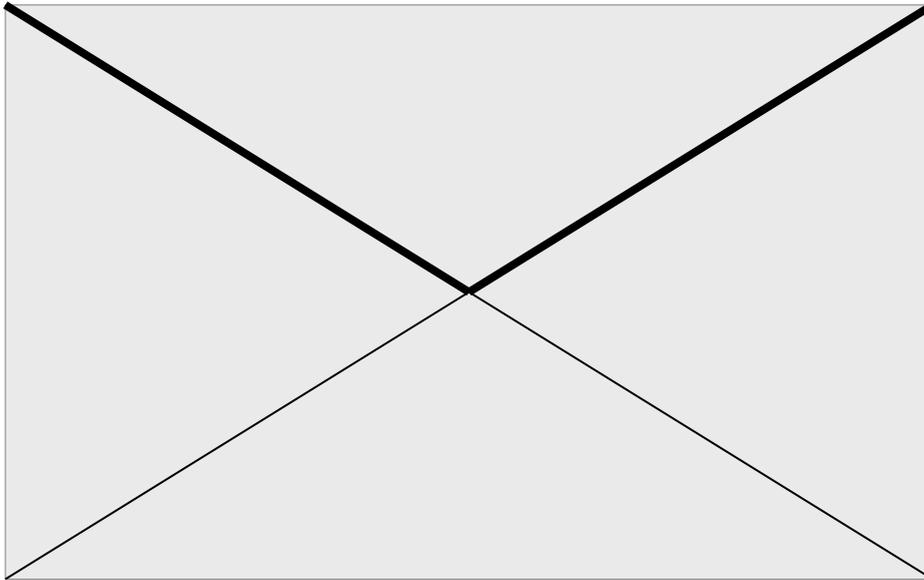
Zeuxis: That's it! I presented earlier Sébastien Bourdon's picture of the "Martyrdom of Saint Andrew". Have you remarked how also in this picture an open V form appears? Can you explain what you see?

Zeuxis projects again the scene of Sébastien Bourdon.

➔ Sébastien Bourdon (1616 – 1671). The Martyrdom of Saint Andrew. Musée des Augustins. Toulouse.

Arte: Indeed. This Bourdon situated the main action along the right diagonal, the line going from the lower right corner to the upper left. But a second oblique direction goes from the figure of the woman with child, painted in light colours, so different from the scene of the martyred Saint Andrew, to the scene of the Roman Governor on the right.

Zeuxis: Yes, between these two directions opens a V structure and in here Bourdon painted the statue of the Roman god that was the reason for Andrew's martyrdom. The Roman Governor wanted Andrew to adore the heathen god, but Andrew refused. Remark the intelligence of the composition of the Baroque artist Bourdon, based on strict academic directions. In Baroque art, the scenes are often so lively viewers tend to believe there is no underlying structure, but with the best painters there always is!

 Zeuxis projects now another picture, an abstract painting.

Zeuxis: The open V structure has also been used in abstract painting to give viewers sensations of opening space. The better-known examples of this are the experiments of the Washington painter Morris Louis. Louis made several pictures of slanting sidelines in different colours. These seem to open space in the middle for the viewer,

and make the viewer almost believe that the lines continue next to the sides of the frame, in the viewer's own space.

➔ Morris Louis (1912 – 1962). Alpha-Phi. The Tate Gallery. London. 1961.

Arte: That was a nice picture too. I love the colours! Are we through all basic areas of composition?

Zeuxis: no, one more to see!
An area of composition much used in narrative paintings is the stage.
Narrative paintings tell a story or several stories in a picture. In the Renaissance and also in later centuries, painters drew a logical parallel between these scenes and theatre and opera. Therefore, and also because stories need a frame of architecture or of landscape, painters drew a stage around their scenes of figures. The stage setting could be buildings to the right and left side or trees, and part of forests. For instance classic scenes were often situated in clearings of a forest. The stage environment then becomes a basic area of composition in pictures. Here, I'll draw this one for you.

Zeuxis draws plate 45.

Plate 45
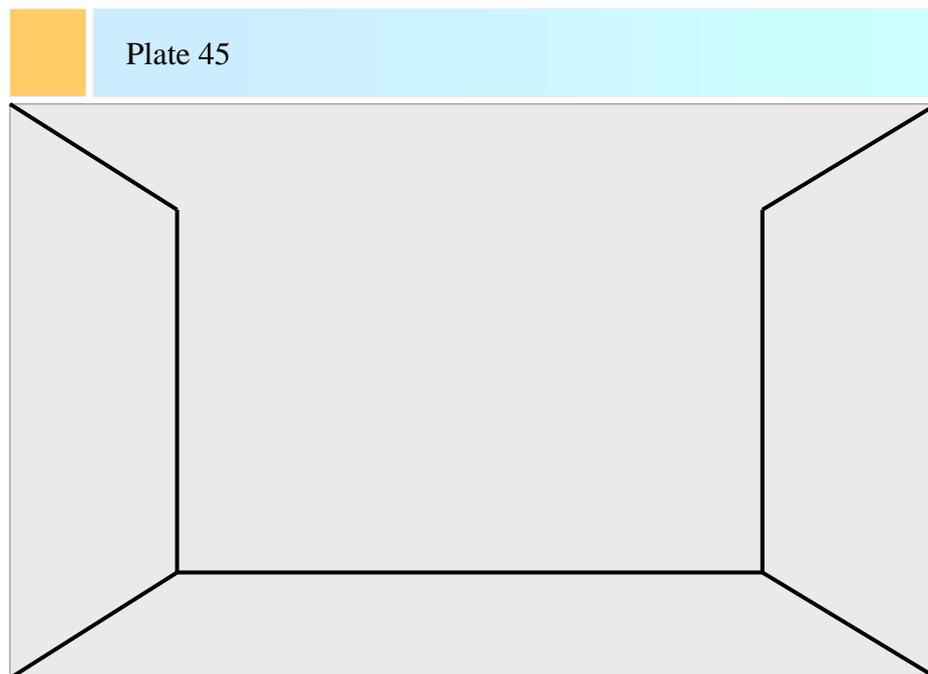
Zeuxis: On for some more theory of the art of painting, Arte!
The design or composition of a painting is the arrangement on the canvas or panel of the shapes and the colours. We have discussed previously how the basic lines or directions could be used for the structure of a painting, and we also saw the various areas within which compositions could be assembled. I will expose to you now the basic shapes that can be used in compositions, and also what we mean by the harmonious arrangement of these shapes, or lack of harmony.

Arte: So we will finally leave lines and areas. We are progressing, Zeuxis.

Zeuxis: You are progressing, indeed, Arte.

Zeuxis holds a short pause. Then he continues to explain.

Zeuxis: The basic shapes are the forms created by man's mind. The triangle, rectangle, square and circle do not exist in nature. Nature is not built in our strict dimensions of length, width and depth, which lead to simple mathematical forms.
Nature works in fractal dimensions, and ever repeats the same patterns of growth from the simplest to the most intricate forms. Thus very complex forms are generated, forms too complex for a human to imagine in a straightforward way. Nature's macro-patterns are built from endless repetition of very simple microscopic forms, which practically never can be seen in larger agglomerations. Due to the repetitions of growth, the natural patterns are extremely complex.
The mathematician Benoit Mandelbrot discovered this phenomenon in the 1980's and used the term "fractal dimension" to describe the mathematical processes by which the patterns could be generated. Viewers and painters tend to simplify the natural forms into the basic abstract shapes. So it is with these forms that we will have to start to assemble compositions.

Arte starts smiling for sheer incredulity.

Zeuxis: Do not laugh at the simplicity of these shapes, Arte. This is serious stuff! The great German painter Albrecht Dürer, who lived in the beginning of the sixteenth century, made many studies in proportions. His sketch book still exists. You can see in that book how he represented a human body in these simple shapes. He represented a head by a square, and the rest of the body by rectangles. In this way, he sought ideal proportions for the limbs of humans, and how to use fine proportions in his pictures.

Zeuxis: First squares and circles!
Squares and circles are the simplest shapes. They can be defined by the least number of parameters: one length for a square, and a diameter - which is one length again – for a circle. These shapes have an inward seeking quality and produce this effect on our mind. They are limited in area, and they are closed shapes. Therefore they tend to exist for themselves alone, they do not need support and they are self-sufficient. These shapes tend to be dominant forms in a picture, so that they are usually used sparingly, and often in dominant positions of a picture. The square and the circle strongly attract the attention of the viewer.
The circle represents the cosmic principle, the sun, the moon, and the final attractor of cosmogony that is the Black Hole. The circle is complete and closed. The circle concentrates unto itself forms and directions, but it is also self-sufficient. The circle does not communicate, and is thus a mystery in itself. The circle does not radiate unless it is painted with lines or rings emanating from it. The circle keeps its colour in, to itself. The colour associated with circles is blue, a distant, cool, non-committing hue.
Smaller circles are dots. Wassily Kandinsky started his analysis of forms with dots, and he used dots in quite specific places in his pictures. We will consider dots as small circles.

A particular circle with two other smaller circles of another colour represents a human eye, and such a form placed in a crucial place of a picture literally draws immediately all attention of the viewer, and attracts the viewer's own sight into the depths of the picture. Such forms have to be used sparingly by painters, because they can entirely dominate a scene and a picture, monopolising the attention of the viewer on this form only.
Squares also are closed shapes, but the angles of the square let escape some of the energy confined in circles. Yet, squares generally are warmer shapes and thus also generally associated with warmer colours like orange and red.

Arte: Zeuxis, Fine, fine. Why in heaven's name should I learn these shapes, Zeuxis? I know them well enough! I understand why I had to learn about lines since after all they build the structure, the armature of a picture. But why learn about such simple shapes? Why are they important?

Zeuxis, somewhat baffled: That is a good question! The complex forms you see in pictures are constituted of simple shapes. They are sets of simple shapes, adapted in size and colours to the forms we see in a picture. It is with the simple shapes that we can understand the inner proportions of the forms and the proportions of the forms among each other. We, Greek painters, had schemes of such proportions, and we called that the canon of forms, but I do not want to teach you such old principles. Nevertheless, our mind works with such shapes also. By our mental acts we are able to distinguish simple shapes, signs, and schemes so that complex forms are first simplified by our mind enough to be recognised, categorised and compared with other forms. Once the object analysed and recognised, our mind stores it in its entirety, but in a specific way and labels it. Its individual features have to be analysed, scrutinised and then memorised in its most characteristic form. If we study shapes, we will be able more to recognise patterns in forms, and know how to see simplicity in the complexity of forms. We will speak of masses, which will have generally the form of the simple shapes we study here.
Do not underestimate these simple shapes! A draughtsman and a painter will acquire by training a set of schemas based on our simple shapes, by which he or she can produce more easily an animal, a plant or any other object. The analysis of a complex form in simpler shapes serves as support for the representation of our memory images. Draughtsmen and painters that are deficient in a good grasp and memorising of this analysis, have it much more difficult to draw from the object. A great painter of the nineteenth century, Paul Cézanne, proposed to one of his students to see the world in terms of cylinders, cones and spheres. I concede that he told this in reference to what he himself had been taught, but his statement was praise to what he had learned.

Zeuxis: There is more to this. The great art critic Ernst H. Gombrich defined a concept that he called the "characteristic shape" of an object. He meant by that one or more shapes by which we easily recognise an object, probably by which we have stored basic information of an object, the "distinctive features". Gombrich told that primitive art concentrated on these, because that art insisted on clear and easy classification. These distinctive features are important because it is on these that we rely when confronted with an uncertainty. When we see an object, our mind looks for its classification. Our mental acts perform an effort to clarify meaning. Perception could then be a process in which many interpretations are tested against one another, and finally a choice made. Our mind and sight can transform to a certain degree the mere

photographic record on our retina, to meet this process of recognition. So: a painter who is out on maximum communication does not paint a photographic record. He or she will help somewhat the mental act of perception; he or she will skew the object towards modes of easier recognition, and assist the viewer to recognise and interpret forms. A good painter has learnt to look at an object, at a landscape, not as it is (not as a photographic record) but as a beholder sees it (perceives it).

The characteristic shape of an object is probably a complex shape, but I would be surprised if it were not analysed, classified, stored and recognised in terms of the simple shapes that we study here, even though that would be the three-dimensional equivalents of our shapes.

Arte: All right, all right, Zeuxis, to so much knowledge I abandon! I will praise also what you teach me then. I promise to be more patient and confident.

Zeuxis: Now rectangles and triangles!
Triangles and rectangles are more complex shapes than squares and circles. Rectangles and triangles need two or more parameters to be defined. These parameters are for a rectangle the lengths of its two sides and for a triangle the length of the base and the height plus the position of that height on the base, which is again a length. So when a square and circle need but one parameter to define its figure, a rectangle needs two values and a triangle three.
Rectangles, at least when painted with one side horizontal, represent stability - as does a square - but the rectangle form is softer, and less inward seeking than a square. The long, upright rectangle represents grossly the profile of a man standing up and thus is felt to be more natural than a square.
Figurative painters thus often used rectangles in their first, overall base design to assemble and weigh the masses of their figures in a composition. The colour associated with the rectangle might be green or blue.
Triangles also are a protective and stable form, especially when the triangles have their base horizontal. The triangle then shows a direction to the top, to the skies and thus is a symbol of aspiration to "higher up", to transcendence. Triangles have sharp angles and from these angles energy seems to seep away. So, triangles are more "open" shapes than the circle or the square.
We have already encountered the pyramid form, the basic form of portrait painting. The pyramid is also one of the basic areas of composition in a frame, within which scenes can be painted that form a restive and very stable impression in the viewer. In figurative pictures, rectangular and triangular shapes are mostly used firmly based on the ground, as gravity imposes.
When rectangles and triangles are painted in slanting positions, and more so if they are set in scattered arrangements over a panel, then these shapes take the quality of unsupported slanting lines. The shapes then indicate nervousness, sick obsession, unsettling motion, instability, even madness, tension and of course lack of equilibrium. These effects have been used mostly in abstract pictures.
The colour usually associated with rectangles and triangles is yellow. Yellow is a radiating colour, like the energy that seems to escape from the sharp angles of triangle shapes.

Arte: Ah, Zeuxis! That was the first time you started to talk to me about colours also. I feel we are getting there! Are there more complex shapes than squares, circles, rectangles and triangles?

Zeuxis: Of course.

Other shapes than squares, circles, rectangles and triangles are trapeziums, lozenges or ovals. These last have also been used in pictures, but then mainly in abstract paintings. They have been used rarely, and seem not to offer particular advantages over combinations of the basic shapes. Often purple or cyan colours are associated with these shapes when they are constituted of straight lines and angles. More round shapes are often painted in warmer colours, like in orange.

Ovals are circles elongated in one direction. Ovals are softer, less inward directed and self-centred than circles. They are more appropriate to contain the human figure. Ovals that contain figures are protective of the figures. A very old presentation of Jesus or of the Virgin Mary in religious pictures was inside a flaming oval. This form bears the name of "mandorla". "Mandorla" means "almond" in Italian. This oval, womb-like organic form, combined with the softened pyramidal composition of the figures, was one of the most traditional ways of presentation of devotional pictures.

Organic shapes do not resemble geometric shapes. Organic shapes are the shapes of natural, living things. Natural shapes, as for instance the shapes of plants, can be thought of as built from the endless repetition of very small, elementary geometric forms. Organic shapes of humans or animals seem to be formless, with many curved lines, or with intricate changes of direction. They are usually in three dimensional closed forms, forms without holes, but firm and curving unto themselves.

Painters sometimes exploited the strange difference in forms of organic shapes and geometrical shapes to contrast the organic and the inorganic. One of the painters who did this repeatedly was Giorgio de Chirico, as in his picture of "Meta-physical Interior with Hand of David". Here the straight, inorganic lines and shapes have been placed in contrast with the organic shapes of the hand of David.

Zeuxis projects again Giorgio de Chirico's painting.

➔ Giorgio de Chirico (1888 – 1978). Meta-physical Interior with Hand of David. Collection of the Foundation Giorgio and Isa de Chirico. Rome. 1968.

Arte: How then do I use these shapes, Zeuxis?

Zeuxis: Squares, circles, rectangles and triangles are truly the basic shapes in compositions, Arte. Painters use these forms before they fill in the details of their pictures, because these were easy forms to draw in just a few lines. The basic shapes then are the basis of compositions. With these shapes in schematic representation of the areas of the painting, the artist can weigh the areas and obtain a first feel for the harmony or disharmony of the composition. By placing various shapes along each other in a certain direction he or she can suggest movement. At this point enters a notion called "harmony".

Arte: Ah, now I'll learn I believe something really interesting. What is harmony?

Zeuxis: With your female intuition you hit the nail, Arte. Harmony is extremely difficult to explain.

Harmony is the quality that makes a picture instantly aesthetically pleasing and agreeable to a viewer. The word "instantly" is important in this context, for as we will see later, viewers can find a picture interesting and emotionally pleasing for still other

reasons than the instantaneous evocation of an agreeable effect. I will define later what harmony is about, but harmony has to do with the composition of the shapes and colours of the various areas on the canvas. The term has to do with the relations between the forms, the lines and the colours. We could speak of harmony when only one sole area is shown, but a painting usually consists of more than one area, and harmony is a quality of how the various areas are perceived in combination. Harmony is perceived as intrinsically created by the repetition of the same shapes or by the combination of the differing shapes used in the painting.

 Unsupported forms of triangles, rectangles, squares and circles are used in complex, free compositions. The weight of the various areas, that is their measured surface and their form (wide, elongated, etc.), can be used to help the communication of the painter. Painters have mostly tried to balance the areas as masses of colour, drawn in various places of their picture. Balance of masses is usually perceived as harmonious. The lack of balance of areas can be contrary to natural appearances, and thus, lack of balance is surprising. This does not mean that the resulting deviance from harmony as a rule is displeasing. Harmony is not a prerequisite for a painting to be able to be admired. Painters can break harmony on purpose, or not be concerned with harmony at all, and still create original, interesting work that will ultimately evoke aesthetic pleasure.

The deviance from harmony can be accepted by a viewer in certain circumstances and remain aesthetically pleasing, as long as it has a well-defined purpose, is justified and supports the aim of the artist. A classic example is the depiction of figures in the Middle Age northern pictures. Medieval pictures represented Jesus or the Virgin Mary in the largest shape in pictures, whereas the humble donors or the angels of a panel were represented much smaller. Natural proportions were thus not respected, but the message of humility, as contrasted with glory, was well emphasised.

By harmony of forms or shapes in a picture we mean that the forms that are composed together on a panel have approximately the same dimensions overall, are symmetrically balanced around an axis or point, or gradually lead to each other's mass.

The forms can be as well one of the basic shapes, as combinations of the basic shapes, as more complex shapes with even round shapes. We say that two such forms are balanced or "in harmony" when their general shape and area is approximately the same.

Zeuxis draws the two plates 46 and 47 to let Arte feel what he means by harmony. Plate 46 shows balanced shapes, whereas plate 47 shows unbalanced shapes.

Plate 46
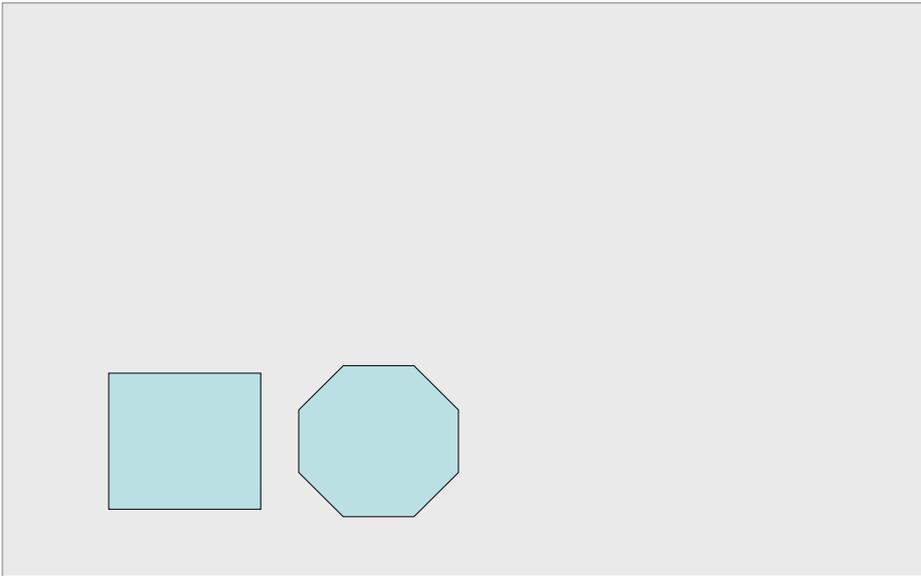
Plate 47
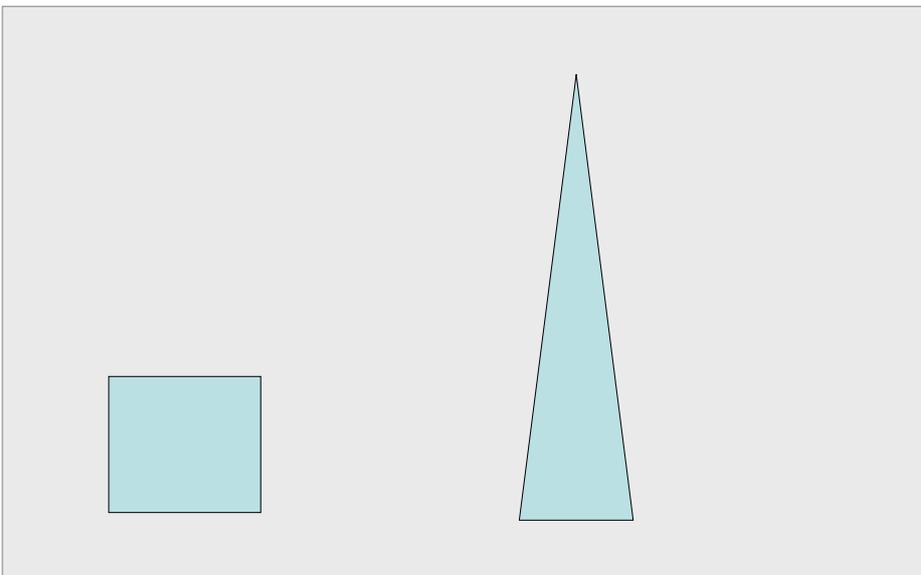
Then Zeuxis also draws plates 48 and 49 to show the difference between balanced and unbalanced complex forms. Plate 48, he says, represents balanced complex forms and plate 49 unbalanced complex forms. Arte studies these.

Plate 48
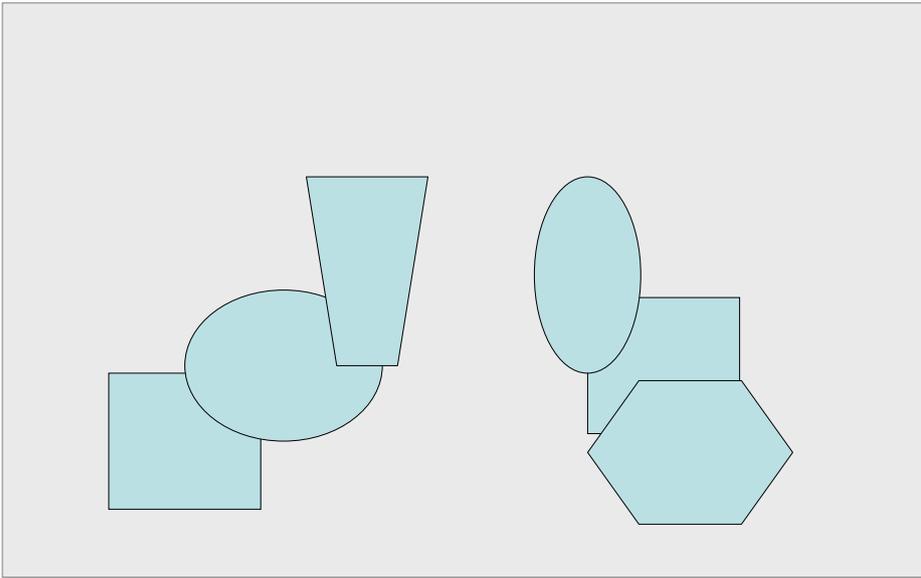
Plate 49
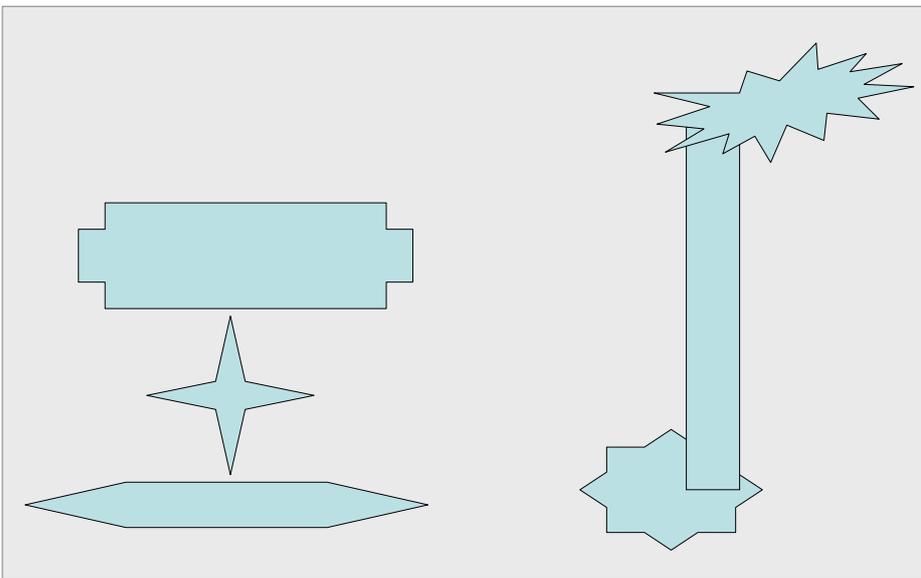
Zeuxis: Harmony of forms is a fundamental aspect of composition. It is realised by the weight of the masses of the shapes when they are arranged in a composition.
But harmony of forms and balance are more than merely the weight when patterns of shapes are used. Patterns are the repetition of the disposition of the masses in a panel. The balance may be lost when the repetition patterns are unequal. Balanced arrangements feel more harmonious when the viewer can expect them. A successive form is no surprise if its mass and general shape is not too much different from the previous one. Sequences of shapes that change only slightly do not impose too much change of information in our minds, thus need less processing, and therefore seem to

flow naturally in an agreeable way from one to the other. They seem to appeal more to our inner feelings of aesthetics then.

The plates 48 and 49 that I just drew illustrate the principle of balance and lack of balance in repetitions, Arte.

In plate 48 we have a balanced repetition on the left side. These shapes only differ somewhat in length, in one dimension only, and only slightly so in that dimension. The global form seems to be mirrored, but the viewer easily recognises the mirroring. In plate 49 however we have much more departure from the shapes that are situated on the left side. The forms now differ strongly in shape and also in distance. A viewer is surprised by this deviation from the perceived norm he or she has found on the left, and thus will receive an impression of lack of harmony. This creates a feeling of tension in the picture.

Arte: I understand, Zeuxis. Are not colours then also important in balance?

Zeuxis: We have not yet discussed colours, Arte, but colours are indeed most important in balance, because balance also means that the tones of the shapes are similar. This does not mean that the shapes need to have the same colour, but the hues and tonality need to be similar. Contrasting colours of complementary hues increase the impression of less equilibrium and of surprise. On the other hand we will see later in the chapter on colours that colours bear a quality of distance. Blue leaves an impression of being farther away and yellow-orange of being closer to the viewer. A blue surface will therefore only balance a yellow-orange area when it is painted somewhat larger. The difference is subtle, but relevant.

Colours enter the sense of overall balance because they carry a weight in the overall view of a spectator. The weight of the colour adds to the weight of the areas, and thus adds or destroys balance in the same way as dimension and shape do. One way to perceive this is to think of quadrants over the frame and look at the general masses as shapes.

Zeuxis draws plate 50 to illustrate the concept he is talking about.

Plate 50
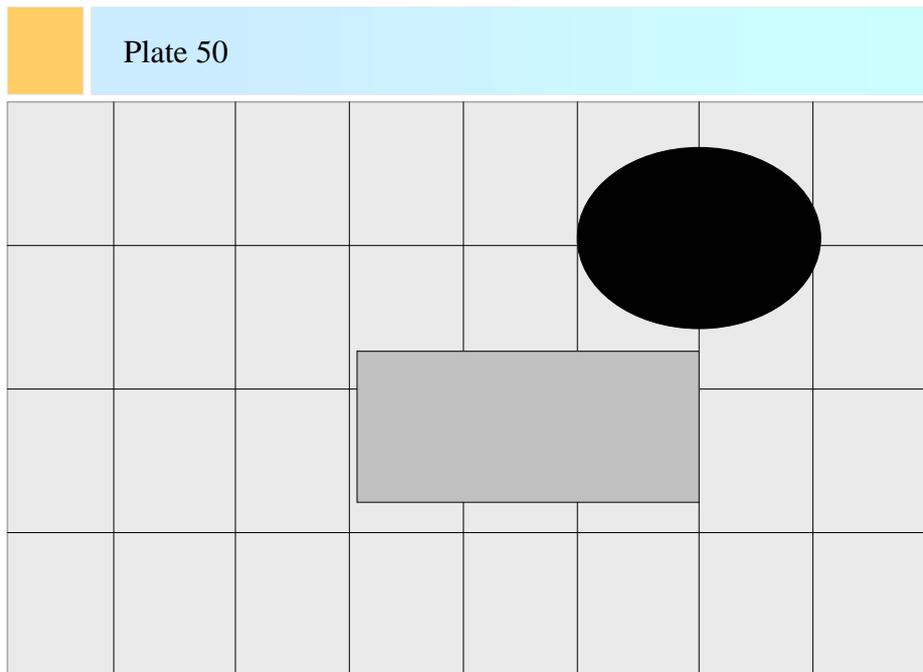
Zeuxis: I have illustrated this in the last plate. I drew the imaginary quadrants as a grid of lines in this picture. We could imagine that there is balance in these forms, because the open space on the left, sometimes called "negative space" has a spatial value of 12 whereas the grey rectangle has a value of 6 due to its grey colour, even though its spatial value is only about 5. The dark circle attracts and holds attention and thus although its area is only something like 1, its total spatial values is also about 6. Thus due to the colours, balance is created in the picture in a combination of shapes and colour. Such feelings of balance are of course very subjective. But simple schemas like my last plate can indeed explain something of the harmony in balance of masses of a painting.

Zeuxis turns to his screen and shows a painting Arte has seen before.

➔ George Stubbs (1724 – 1806). Soldiers of the Tenth Light Dragoons. The Royal Collection. London. Around 1793.

Zeuxis: In George Stubbs' painting of the 'Soldiers of the Light Dragoons', we see a horse on the left. This is a rather large mass of brown colour. In order to balance this mass in the picture, Stubbs had to darken the smaller figures on the left side. So he placed there two soldiers in black uniform.

Arte: Clever! There is much to discover in such a painting.

Zeuxis: Oh, Stubbs was clever all right. Never believe that because a painting looks simple the painter was a simpleton. But: on to further notions of balance.
Our feeling of gravity can also create a strong feeling of balance of masses. You have learned that a weight close to a point of action can be balanced by a smaller weight

further from that point. This feeling can be used in paintings to create a sense of balance, like in the following drawings.

Zeuxis draws plates 51 and 52.

Plate 51

Plate 52
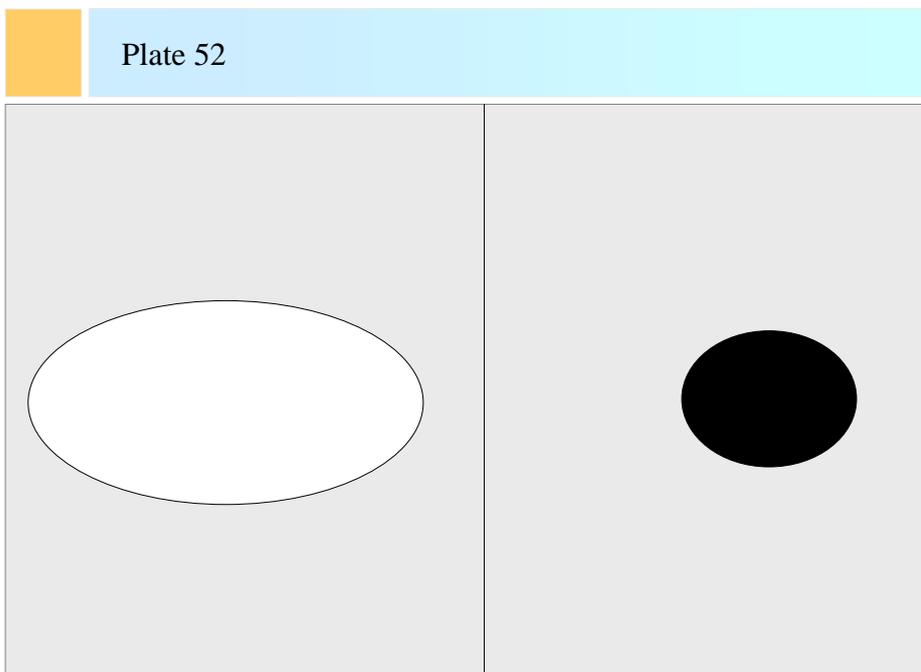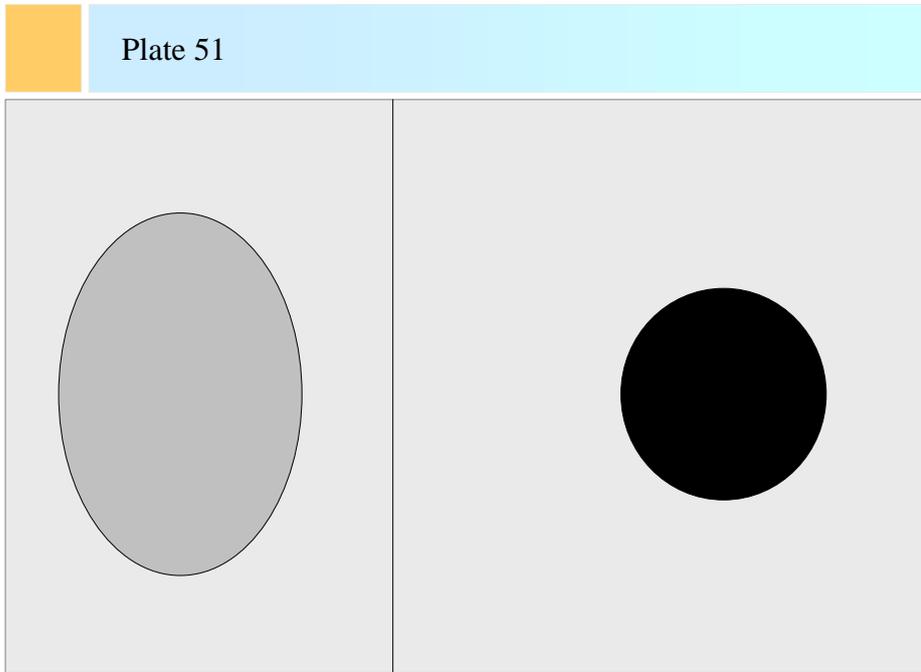
Zeuxis: In this picture, a smaller area further away from the axis balances a large shape close to the centre vertical axis of the frame. When we introduce colours, a darker but smaller shape farther off can balance a large but bright shape.

Arte: Zeuxis, I think of something! Can you show us again the picture of Canaletto we saw earlier?

Zeuxis complies.

➔ Antonio Canale called Canaletto (1697 – 1768). Venice. The Grand Canal from Campo San Vio towards the Bacino. The Royal Collection. London, around 1730.

Arte: Look, Zeuxis! In this view of the Grand Canal of Venice, Canaletto painted two larger areas on either side of the Canal. One building is on the left. It is a broad shape, somewhat long. On the right Canaletto saw a building like a tower, so a high shape. This shape is more imposing than the shape of the building on the left. Yet the two shapes are in balance because the one on the left is longer than the one of the right and it is situated somewhat more towards the centre of gravity, or the central axis of symmetry.

Zeuxis: You understood the concept, then, Arte.
Balance is a somewhat mysterious concept, and certainly a rather difficult concept to explain in simple terms. Balance is about the relationships between shapes and areas of colours on a painting, and in general about relations between any features of a picture.
The best analogy that I can think of is our own cosmos. Within our universe, celestial bodies are kept in space by the all-pervasive action of the gravitational forces created both by the universe and by the bodies themselves. Any displacement of a star or a planet or a black hole has an imperceptible but very real effect on the other bodies, so that all change position within the universe, to find a new state of equilibrium of gravitational forces. We can think of the canvas as a similar universe, within whose space the forms have found their positions by the action of invisible forces. The forces work on the shapes and fix their places. When one of the forms changes position, the position of the other forms must change too in order to preserve the balance.
When the balance is not preserved, then tension remains in the universe of the painting. This either can be caused by an error of design of the painter, which is then usually a nuisance for the viewer, or it can be of course a desired effect, as the painter can indeed willingly introduce points of tension in his work. In order for these tensions to be accepted by viewers, the tension must be part of the scene or of the subject of the painting. Let me show you another picture.

Zeuxis projects a Byzantine mosaic.

➔ The Emperor Justinian and his Retinue. Mosaics from the Church of San Vitale. Ravenna. Ca. 550

Zeuxis: Look, Arte, this is not a painting but a mosaic. I just wanted to show you this briefly so that you would know that these concepts are very old indeed.
This is a mosaic from the church of San Vitale in Ravenna, Italy. It is a very old church, and the mosaics were made entirely in the Byzantine style, in the art of the Eastern-Roman Empire of Byzantium or Constantinople, under whose influence laid the Italian Veneto region around 550, when the mosaic was made.
Look well. There are soldiers on the left side in darker tones. And these are balanced by the priest who wears a cross to the right of Justinian. The priest is dressed in darker

clothes than the rest of the Emperor's retinue. But this priest stands closer to Justinian. And he is alone. So this mass of darker colours is closer to the middle, and balances the more distant soldiers on the left. To the left also stand two councillors in lighter hues, and we find lighter hues also on the right in two other priests. Justinian wears a darker cloak, so that we remark him immediately, but next to him on the right stands another man, somewhat in the background and in lighter mosaic tessellae. To the right side you see somewhat lighter colours than on the left. Now, Justinian is not exactly in the middle, but a little to the left also, so that the lighter colours balance the darker tones.

So, Arte, you have here a very old classic mosaic picture and you here already the notions of balance of masses of darker and lighter hues are quite clearly applied!

Zeuxis: Up to new concepts, Arte!

Zeuxis draws the plates 53 and 54.
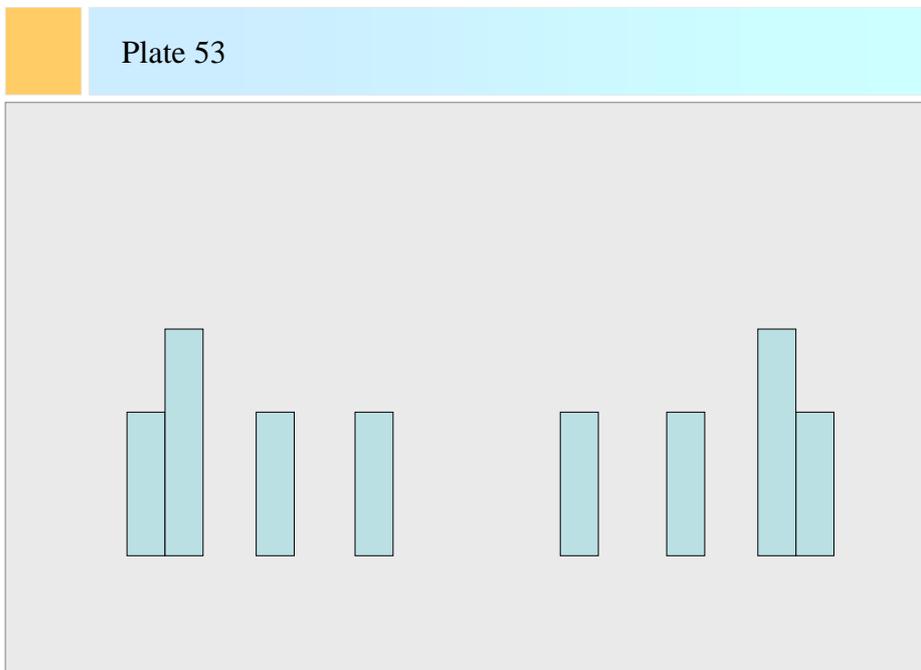
Plate 53

Plate 54
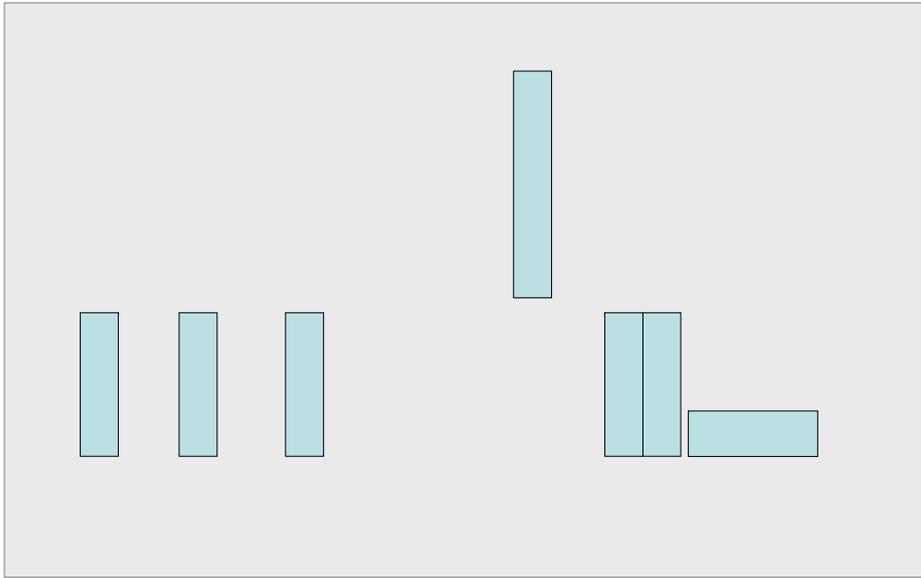
Zeuxis: I want to teach you another principle of harmony of forms, which is repetition. Most viewers perceive repetition of the same shapes placed successively next to each other so that the shapes do not change very much, as being harmonious and agreeable. This principle applies to painting, but very much so also in architecture. People feel in architecture the symmetries and repetitions of windows, or of other architectural or ornamental elements, such as columns or friezes, to be harmonious. Repetition means that the shapes and patterns can be easily recognised, and that effect is pleasing. Repetition is a powerful means in design that is often pleasing. But repetition without variation can become monotonous. Therefore, slight variations are generally introduced by painters in their pictures and the variation recognised in the repetition give a feeling of marvellous harmony, such as in Canaletto's view of Venice. Pierre Auguste Renoir (1841-1918) stressed variety in symmetry. He wrote, "don't be afraid to look at the great masters of the best periods. They created irregularity within regularity. Saint Mark's cathedral in Venice: symmetrical, a whole, but not one detail is like another!" [G87.]
 Colours also can enhance or break the sense of repetition of shapes. When shapes are repeated, using the same colour or colours that slightly change in hue, tone or intensity, but when that variation is in a consistent, gradual way, the effect of repetition is enhanced. This is particularly so when all pure, fully saturated hues are used. The repetition can then become very dominant in a picture, to very striking and attention-monopolising effects. When in the repeating shapes the colours change at random, the colours do not support the repetition of shapes, and viewers may recognise such repetition with more difficulty.

Arte: Is this repetition always necessary to make nice paintings?

Zeuxis: No, not necessarily. Generally however, repetition is quite pleasing. Still, you have a point, too! Harmony of forms is not always linked to repetition of shapes on different sides of a panel. Repetition, or the copying of shapes in different

places of a canvas may be absent in a picture. For harmony of forms to be obtained in these pictures, some sense of direction and gradual transition of forms is then expected. The sense of direction that is thus created can be a powerful effect in a picture, especially when the sense of movement generated by the repetition goes to the upper part of the frame. This always indicates a longing for the heavens; it indicates elation.

Rapidly, abruptly changing shapes in a progression of forms will be detected as surprising and disturb the normal expected progression of shapes. This always creates feelings of tension in a picture. Let me illustrate this for you.

Zeuxis draws the plates 55 and 56.

Plate 55
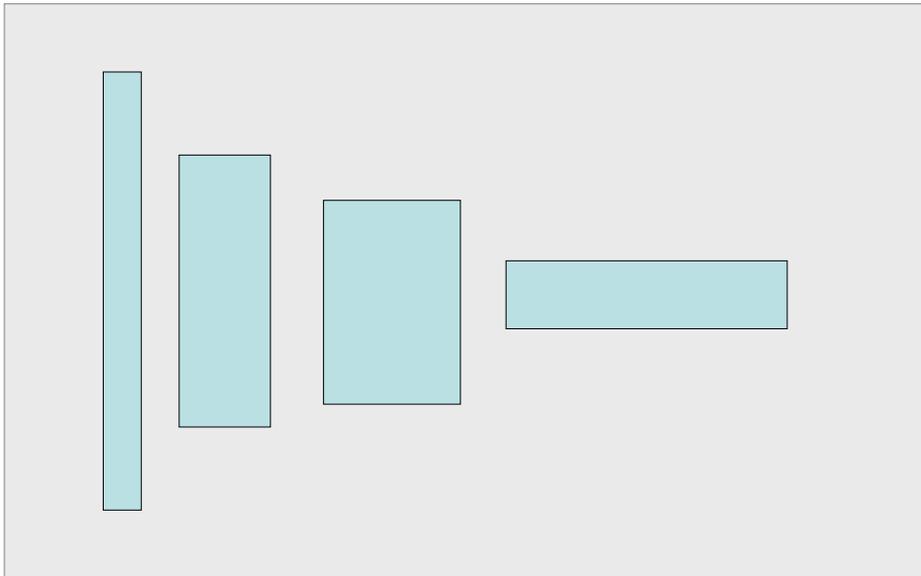
Plate 56
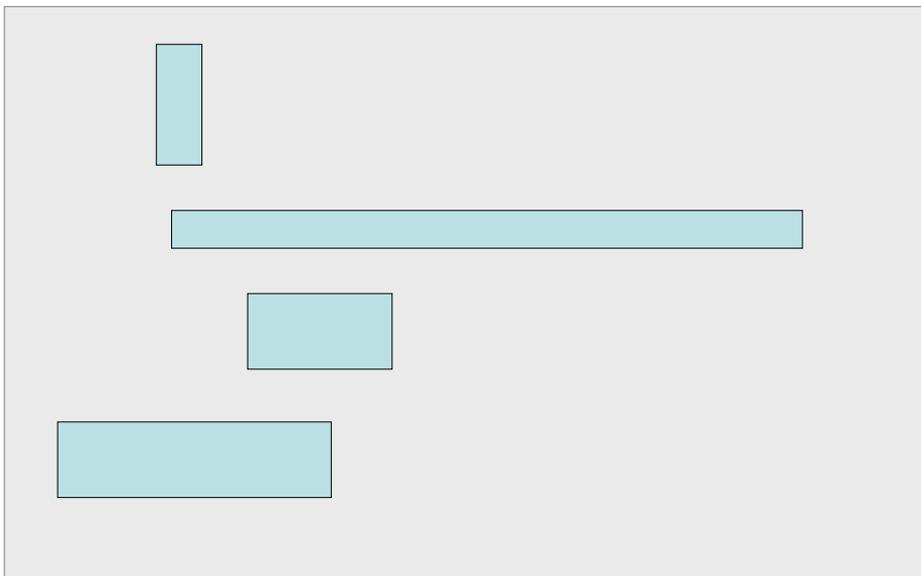
Arte: I see what you mean, Zeuxis. I kind of like the progression in your first plate.

Zeuxis: Ah, Arte, that is called rhythm! Rhythm in a picture is created by the progression of the shapes. These give a feeling of a movement willed by the artist. The eyes of the viewer will follow the progression or rhythm, and thus the painter can guide the viewer's eyes over the picture to the details the artist really wants the viewer to remark. Such rhythms can be pronounced, and even be the dominant element in a picture, such as for instance when many flowing and curved lines form patterns over a picture. Or the rhythm can be subtle, only invoked by subtle gradations in volume and direction of shapes.
The rhythm can be enhanced by colours or diminished. Viewers will expect colours and variations of hues in the whole to support the progression. Randomising the colours over the shapes will not support the rhythm of the picture.

Zeuxis shows a new picture.

➜ Luigi Russolo (1885 – 1947). Revolution. Modern Art Collection of the Gemeentemuseum – The Hague. 1912

Zeuxis: We already mentioned the dominance of the right side in pictures. Viewers will perceive a movement or rhythm of shapes to the right sides as more natural, thus more agreeable. Still, there can be exceptions as in Luigi Russolo's painting "Revolution". Here, the movement of the advancing people is to the left. Revolutions are mostly politically leftist movements, so Russolo painted the revolution of the masses going from the right to the left side of the picture. Do you remember we found the right side in a painting the more natural, expected side? Revolutions are contrary to what is expected and to tradition!

Zeuxis: A next concept, Arte, when we learn about shapes, is symmetry.
Shapes can be linked in symmetries. By symmetry we denote the quality whereby a form is represented on the other side of a point or axis, at the same distance, in exactly or in almost the same shape, or in its inverted shape. Symmetries guarantee that the weight of the masses of the areas in a picture are well balanced, and thus are an important factor in the harmony of forms.
Various axes of symmetries exist in a frame. These axes can be the vertical line that goes through the centre of a picture, or the horizontal line that goes through that point. The diagonals also can be lines of symmetry. The symmetries are formed in that we find areas of composition on exact opposite sides of these axes. Here, I draw a plate that illustrates symmetry around a vertical axis for you.

Zeuxis draws plate 57.

Plate 57
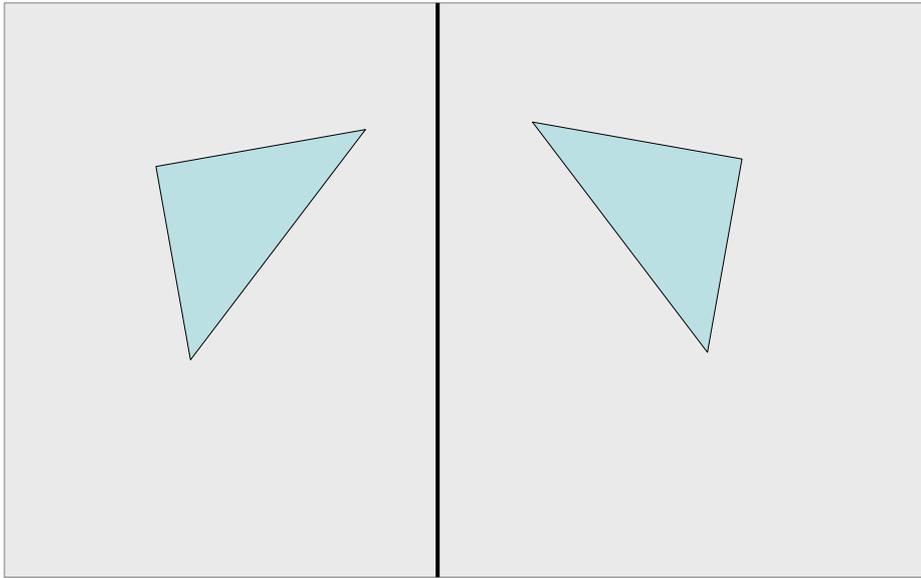
Zeuxis: Symmetries of areas, and also the similarity of the colours of these areas are often used in paintings to bring balance and rest in the picture. It tends to be an intellectual effect, but one that seems necessary to give an impression of order to the viewer, however delicate and lightly touched often the balances and the areas can be. In this, it is very important for a viewer to be able to rapidly recognise the symmetries. If a picture is loaded with picturesque details or with too many forms, the picture will not be perceived as being harmonious. A painting can well show many figures and details but the sizes, progression, balance and symmetries have to be readily recognised by the viewers. A small patch or form of colour on both sides of an axis of symmetry is often enough to prove a feeling for the cleverness of the painter and for the peacefulness of the picture.
Symmetries are balanced, that is the areas to either side of the axis of symmetries are similar in surface. Balanced symmetrical surfaces enhance the feelings of solid foundation and of the "right" touch of a picture. They are part of the harmony of forms.

Zeuxis projects a new picture now.

➔ Sandro Botticelli (1445 – 1510). Altarpiece of Saint Barnaba. Gallerie degli Uffizi. Florence.

Zeuxis: Do you remember still the mosaics of the church of San Vitale we saw just a moment ago? You can detect strong symmetries in that picture. Here is another one. We look at the "Altarpiece of Saint Barnaba" of Sandro Botticelli. You can discern the pyramid structure in this painting, always a solid foundation for an image. The symmetries are around the central vertical axis, in which the Virgin Mary can be found throning under a shell symbol. Mary was often called the Stella Maris in Medieval and Renaissance times, and the shell was a symbol of the seas. Three saints stand to the right and to the left. Two angels on each side in the same poises complete

the scene. All these figures are in positions of symmetry. Also, the architectural structures to left and right are in symmetrical balance and of the same surfaces. Thus the composition radiates harmony, equilibrium and rest.

Arte: When we had it about progression and repetition, you told me that this repetition could be interrupted to introduce variation. I suppose we can do the same with symmetries. What would the effect be?

Zeuxis: Oh yes, absolutely!
Symmetries and balance of areas may be broken, and then the feelings induced in the viewer are of nervousness, tension, stress, chaos and unrest. The picture lacks in harmony of forms when symmetries and balance of forms are not satisfied. Although we can thus play with the areas in ways that are not "natural" and not "harmonious" in order to express particular inner feelings, it is also true that certain associations seem to touch the viewer more agreeably than other.
When the shapes are placed in such a way on the canvas that purely aesthetic, lyrical, agreeable feelings are aroused in you, then we say that a composition is harmonious. These feelings are easily enough expressed by the words they define. But what exactly these feelings are and how they are induced in humans, is a much more difficult matter to comprehend.
Symmetries and balance of areas are needed in a picture to be agreeable to viewers. It means not just balanced areas, but also balance of colours in symmetrical repetition. We have explained it means additionally gradual instead of abrupt progression in shapes. Such harmony is difficult if not impossible to express in words, since the visual experience is a particular event of the eye and mind that is very different from literature or other arts.

Arte: Is harmony of forms necessary for a picture to be beautiful?

Zeuxis: We should define the word "beauty" first, and that is near impossible, since the word can mean so different things. The meaning of the word differs from person to person, from culture to culture, from civilisation to civilisation and century from century.
Beauty for a picture does not necessarily mean that it is nice, gorgeous, sweet, lyrical or gentle. It does not necessarily mean that symmetrical and repetitive, balanced shapes need to be shown.
The philosopher Plato said that of all material things there existed ideas. For instance, of the many kinds of trees that exist, there is one general idea of a tree. The idea can also be called the Form. Aristoteles, the pupil of Plato, once wrote that the major Forms of the beautiful are order, symmetry and delimitation. Since ever, people have appreciated and sought order and symmetry in a piece of art to like it.
"Beauty" is difficult to define as a concept in terms which are outside the domain of aesthetic terms. We might try here to define "beauty" in terms of form, in the terms of the technique of painting, as a particular assembly of shapes, lines, colours and so on. Such attempts fail, since the aesthetic quality of a thing (or even a concept) is much more elusive and much wider than merely form. Thus, although I teach you the elements of design of paintings, I am also involved in guiding you to recognise the "beauty" of a painting and the combination of the elements of design do not suffice for that aim. A picture can be original, surprising, catch your interest by many means, and by these qualities also induce feelings of pleasure. Thus, although we analyse

here what most contemporary people would perceive as harmony, this harmony of forms is not a prerequisite for a painting to be "beautiful". Tensions and surprise, even nervousness and broken movement, can also be desired effects in pictures. It is interesting to analyse how painters have reached a particular effect. The feelings evoked in viewers have at least partly a basis in the techniques used by the painters, and these can be explained.

Arte: I understood that the breaking of symmetry arouses the interest of the viewer. And that means the viewer looks more and with more insistence at the picture.

Zeuxis: Right. Breaking of symmetries or breaking of repetition has an effect on the expectations of the viewer.
In a regular repetition, the viewer expects one same pattern after the next. This psychological effect of expectation is disturbed by the breaking of symmetry or the breaking of repetition. The expectation is disturbed, and therefore the attention of the viewer is suddenly enhanced, sharpened, aroused anew. This playing upon moments of renewed attention is what appeals to a viewer, and it is an effect that is eagerly – but not overtly – sought by painters. A painter who does not appeal to the attention of the viewer, or rather a work of art that does not in this heightened and ever-stimulated way of appealing to the attention of viewers in unexpected ways attracts renewed interest, becomes dull. The art of the great painter is to seek a balance between symmetries and repetitions on the one hand, and the breaking of these on the other, or on modulating such features to attract attention. Furthermore, viewers rather appreciate it more intellectually when the artist did this in a subtle way, without them having a sense of being openly manipulated. This is all quite difficult theory, Arte, so let me illustrate this with an example.

Zeuxis shows a strange picture.

➔ Jean-Paul Laurens (1838-1923). The Excommunication of Robert the Pious. Musée d'Orsay. Paris. 1875.

Zeuxis: We look at Jean-Paul Laurens' picture "The Excommunication of Robert the Pious".
The French King Robert, son of Hugo Capet the very first King of France, was betrothed to Berthe, the widow of Count Odo of Champagne. Not only was Robert family of Berthe, but also the godfather of one of her sons. So there was a direct spiritual connection between Robert and Berthe. The Church considered a marriage incestuous. Pope Gregorius V declared the marriage illegal in 998, and excommunicated the King. Jean-Paul Laurens showed the scene of the excommunication.
Although this painting has all the characteristics of clarity and simplicity of a Neo-Classicist work, it lacks symmetries everywhere.
The Bishops have just excommunicated the French King, and they leave through a Romanesque door, but there are no figures on the left side to balance them. Berthe clings to Robert, but no symmetric form to the left of Robert balances her figure or the white patch of colour of her dress.
Robert and Berthe are caught in the cross formed by the tapestry, the two desks on either side of the throne, and a blue pattern on the floor, but the lines of this cross are mostly oblique and do not flow symmetrically into each other.

The Bishops leave through the door, but Robert and Berthe stare fixedly in another direction, towards the overturned and extinguished candle that is the symbol of the end of their spiritual lives. Robert and Berthe have sagged together, and the weight of the tapestry that is also part of the cross of Christianity visually emphasises the menace over them.
Jean-Paul Laurens broke balance deliberately in this painting, to create the visually perceptible tension that should accompany the tension in the souls of Robert and Berthe. The visual tension supports the psychological tension of the figures.

Arte: So, what should I paint, Zeuxis: harmony, or no harmony and balance?

Zeuxis: You pick, Arte. It depends on your subject.
Harmony of forms is a means that appeals to most viewers. Hence painters have applied it over the centuries, and it was the basis of the teaching in the painters' academies of the capitals of Europe. In the beginning of the twentieth century artists started deliberately to break the harmony of forms in order to introduce special effects and feelings.
It should not come to you as a surprise that these experiments were first done on the simplest shapes I have shown you before. Such simple shapes make the effects most evident. We have learned from these experiments in representation of simple shapes that individual persons react differently on the patterns of forms of a picture.
We do not know how feelings of aesthetic pleasure are induced in a mind. We do not know what the processes are. We do not know how a mind reacts to patterns of shapes and colours. These must generate waves of subsequent signals in the neurones of our brain, so that the brain stimuli arouse feelings of pleasure. We suppose that such patterns of perception are more or less the same in all humans, but we do not know whether that is a true statement. And we do not really know just how, by which processes, and by what patterns different feelings are created. That is the great mystery of paintings, Arte!

Arte: And that is like music, Zeuxis!

Zeuxis: Good, Arte!
It is indeed appropriate here to talk of music. Music is a wonderful art, since its wandering patterns of sounds immediately generate feelings in our mind. In order to savour music, we need no interpretation. We do not need to analyse intellectually the sound waves in order to like a symphony. We abandon ourselves to the musical patterns without thinking. The sound patterns then immediately create emotions.
The English writer Walter Pater (1839-1894) has given now famous lines on this subject. He wrote, "All art consistently aspires towards the condition of music. For while in all other kinds of art it is possible to distinguish the matter from the form, and the understanding can always make this distinction, yet it is the constant effort of art to obliterate it."
The art of painting also, in particular styles more than in other, thus aspired to music, to the immediate evocation of emotions in viewers, and its foremost means in that is colour and patterns.
Sir Isaac Newton devised a system of seven colours from his analysis of rays of light through prisms, in analogy with the musical scale. [G97.]
Paul Gauguin (1848-1903) also wrote on this in 1899, but then emphasising colour, stating, "Colour, which is vibration just as music is, is able to attain what is most

universal yet at the same time most elusive in nature: its inner force." Thus, form disappears, and only instantaneous emotions remain.

Such a process must take place to a certain degree also when people look at patterns of shapes and of colours in the visual arts. The degree to which people are receptive to the patterns can be very different. The means remain inexplicable by our current knowledge of the mind processes. It is therefore very difficult to state that harmony of shapes, balance and symmetry, are necessary for a painting to be "beautiful". The sensation of "beauty" depends on as yet unexplained processes and means. The only measure remains the proper feelings induced in an individual viewer.

Nevertheless, analysing what harmony of forms means is twofold interesting. It does explain for many people – we believe the largest part of western people – what is agreeable in paintings, and it allows us to recognise by which technical means a painter has reached a certain effect of evoked emotions.

I can propose you my own personal version of why symmetry and balance are liked by humans, but that explanation remains tentative and unproved. It is merely a conjecture. Here it comes!

You live in a time of computers, Arte. Well, our brain is also something of a data processing device. As a data processing device, it consists of a processing unit and a memory. We need fast processing, and little memory units occupied, to react quickly to process data for our survival. Hence, economy of processing and economy of memory are important to our brain. Symmetry and balance mean that the images we perceive can be stored more economically in our memory and also that they can be processed more quickly. Hence, symmetry and balance in all their aspects of lines and colours and shapes, are more agreeable to us.

Let me illustrate that with a façade of a house! When the windows and doors in the façade have the same rectangular shape and the same length and width, are spaced at the same distances, with symmetry and balance, then we only have to store the length and width of one window and one door plus the information that the shape repeats in our memory. Retrieving that information is fast and processing it is also fast. That is agreeable to our brain.

When, however, that façade has been designed by a strange architect who placed every window in an odd place so that no symmetries can be found, and with each window and door of other shapes and other dimensions, we must store all the dimensions of the windows and doors plus their relative positions in our memory. In this case, retrieving and processing that information takes more effort, and hence is less agreeable.

Arte: Look, Zeuxis, I drew two pictures of what you would call balance and lack of balance. The second picture shows shapes in what you would call nervousness, no?

Arte draws plates 58 and 59.

Plate 58
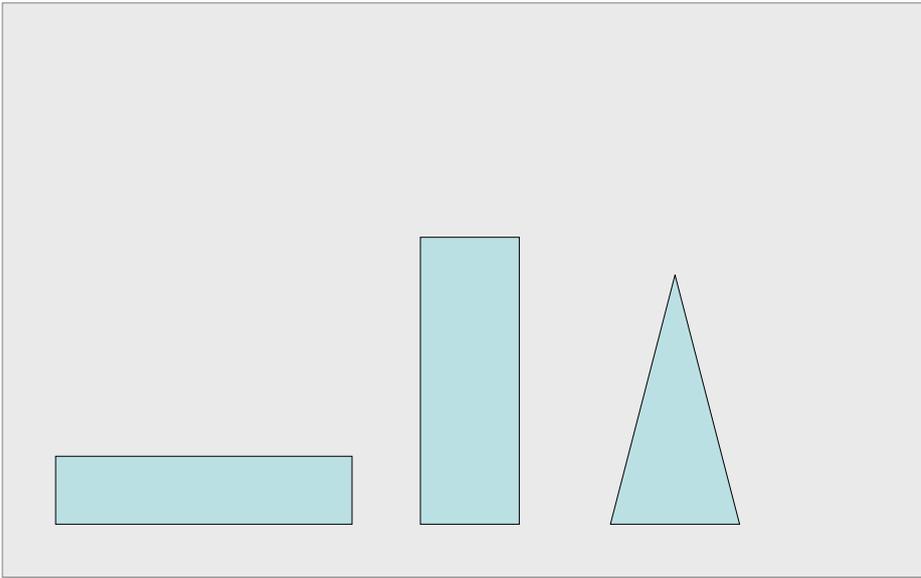
Plate 59
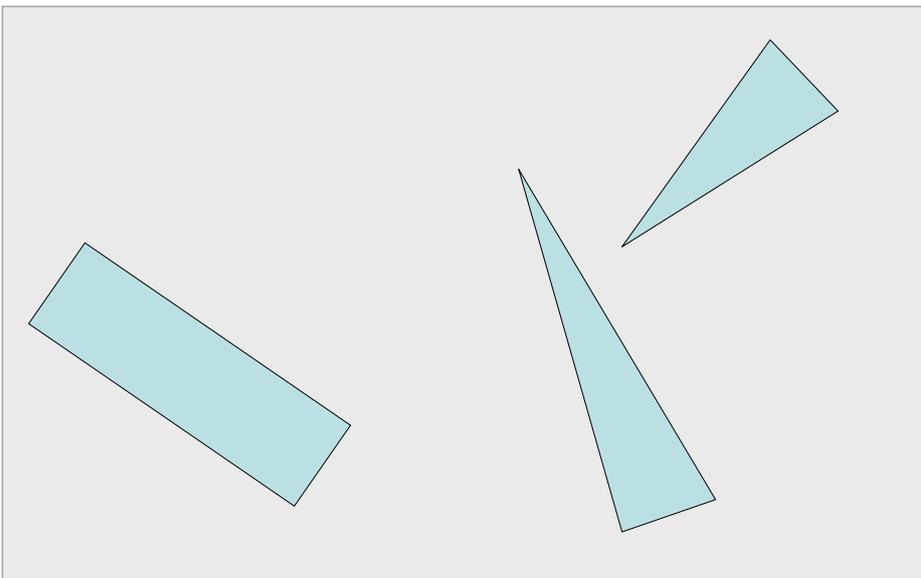
Zeuxis: A viewer will probably look with interest at your unbalanced shapes without symmetries of your second plate as being unusual. He or she will look and look again, be fascinated, but not always like what is shown. Compositions with broken symmetries and labile shapes surprise viewers, an effect that the painter may well seek on purpose. Broken patterns and unexpected symmetries, also unexpected colours, create tension in a painting. The viewer will try to understand intuitively the reasons for the breaking of symmetry and balance. If a reason can be found quickly (the reason may be indicated by the title of the picture), then the viewer may regain his or her comfort once more. He or she will understand what drove the painter, and

accept, even admire the lack of harmony. If a reason cannot be understood rapidly, the viewer will become uncomfortable, and lack feelings of aesthetic. The picture will derange and unsettle the viewer. Most viewers prefer balanced and symmetrical arrangements of shapes in a painting, which is harmony of forms, even though they may savour explained deviations from natural harmony.

Lack of harmony through breaking of symmetry and balance may be thus the specific effect sought after by a painter. The artist can then deviate from harmonic proportions, bring shapes in a non-symmetrical arrangement on the panel, and confront shapes out of proportion to each other. He can enhance the effect also by using colours that contrast. He may put warm colours on one side and colder colours on the other. He may use contrasting patterns of parallel or of oblique lines that conflict with each other's directions, and which compete in induced feelings. It is often easier to recognise when harmony is lost than when harmony is present.

Arte: Have you taught me now all the concepts of harmony, Zeuxis?

Zeuxis: I hope you have understood that all these concepts of harmony have to do with the relationships between the forms of a painting, Arte. There is one more concept to learn, and that is unity.

Zeuxis: Harmony is mainly a static principle in paintings. It is a peaceful, restful concept. Harmony needs to be recognised, remarked easily by viewers. Hence viewers prefer not too many shapes in a picture, so that they would not be confused in their attention.

When many forms do have to be represented, a dominant form will bring the desired rest. The viewer will be able to return to this form, and from there explore the painting. It will be a mark of attraction. See the following drawings, Arte. They illustrate for you the concept of dominant form.

Zeuxis draws the plates 60 and 61.
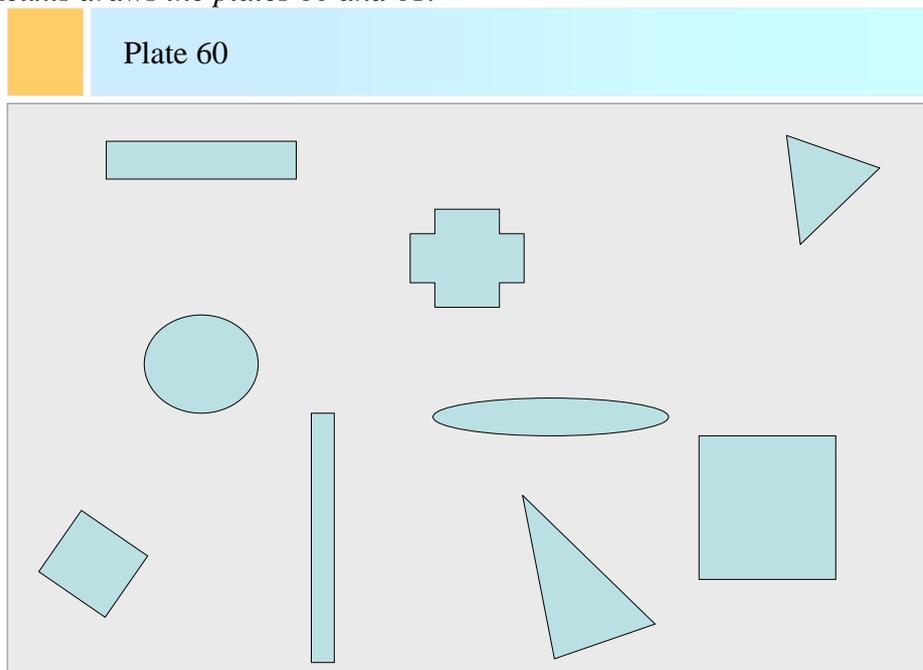
Plate 60

Plate 61
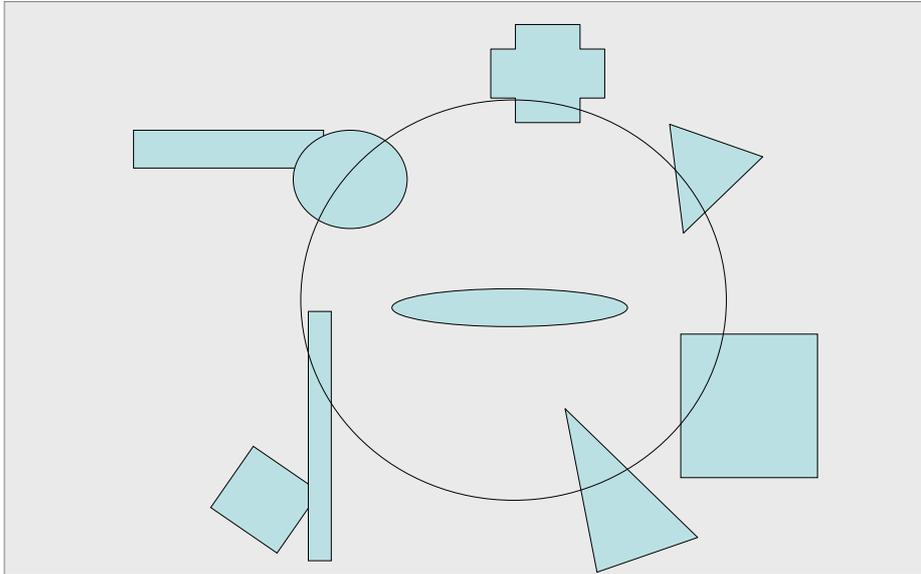
Zeuxis: In my first drawing, many shapes are dispersed all over the vision plane. When you look at this drawing, you will pass from shape to shape, Arte, wander with your eyes around the picture and return to shapes visited before. There is no unity in this picture, and no dominance by a single form. In the second drawing, all shapes seem to be placed around one circle. This form rallies the other. Your eye movements will now all start from the circle and radiate from that mark to the other shapes. We look again at the painting of the van Eyck brothers.

Zeuxis shows again the painting of the Van Eyck brothers.

➔ Hubert (1365 – 1426) and Jan van Eyck (1390 – 1441). The Three Maries at the Open Sepulchre. Museum Boymans-van Beuningen. Rotterdam. Around, but after 1430.

Zeuxis: The dominant shape in this painting is definitely the tomb. The tomb is a dominant element, from which our attention can go in all directions to discover the details of the picture. The van Eycks even positioned this shape as solidly horizontal and exactly in the centre of the scene, so that it really enhances your feeling of it being the central focus of the picture.

Zeuxis: In my last drawing, the various shapes are linked to the central circle. This drawing illustrates another principle of harmony that enhances the restfulness of a picture, namely the concept of unity.
Unity refers to the linking of the various elements or forms of a painting. When as in my last picture but one (plate 60) all shapes are unlinked, the viewer's eyes will move erratically over the picture. This will give a feeling of unrest and of nervousness. When however the shapes are connected, such as in the last plate, the shapes create a sense of belonging, a sense of unity.

Roger Fry (1866-1934) expressed this as "Unity of some kind is necessary for our restful contemplation of the work of art as a whole, since if it lacks unity we cannot contemplate it in its entirety, but we shall pass outside it to other things necessary to complete its unity. In a picture this unity is due to a balancing of the attractions of the eye about the central line of the picture". [G86]

The concept of unity is also important in repetition and in the creation of direction. Indeed, when a sense of direction is indicated by a progression of shapes, the distances between the shapes have to be equal, or the shapes have to touch. If the distance between the repeated forms varies too much, the forms will lose unity, and the direction will not be perceived as strongly by viewers. This again will create a feeling of surprise, of breaking of the repetition, and hence of breaking the harmony. Forms are usually linked in a painting, in order to stimulate the sense of unity. In the painting of the "Three Maries" of the van Eyck brothers, the open tomb constitutes the unity. But the "Open V" structure also creates unity, as the green pasture leads to the city of Jerusalem. Jerusalem is not hidden between the rocks, but seems accessible and thus united with the front scene. We find often thus between parts of a landscape a uniting road linking the various details of the landscape together.

Zeuxis projects another picture.

➔ Jacopo Pontormo (1494 – 1557). Joseph in Egypt. The National Gallery. London.

Zeuxis: Look at Jacopo Pontormo's "Joseph in Egypt", Arte. This is in many respects a strange and remarkable picture. It contains many stories from the life of Joseph the Egyptian. But Pontormo connected all the scenes in a very strong way. He painted large stairs below, leading to the scene on the left. These stairs descend to the right, but there starts a spiral stairs leading to a scene on the upper right, where Joseph asks his father to bless his Egyptian son. The stairs link the various scenes, so that the stairs are the unifying concept creating unity and rest in the painting. Without this element of composition, the scenes would have been disconnected, separate and isolated.

Another interesting example of such linking is in Vladimir Baranoff-Rossiné's picture of Adam and Eve that we have seen before. The yellow colours that represent the broad circular movement of the sun, link Adam and Eve.

One finds often that painters have introduced such linking of forms between focus areas of attention in pictures.

➔ Vladimir Baranoff-Rossiné (1888 – 1942). Adam and Eve. Collection Carmen Thyssen-Bornemisza. Museo Thyssen-Bornemisza. Madrid.1912.

Zeuxis draws now a new plate, plate 62.

Plate 62
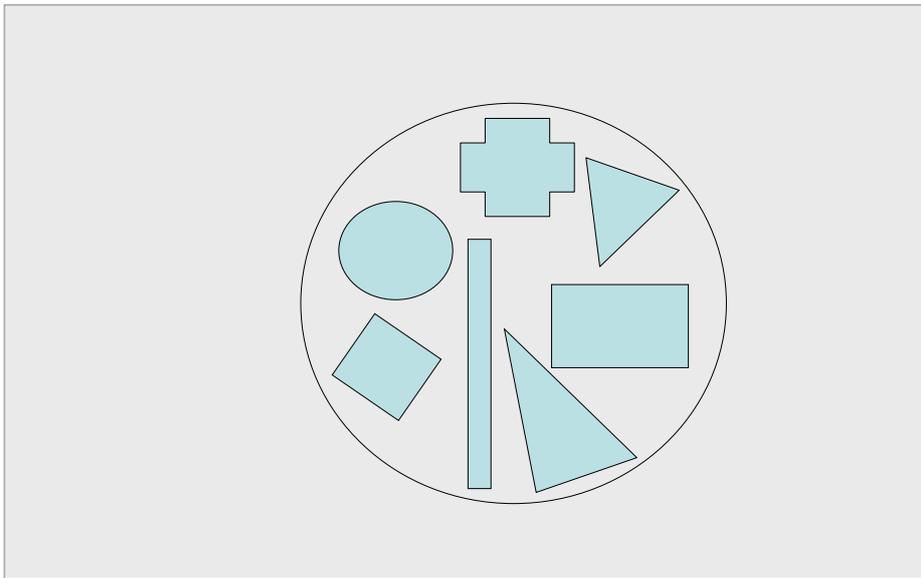
Zeuxis: Dominance and unity are features of a painting and so are two other types of compositions: open and closed structures. I have already hinted at that concept, Arte, when I talked of circles and triangles.

What I have drawn now is an example of a closed structure. Many smaller elements are confined within a dominating structure or scene. Such compositions invite the viewer to concentrate his or her attention on the central theme and to focus the view on one item or area of the painting.

More open compositions, such as in my previous drawing but the last (plate 61), propose the viewer to explore the many pictorial elements in the picture plane.

Jan and Hubert van Eyck's "Three Maries at the Open Sepulchre" is a more open composition, as various figures are in different areas of the picture. The unifying element is the open tomb, but this only links the sub-themes, as there are the Maries, the soldiers and the angel. The sub-themes invite to several separate stories in your mind.

In looking at the structure of a picture, one must distinguish the separate forms from the grouped forms that are in a unity.

Grouping can be realised in various ways. It can be visually obtained by similarity of shapes – which then seem to belong to each other -, by similarity in directions – lines pointing in the same direction -, in fact in any aspect of shape, colour, brightness, location in one place, or even effect of movement and content meaning.

The analysis we made so far of the simple shapes and some of the notions of symmetry, repetition and balance, taught us as well how to discern the separate parts of a composition, as well as its overall grouped structure.

Arte: I think I understood all you taught me in this lesson, Zeuxis, but I would like to know why we, humans, seek such harmony, balance, symmetries, and all the other concepts you spoke of.

Zeuxis: That may remain a mystery, Arte. Some explanation was given by Rudolf Arnheim.

Zeuxis draws the simple picture of plate 63.

Plate 63
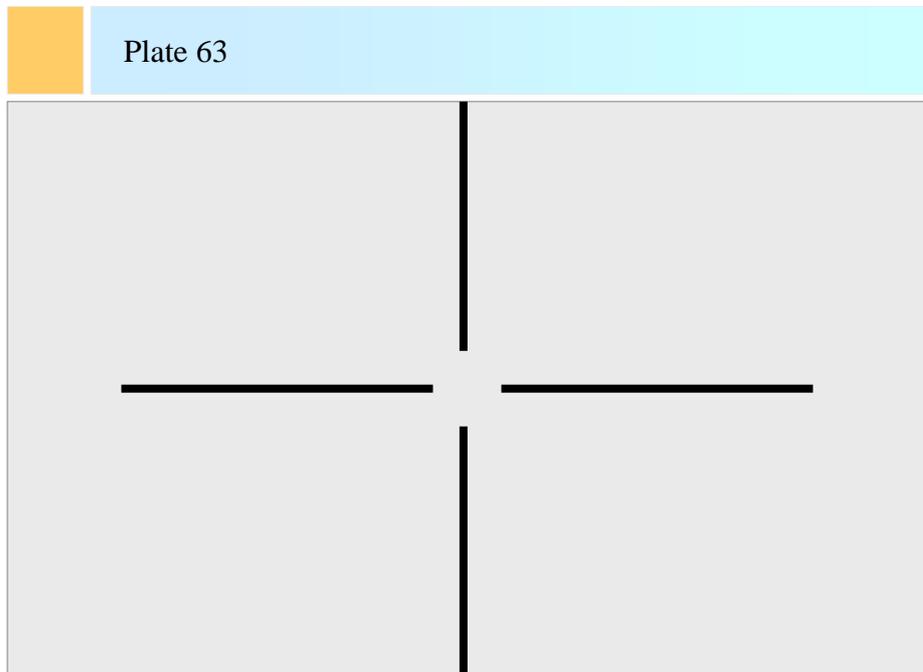
Zeuxis: Arnheim looked at drawings like this. He remarked that most people see a white circle – or for some observers a white square – in the centre of the cross, even though there does not really exist a contour of a circle or of a square. [G96.] By the analysis of other such patterns, Arnheim concluded that a basic law of visual perception in Gestalt psychology was, "Any stimulus pattern tends to be seen in such a way that the resulting structure is as simple as the given conditions permit". Arnheim defined simplicity as the subjective experience and judgement of an observer "to feel no difficulty in understanding what is presented to him or her". In this view, a square is a simpler form than a triangle, because in the square all angles are equal and straight and all segments of line too. The square has less structural features, described in terms of distance and angles. Two concepts are closely associated to this question of simplicity: the concept of parsimony – what is the simplest structure that will serve a purpose – and the concept of orderliness – which is the simplest way of organising this structure. But parsimony and orderliness, which underlie relative simplicity, can be present whatever the level of complexity.
The principle of parsimony states that the painter should not represent beyond what is needed for his purpose, and that then viewers truly appreciate a picture. Great works of art are complex, but they seem to "have simplicity in that the wealth of meaning, forms and colours in the overall structure clearly defines the place and function of every detail in the whole". [G96.] This way of organising a complex structure in the simplest way possible, Arnheim called orderliness.

Zeuxis projects Titian's Pietà now.

➔ Tiziano Vecellio (1488/1490-1576). Pietà. Galleria dell' Academia - Venice. 1576.

Zeuxis: A good example for this principle is Titian's Pietà. It is not certain whether this painting is a finished one, and I indeed believe it is not. Titian often seemed to have made drawings or first outlines of paintings and left them untouched for months. Let's assume the picture is not finished. Then the picture represents the idea of the theme, the first conception of the subject in the mind of the artist.
Remark, Arte, the strong lines and the directions in this painting! Look at the strong structure, which really holds the figures together and locks them into unity.
Begin with the ascending line along the right diagonal's direction. Titian might have started the picture with this line in mind. He made a drawing of this structure first, and later positioned his figures along the line. Finally, he placed a few sparse colours to indicate the basic accents in the painting. The picture then was in fact finished for the artist, complete and the act of creation done. The rest was sweat. I grant you the rest was truly genius sweat, in filling out eventually all details and finer colouring, but the invention was finished. The details and further colouring would have added complexity and variety, but the viewer would feel at ease at the completed painting, because he or she would always perceive the underlying, strong simplicity. Titian's picture moreover, is also simple in meaning, since the suffering of Jesus and the mourning of the other figures form a coherent emotion. The structure supports that meaning and the emotions, so that the rule of simplicity is satisfied too, and there is correspondence between structure and meaning.

Zeuxis and Arte contemplate the painting for a while in admiration; then Zeuxis continues to talk.

Zeuxis: The characteristics that enhance simplicity are for Arnheim unification, enhancement of symmetry, reduction of structural features, repetition, dropping of non-fitting detail, elimination of obliqueness. We studied all these elements. Whereas adding complexity, adding differences is sharpening, introducing obliqueness, adding asymmetry, and adding structural features. Simplicity enhances ease; sharpening enhances tension in a painting. We look at pictures and at drawings and always seem to prefer - and thus even to really see even though elements are physically lacking - the form that aims at simplicity.

Arte: And viewers appreciate pictures with which they can be at ease. So, naturally, they appreciate simplicity. Plus, simplicity allows them to perceive the whole painting consistently, easily, clearly, and directly. People are lazy … or our mind is lazy.

Zeuxis: Correct. It seems however, that people do not like over-simplified pictures either. They seem to prefer a combination of unity and simplicity on the one hand, and dynamic variety on the other, ease and tension at the same time.
Arnheim argued that our mind organises the shapes we see in accordance with the tendencies that govern its own functioning. Arnheim found evidence that this principal tendency was a seeking of simplest structure, a tendency of perception towards the most regular, symmetrical geometrical shape attainable under the circumstances. [G96.]

You mentioned the laziness, Arte, but simplicity also means in-built pre-organisation by our senses and mind, so that views are rapidly recognised. Rapid recognition is an advantage in nature. It allows perceiving dangers rapidly, and reacting accordingly.

Arte: You taught me much, Zeuxis, and you gave me much to think about. I did not know that painting was so difficult. But it was exciting!

Zeuxis: Why, thank you, Arte. It was exciting also to explain these concepts to you. I am tired now. There are quite some more subjects to talk to you about. I will write you a few words, so that you can keep the conclusions of what we talked about. Do you like mathematics?

Arte: I do like mathematics, Zeuxis. Why do you ask?

Zeuxis: There is a concept of proportions in compositions that you should know of. But that is better written. So I'll write you a text about that, and you can read that alone. I promise the maths will be easy.

Arte, ironically: All right, Zeuxis; your obedient and loving student will also study your maths. Please do not return so rapidly!

Zeuxis disappears.

Third Letter of Zeuxis to Arte

My dear Arte,

It remains a truism that harmony of forms is generally the rule in paintings. Such deviations surprise, arouse interest in the viewer, but may not always please. The surprise means not that the viewer rejects all loss of balance in the picture, however. Also, having all paintings of for instance one and the same exhibition in this style would not necessarily please most viewers.
Harmonies of forms and balanced compositions have therefore been taught in painter's academies for centuries as design of compositions that would please spectators.

Harmony of forms or harmony in composition can be designed in various ways. Forms can be repeated, multiplied and set next to each other. The repetition can be in any direction, but the usual way is by a lateral translation. In any other translation but the horizontal direction translation conveys a special feeling, such as of elation when the repetition is upwards. The repetition can also be along curved directions, and the forms can be rotated.
In the preceding chapters we supposed that the forms did not change shape and dimensions, but when the modifications of these remain gradual, harmony is conserved.
A special way of repetition is by applying symmetry around an axis or point. This generates mirror images of the forms.
In harmony, forms are repeated or balanced and repetition is agreeable, as is balance. The repetition of forms is allowed to change and to evolve, but only gradually. Balance always needs to be preserved for harmony. Thus a large shape on one side may be repeated by a mass of smaller shapes, as long as this conglomerate has approximately the same dimensions.

These are the basic concepts of balanced composition or design of a painting with shapes only. Dominance, unity and closed structures add specific qualities to compositions that help to concentrate interest, whereas lack of dominance, lack of unity and open structures invite to discovery, and hence also to dispersion of attention.

We look at a picture of Wassily Kandinsky (1866-1944) made in 1930, called "Ernst-Spass" or "Seriousness and Pleasure". This painting illustrates many of the concepts we analysed in the previous chapters, as well as some of the next chapter.
In the picture we can see many symmetries, for instance like in the two thin, long vertical lines that are on both sides of the middle orange, small rectangle. Simple geometric shapes are repeated in dimensions that are similar. The colours of the shapes are similar and repeated also. The shapes are balanced on all sides. The vertical lines give a stern, strict and fixed impression at first.
But when we look at the shapes in detail, we see that they form groups, and the groups are mostly not in equilibrium, so that the groups build the playfulness of the image.

In the central group for instance, an orange rectangle and a lighter trapezium hold a thin line on which stands a triangle on its top. On the border of the dark triangle sits a half circle, ready to fall away. Here is an oblique line and shape, which as we will see in the next chapter, indicates movement. Various other triangles are in this mode painted out of equilibrium, or in a very unstable position. Often positions are stabilised by a round point object above the triangles. And on the right the viewer sees a long triangle on its top, but Kandinsky drew short oblique and repeated lines that give the impression of being ropes that tend to keep the triangle in its place, like the ropes of a tent pole. The long and thin vertical line of the left side holds horizontal lines that bring stability, whereas on the other side more organic curved lines are the symmetrical view, and these balance the horizontal set of lines.

The whole picture would be very light in its small shapes, fixed in its overall vertical directions and playful in the way mostly triangle shapes are set in unstable positions. A more solid balance was then needed in the picture, and Kandinsky therefore painted a dark and large circle on the upper left side, with its symmetrical form – again a circle – on the right. Now, placing a full hard circle on the right would be too much of a repetition, and would too solidly fix the image, whereas the acrobatic, light playfulness of a circus act needed to be shown. Kandinsky only placed therefore a half circle on the right in a brighter colour and he placed the circle somewhat lower, to ease the repetition and not to disturb the impression of playfulness too much. Thereby Kandinsky avoided dullness in the repetition.

Many other examples of balance, repetition, symmetries, use of vertical and horizontal lines, etc. can be found in this painting, so that it is really an intended, almost scholarly example of composition.

➔ Ernst-Spass (Seriousness-Pleasure). Wassily Kandinsky (1866-1944). Pinakothek der Moderne. Munich. 1930.

 I told you that harmony mainly lies in the gradual progression of forms, in the symmetry of forms and in the repetition of forms. We will talk later on harmony of colours. Yes, Arte, we will ultimately come to colours, of course.

Harmony seems to touch particularly sensitive people in special ways.

Wassily Kandinsky once wrote that no painting could be rightly explained in words. Just how much we are touched by a harmonious composition, and what is meant by harmony, depends on the sensitivities of every person in particular. There are indeed persons more tuned to the natural harmony in pictures, whether by its balance in lines or shapes or in colour areas, whether in figurative or abstract pictures. These people have a special inner symbiosis with compositions. I hope, Arte, that you have this talent or intuition, or will develop it by looking more at pictures.

Kandinsky wrote that he had no hang at all for mathematical formulas at school. But when he had seen a written page, he could remember all the details of the forms of that page, and write down the mathematical formulas as they appeared as rhythms of lines on the page. We call that having an eidetic memory, but I am not too sure that this really exists. Still, people with finely tuned visual memories have enough with form only, even and certainly enough with abstract shapes, to have strong inner

rhythms induced by the balance of composition and by the juxtapositions of elementary shapes such as squares and rectangles.

Ordinary people need something more besides forms and colours to be deeply touched, and that usually is the content, the subject matter of the picture, or a basic understanding of the idea that lay at the basis of the work of art.

Yours truly and dedicated,

Zeuxis

The Golden Mean

The question of what natural, pleasing harmony was in terms of proportions, and whether pictorial harmony could be expressed in phrased definitions or in mathematical formulas or in geometrical constructions, was a puzzle that occupied mathematicians and natural philosophers since old. The laws of harmony could indeed, it was thought, hide some of the knowledge of the divine.

The Golden Mean in Algebra

Two mathematicians thought they could provide answers. In the beginning of the thirteenth century, the mathematician Leonardo of Pisa (1175-1240), called Fibonacci, defined a series of numbers, in which the first two numbers were one, and in which each subsequent number is the sum of the two preceding numbers. This series is now rightly called the Fibonacci series. The numbers are:

1   1   2   3   5   8   13   21   34   55   …..

The mathematical formula to calculate the numbers of such a series is

$A_1=1$, $A_2=1$ and from n=3 counts that $A_n = A_{n-1} + A_{n-2}$

Another formula that generates this series is the formula of Edouard Lucas

$A_n = (1/\{sqrt5\})([(1+\{sqrt5\})/2]^n - [(1-\{sqrt5\})/2]^n)$

In this formula {sqrt5} stands for the square root of 5.

The ratio $X = (1+\{sqrt5\})/2$ is called the Golden Number. Its value is 0.618.
The reciprocal $Y = (1-\{sqrt5\}/2]^n$ is also considered as an important number, and its value is 1.618.

One obtains the Fibonacci series by adding numbers. One can also divide the numbers of this series to obtain proportions. The proportions of the numbers from the fourth number on are proportions that are therefore presumed also to be special proportions: 5/3 or 8/5 and so on. These proportions almost, but not exactly follow the formula of the Golden Number. The proportion of two subsequent numbers of the Fibonacci series (such as 3/3, 5/3, 8/5 and so on) tends to 1.618. It is not exactly 1.618, as figures continue indefinitely after the last figure mentioned here, after the figure 8.

In the Fibonacci series above, we used as starting numbers two times the number one, but any series starting by any two arbitrarily chosen numbers and built by the rule $A_n = A_{n-1} + A_{n-2}$ has the property that the proportion of two adjacent generated numbers tends to the value 1.618. This number also is often called the Golden Mean.

The Fibonacci series has other remarkable properties. For instance, the series starting with the numbers 1 and 1.618… is special. The series is:

1   1.618…   2.618….   4.236…   and so on.

In this series not only $A_n = A_{n-1} + A_{n-2}$ but also $A_n = A_{n-1} * 1.618…$ so that if we name x=1.618…. the series is also:

1   x x^2 x^3 and so on.

So this series is at the same time a mathematical series (each number is obtained by adding preceding numbers), and also a geometrical series (each number is obtained by a multiplication of preceding numbers).
The Fibonacci series based on 1 and 1.618… is the only series that exists that has these remarkable properties.

The Golden Mean in Geometry

There is an equivalent of the Divine Proportion in geometry. In the fifteenth century another Italian mathematician, Luca Pacioli, defined a Divine Proportion as a segment of a line divided into such parts that the smaller part's length A is to the larger part B as the larger part is to the entire segment's length (A + B). This is also called the Golden Section.

In formula that means that A/B=B/(A+B) with A the shortest part.

The connection with the Fibonacci series is in that when one substitutes (A+B) = 1 in the previous formula one obtains a second-degree equation

$$B^2 + B - 1 = 0$$

And the double solution of this equation is

$$B_1 = - (1 - \{sqrt5\})/2 \quad \text{and} \quad B_2 = - (1+ \{sqrt5\})/2$$

In which one finds back the Golden Number and its reciprocal.

Therefore, the numbers of the Fibonacci series and the Golden Mean seem to be connected.

An infinite number of lengths comply with the rule that A/B=B/(A+B), but as integers we find that only the adjacent numbers of a Fibonacci series are values that approximately satisfy the rule.

The true Golden Section can be easily constructed for any piece of line of length (A+B).
Let us call this line as determined by two endpoints a and b. In b draw a line perpendicular to ab. On this perpendicular take the length C = ab/2. In the endpoint c draw a circle of radius ab/2. Now draw the line ac. Where this line ac cuts the circle, one has a point d. The length ad is the length that divides the line ab in the Golden

Section. See the next plate (plate 64). The proportion ab/ad equals 1.618…, the Golden Mean.

Plate 64
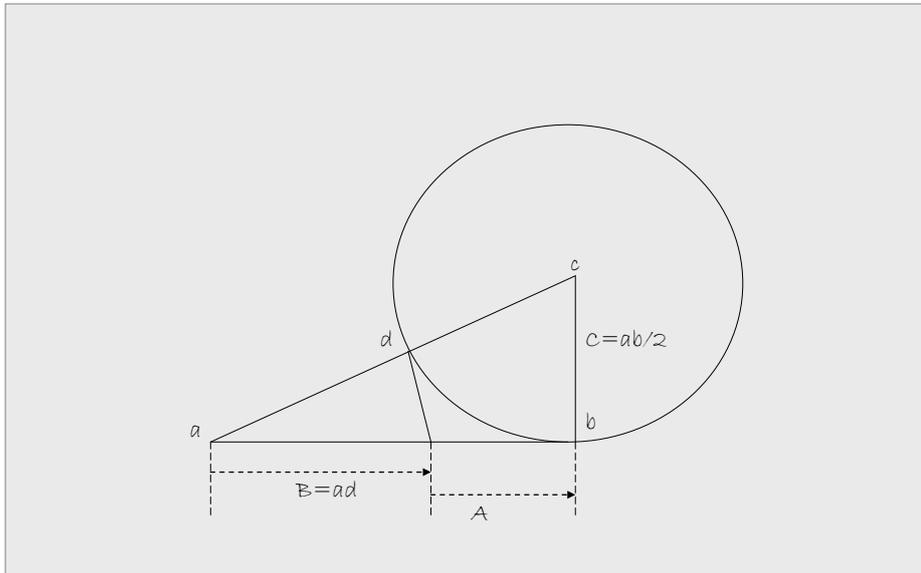
The Fibonacci proportions were found to best represent harmonious proportions, proportions that humans find pleasing and attractive.

The proportions of the Golden Mean were quite popular from the Middle Ages on to our times. They were considered the main and basic proportions of harmony. Rectangles with these proportions are presumed to be the most aesthetically pleasing. Therefore, they were called Divine Proportions. These proportions can be found back in many pictures, whether knowingly designed, or intuitively introduced by painters.

The proportions can be used in the design of the areas of composition. See the next plate.
By always dividing an area according to the proportions of the golden mean, one obtains a progression of ever-smaller surfaces. Such areas and constructions are found in nature, and they can also be the basis for design of basic areas of composition in pictures, for areas in which separate scenes can be positioned. It is rare however to find more than one or two of such areas in paintings, since the areas rapidly grow too small.
The areas can be easily constructed by starting with one vertical golden mean division, drawing the diagonal, and then a horizontal line where the diagonal meets the vertical, and so on. See plate 65.
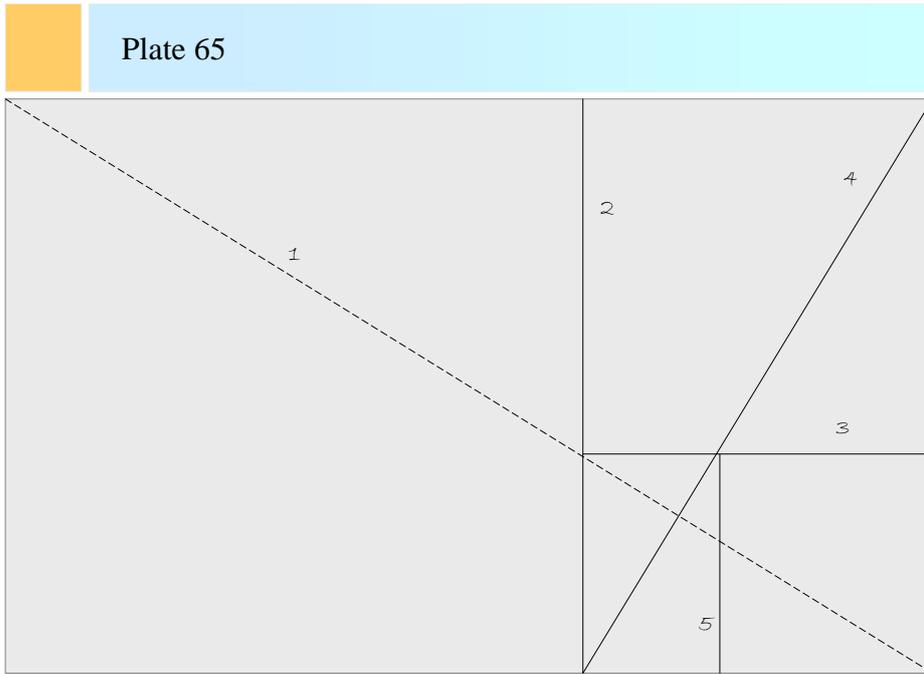
Plate 65

The Golden Mean in Art

Painters have often used the Divine Proportions in their work. The following plate (plate 66) shows a frame with (almost) Golden Mean proportions. This is called a Golden Rectangle!

Plate 66
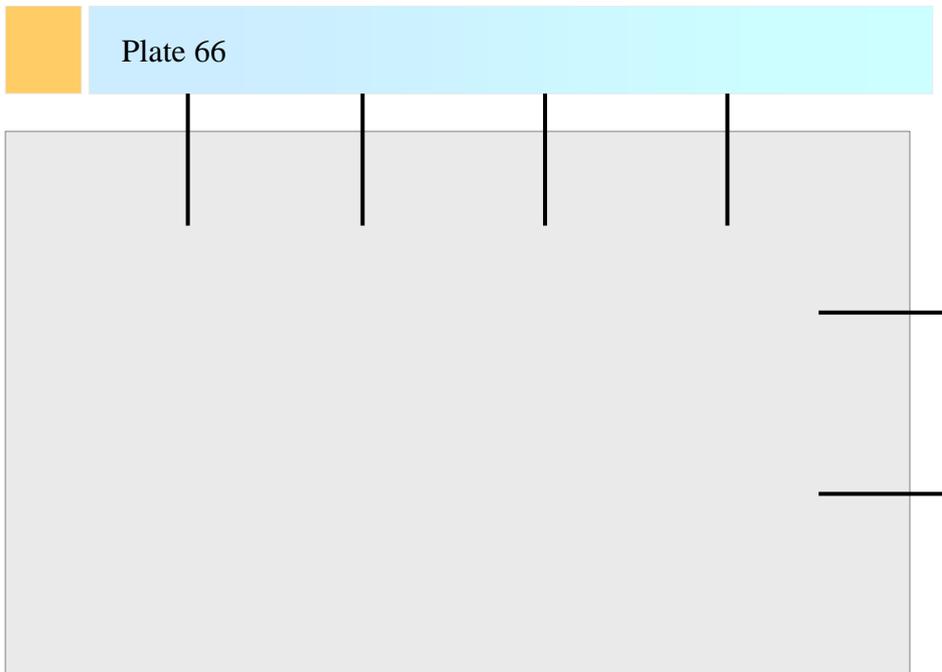
Painters have used these proportions because they are pleasing to humans. The most classic example of a picture constructed upon complex geometrical patterns is Piero della Francesca's "Baptism of Christ". In the figure hereunder we show some of the lines of the painting. The Golden Section proportions and the Fibonacci numbers can be found about anywhere in this picture

Piero took a frame that he divided in three horizontal parts. The number three stands as the first number in the Fibonacci series, and also had importance for Piero as being the number of the Trinity in his Roman Catholic religion, that is the three aspects of God as Father, Son and Spirit. The top part he turned into half a circle. The median line of that circle passes through the symbol of the Holy Spirit, the dove. The other horizontal line, the one that divides the lower, rectangular part of the panel in two halves, passes through Jesus's navel. The rectangular part of the panel thus covers 2/3 and that is the first proportion of the Fibonacci numbers too.

The outside, global measures of the panel are a Fibonacci proportion, so that the panel is a golden rectangular. The panel is divided in two vertical parts. The vertical median line passes exactly in the middle of Jesus, through the middle of his folded hands, and also through the middle of the dove representing the Holy Spirit.
The tree on the left stands around a middle line, and this line is at a 3/5 distance of the middle vertical of the panel.
On the right too, a vertical can be thought to pass almost through the middle of John the Baptist. This line is more the middle of the Baptist's right leg, and this line then again lies at a 3/5 distance from the right border of the panel.

Lengths and heights also follow Fibonacci number proportions. The height of the white angel that stands in the middle of the three in the left group is about 3/5 of the height of the rectangular part of the panel (which itself is 2/3 of the total height). There are three angels here, not four and not two; remember the Trinity. Jesus's body bears the same proportions, but not when his head is counted into the number.

Jesus holds his arms together in prayer. One can draw a triangle from the middle of the Holy Spirit symbol along Jesus's elbows down to the lower border. In that triangle again one finds Fibonacci proportions.
Two further triangles can be drawn. One starts at the feet of Jesus and goes upwards to the two corners of the rectangular of the panel. The same triangle, but the inverse triangle, starts from the middle of the cup above Jesus's head, and goes down to the two lower corners of the panels. These two triangles intersect at a horizontal passing through Jesus's navel again.

All these lines are too many to have accumulated by chance. Piero must indeed have drawn lines first and build his composition upon them. He used the Golden Mean in many places.
Piero della Francesca was a mathematician, and he abandoned painting later on to write a treatise on perspectives. He based his lines on numbers, in the spirit of the late Middle Ages as it was obsessed with a search for absolute, perhaps holy numbers.

Look at Piero della Francesca's structure of the 'Baptism of Christ' in the following plate (plate 67):

Plate 67
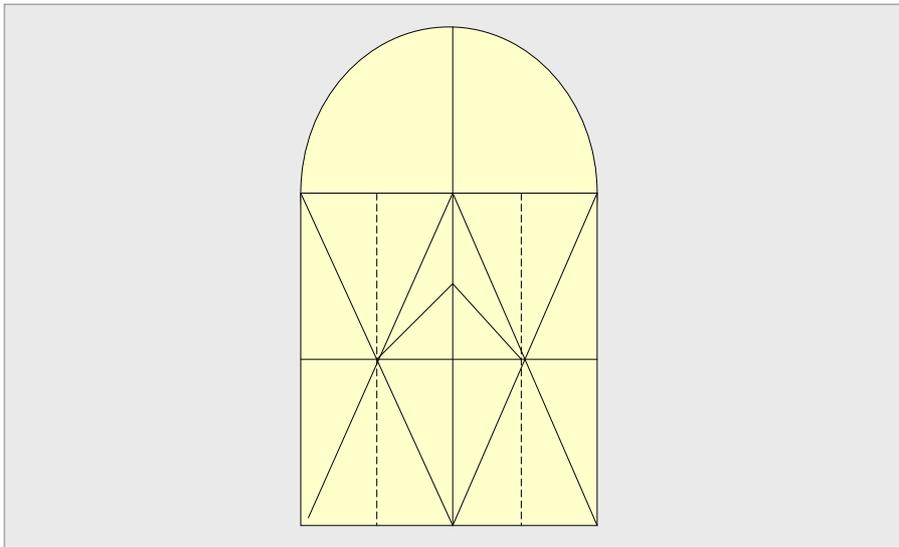
Piero della Francesca may have used the proportions 1/3, 2/3 and 3/5 also simply because they make sense aesthetically.

For instance, when one paints a group of people and lets an open space next to them, then dividing the space horizontally in 2/3 gives two proportions for the group and one next to the group. This is a bit too heavy, so a 3/5 is almost right, and a painter may well come to this 60% instead of 66% or 75% in a quite natural "eye's" way.

It is always difficult to tell whether indeed exact numbers have been used or not by painters or whether they arrived at a certain distribution of forms by intuition and then came to proportions that are close to the Fibonacci numbers. Even in Piero's painting we can be sure of certain lines and proportions, but others may have come to us purely by the artistic feeling of the painter.

➔ Piero della Francesca (1410/1420 – 1492). The Baptism of Christ. The National Gallery – London. Ca. 1460.

Another of Piero's paintings, the "Flagellation of Christ" is also an obvious example of scenes ordered according to Golden Mean divisions.

The picture consists of two scenes. The scene on the right may represent Italian noblemen and merchants arguing on their business and thereby turning their backs, ignoring the scene on the left side. Here, soldiers flagellate Christ at a column. Seated in front of Christ is not Pilate however, but most probably the last Byzantine Emperor Constantine Paleologus, who is forced to assist to a scene of torture of Christ staged by the Turkish sultan Mohammed II who conquered Christian Constantinople in 1453. Piero della Francesca had seen the previous Byzantine Emperor participating in the Papal Council of Florence. That Emperor had asked help from the Italian city-states against the Ottoman pressing army. The Council discussed the main issue between the Catholic and Orthodox churches, the "Filioque" term, which defined in the Nicene Creed the nature of the Trinity.

The lengths of the two scenes of the painting are in the proportion of the Golden Mean. The left scene then contains again two parts, horizontally and vertically. In the left scene stands the column against which Christ is being flagellated, and this column divides the left scene in two sub-scenes, the lengths of which are in the Golden Mean. The left scene is horizontally divided in two parts. One part contains the scene with the figures, the other the ceiling. Furthermore, the left scene of the painting holds three figures and the right scene holds five figures, which are Fibonacci numbers.

➔ Piero della Francesca (1410/1420 – 1492). The Flagellation of Christ. Galleria Nazionale delle Marche – Urbino. After 1459.

The next plate 68 shows the Structure of Piero della Francesca's "Flagellation of Christ".

Plate 68
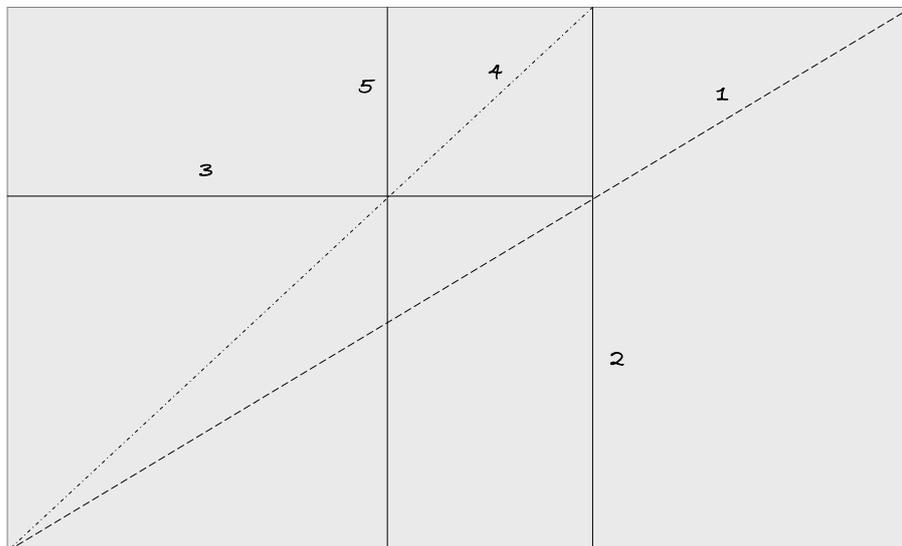
The Golden Mean continued to fascinate also modern artists. An artist of the Italian "Arte Povera" movement of the twentieth century, Mario Merz, was so fascinated by the quasi mystic qualities of the Fibonacci numbers, that he made them to be the major subject of a series of sculptures and paintings.
In his work 'Dusk in a little Cup', Merz joined to his canvas electric gas tubes that emit a blue light to represent the Fibonacci numbers, and more numbers are painted on the image of the cup.

➔ Mario Merz (1925 -). Dusk in the little Cup. Museo Nacional Centro de Arte Reina Sofia. Madrid. 1979.

The Golden section remained in the memories of painters, and appeared in unexpected subjects.

Johannes Itten (1888-1967) wrote about the spatial effect of colours. He noted that some colours by their hue quality seem to be closer to viewers than others. Yellow for instance was a colour that seemed close to viewers, blue kept a distant to the viewer. Itten stated that the six fundamental hues on a black ground conformed to the Golden Section in their gradation of depth. [G95.] He argued that when the colour orange is interposed between the interval of depth between yellow and red, the intervals between yellow and orange related to the interval between orange to red as the minor to the major part of the Golden Section. The same proportions were valid for yellow to red-orange and from red-orange to blue and also from yellow to red and red to violet, from yellow to green and green to blue, and so on.

Painters used the Golden Mean to split their scenes in sub-scenes, as we saw with Piero della Francesca. The Golden Number has also been used in positioning a particular attention item in a painting. Where would a painter place a human figure, a tree, a prominent building in a landscape? Placing such an important element of vision straight in the middle, would be too dull. Somewhat to the left, or somewhat to the right of the central point, seemed indicated. But how much from the centre should a painter position a prominent feature? The Golden Section provided a good answer, and moreover one that had received a connotation of mystery. The Golden section distances have thus often been used by painters to create a pleasing and relaxed impression on important elements of their pictures.

The point that lies at the crossing of the Golden Section applied on the two borders of a rectangular frame, is called the Golden Point of the frame. In fact, there are four such points, depending on the combinations of how the golden section is applied on each border line. Often a viewer will find in one of these points a prominent pictorial element of the painting, such as a human figure, a plant, a building, a vanishing point of perspective.

The proportions such as 3/2, 5/3, and 8/5 are easy to use by painters in their frame. These approximate the Golden Mean. By using these easier sections in a frame one obtains a cloud of points around the true Golden Points. So, painters could as well just stand before a rectangular canvas, point with their brush to a place some distance away from the centre, and start to design their main viewing element at such a point. In this way, they used their intuition to create something pleasing. Later only, it was found that the Golden Section and the Golden Mean corresponded to such positions. And when painters learnt about the Divine Proportion, of course, they started to use the proportion for good and on purpose.
So, the Golden Section is merely a geometrical construction and the Divine Proportion a mathematical number that coincides with a pleasing effect. Or is there more, and really something mysterious to the number?

The Golden Mean in Nature

The psychologist Rudolf Arnheim noted, "Traditionally and psychologically, this proportion of 1:0.618 has been considered particularly satisfying because of its combination of unity and dynamic variety. Whole and parts are nicely adjusted in strength so that the whole prevails without being threatened by a split, but at the same time the parts retain some self-sufficiency." [G96.]

If we would only find the divine proportion in human-devised geometric structures of pictorial composition or in architectures, the concept of the Golden Mean would ever stay artificial, and merely be a product of our mathematical minds. The proportions of the Golden Mean have however also been found in nature, wherever people searched for harmonious proportions. The proportion was found in the progressions of the measures of the spiral houses of sea molluscs, in patterns of flowers, in proportions of lengths of limbs of animals.

And of course, the Golden Number was found in proportions of features of the human body.

Painters and philosophers wondered since long when a body would be attractive or less so, or when a human face could be called attractive. It seems that the Golden Mean provides part of the answer.
A human body is attractive when it is symmetric, and when the proportions of its lengths and widths obey in its several measures the Golden Mean.
A fine body has legs that are 1.618 times longer than its rump. The figure of a woman whose proportion of bust and waist approaches 1.618 is considered fine.
Furthermore, a face is fine when Golden Mean proportions rule its traits. Girls have fine faces for instance, when the proportion of the length of their mouth to the width of their nose is about 1.618. Various other Golden Mean proportions can be defined on the human face. And also in other features of attractive faces these proportions can be measured regularly. No wonder that Renaissance artists devised the ideal man based on Golden Mean proportions.
Whether this is fact or all fiction is a difficult question, but the coincidence is often and repeatedly striking. A fine face of course has to be the face of a healthy youth, and probably also has to remind us of very young children that are so appealing to our help. But it really seems that attractiveness could be explained in terms of symmetry, balance and 1.618.

The Golden Mean is a mysterious proportion. It was defined and described by a Middle Age mathematician, but it appeals to humans in strange, and as yet unexplained ways. And it may hold, partially at least, the clue of why humans find some of their own faces and bodies beautiful.

Mannerism

Mannerism was a development of the late Renaissance period in Italy. It was a reaction on the perfect harmony, order and design of the fifteenth and early sixteenth century. Mannerism was an important style of painting of sixteenth century Italy, but not the only one in that period. It co-existed with other styles. Mannerism may have been an evolution of Michelangelo's painting, but it was taken further mainly by painters like Jacopo Pontormo and Rosso Fiorentino. Mannerism is derived from the Italian word "maniera", which means harmony, balance and grace.

Lines and directions were still mostly vertical in the beginning. This technique gave rapidly way for interlaced curves, mainly of naked bodies. Curved lines were used in exaggerated but graceful, dramatic gestures.

Mannerism used very complex and capricious compositions, sometimes in extravagant and exaggerated show of emotions. Mannerism showed great virtuosity in imagination and in compositions. It invented dramatic foreshortening, or at least took foreshortening to its furthest application in deformed poises of figures. Compositions seemed to want to burst out of the frame in a chaos of intertwined figures and detail. Mannerism used mainly round and curved forms. The style made also frequent use of classical architectural constructions in the scenes.

Mannerism was characterised by clear, contrasting, showy colours. Colours were often skewed, surprising, harsh and conflicting. Many secondary hues were now introduced, whereas earlier art styles had preferred the chromatic hues.

Painters used mainly scenes from classic antiquity. Other themes were still devotional, but also non-devotional subjects were used. Much portraiture was made in this period. Mannerism introduced dramatic movement, and large narrative scenes. The style emphasised the nude in complex compositions of figures.

The Mannerist style underscored less landscape as background and showed mainly pictures of persons, and especially the nude in the foreground. Chiaroscuro was lavishly and dramatically applied on the forms.

We consider as Mannerist painters Michelangelo Buonarroti, Jacopo Pontormo, Rosso Fiorentino, Agnolo Bronzino, El Greco, Giulio Romano, Parmigianino, and Jacopo Tintoretto among others.

Mannerism evolved from the Late Renaissance through the change in style of Michelangelo and Jacopo Pontormo. Michelangelo painted and sculpted the nude so strongly, that this personal style was called his own "terribilità". Pontormo stylised his figures entirely to his own concepts and spiritual ideas so that figures were elongated, slender and gracious. His imagination was vigorous and strange. Subsequent artists took these two very different styles to their extremes, and in this, Michelangelo's style was more imitated than Pontormo's.
Painters like Rosso Fiorentino and Giulio Romano took up Michelangelo's most frantic energy for new views, and developed them into deformed poises of figures with dramatic foreshortening. Parmigianino evolved Pontormo's style.

Mannerism was a revolution in form and composition mainly.

Pietà

Giovanni Battista di Jacopo called Rosso Fiorentino (1494-1540). Musée du Louvre.
Paris. Painted around 1530-1535.

Rosso Fiorentino's painting offers a picture apparently all in the same reddish tones.
We see interlaced figures and unrestrained flows of lines and forms. There is no well-
organised balanced composition at first glance. All is emotion and blatant expression
of movement and drama. Compared with the Botticelli Madonna, which is a strict
intellectually designed and well-ordered scene, Rosso Fiorentino's Pietà seems a
picture in which all emotions have been let loose.

Design of composition in the Pietà was apparently less important for this artist.
Dominance was given to the colours. Rosso painted in similar colours, so that we
would like to refer to harmony of analogues as Chevreul named the juxtaposition of
all scales of one colour. But when we look with more attention, we discover that
Rosso used a very varied palette of orange, red and magenta colours with a few green
and blue patches to brighten the picture and the mood. Rosso painted green and blue
ribbons on the figure of the right, then also a blue robe on Mary Magdalene in the
lower left and a blue-green robe on the figure of the upper left, which could be Mary
Salome. So these three blue-green areas form a triangle around Christ.
The other colours are almost of the same brightness, and even the body of Christ and
the back of the figure on the right are not in the yellow or broken white flesh colours
we would normally expect. The colours are very faint bluish, magenta hues induced
by the surrounding orange and red colours.
There are no contrasts of pure colours as with the earlier Renaissance painters in this
picture. Rosso used less easily recognisable hues, composed of secondary colours.
The colours are more complex than the primary colours preferred so far in Florence.
Rosso's colours are surprising, and deliberately sought of course to be different from
the colours of Van Eyck or Botticelli.

The largest difference with paintings of previous styles, is in the display of emotions.
The Virgin Mary spreads her arms in sheer pathos. Her open arms remember of the
cross far more than the corpse of Christ.
When in paintings of earlier periods solemn dignity was shown, here the figures
display their emotions overtly, and with great drama. This was a major deviation from
the Renaissance style, and a forebode of Baroque art.
There is not one common poise in the picture. All the figures are painted in a different
and often unnatural manner. The head of Christ has fallen backwards and lacks
dignity; his corpse is so white as to lose credibility. This is so different an image
compared to what we had been used to in older Pietà scenes! The youth on the right
kneels; the Magdalene is seated; Mary Salome stands out and supports the mother of
Christ; the Virgin Mary falls backwards into the arms of Mary Salome, fainting and

mourning in despair. Christ lies in this mass of red and profusion of other colours. Mary's blue maphorion is a dull magenta and Christ's deformed, tortured face takes the same colours, tinted also with orange in places, as the other colours of the cloaks around him.

All the figures are intertwined in one movement, interlaced in arms and emotions. Nevertheless, Rosso Fiorentino has not yet done away with all structure in his painting. Mary Magdalene is seated in the lower left corner, and from there our gaze follows the body of Christ, to the upper right corner.
Rosso used the left diagonal to place his main theme in, which is the dead Christ. Along this direction Rosso placed the brighter colours. Along an oblique line, vaguely the right diagonal, are the youth on the right, as well as the heads of Christ, Mary and Salome. That oblique direction lies higher than the right diagonal, higher up, like the horizontal beam of Christ's cross. And that indeed is the second form of the cross in Rosso's picture. We can thus discern in the position of the figures two intertwined structures of crosses. These two forms are the underlying composition of the scene. No Florentine Renaissance painter would have used oblique and intertwined directions as the structure of his work. Rosso, however, used the oblique lines a long time before Caravaggio re-discovered these directions and applied them in the representation of movement. Rosso intuitively came close to sense the force of these directions to create a new representation.

All concentration of our view is on the figures, even much more so than with Sandro Botticelli. There is no landscape at all with Rosso. The scene of the Pietà is even set inside a cave, and Rosso painted the outline of the rocks on the top of the frame. Therefore, Christ's face can fall into the shadows, as was his death, taking on the strange, fierce colours we never saw before.
Giorgio Vasari wrote that Rosso always gave certain faces an air of cruelty and despair and subsequently softened them, as they should be. Rosso probably did this also with the face of Christ, and even of the Madonna.

Rosso Fiorentino made many vigorous pictures like this Pietà, with a powerful imagination, unequalled in strong expression, mannered in his search for strange innovation, very individual and innovating in style. More than in any style before him, Rosso brought passion and emotions, often violent and wild emotions, to the viewer. Gone was in some of his pictures the respectful devotion for heavenly beauty of the devote viewer. Rosso would show violence and wildness and ugliness in distorted bodies.

That was one of the innovations of the style we now call Mannerism. Mannerism was led into two directions.
One direction was the direct inheritance of Michelangelo, of his terribilità centred on the nude figure. Among his followers were Rosso Fiorentino and Giulio Romano. Jacopo Pontormo took another direction. Pontormo also sometimes used new secondary colours, but overall continued to give predominance to line over colour. Pontormo stylised his figures somewhat, as we have seen during the Gothic era, to elongated forms again. Pontormo also continued to put more distance between his figures and the viewer, and less obvious show of emotions.

Giorgio Vasari wrote that Rosso could design wonderfully. But his style was altogether too new for the Florentines, too radically different to their tastes. Rosso's scenes were too far away from Pietro Perugino's and Botticelli's elevated and perfectly balanced, intellectually controlled images. The show of emotions, so blatantly drawn was not considered good manners by the Florentines. When Rosso painted his saints moreover with ugly faces, the Florentines did not forgive him and refused his painting.

Vasari praised much Rosso, but the artist left Florence for Rome, hoping to find more understanding and sympathy there. Matters progressed even more badly for Rosso in Rome. He painted worse in Rome than in Florence, and he got caught in the famous sack of Rome!
The mercenary, mostly German army of Emperor Charles V attacked Rome on its own account. The Pope had to flee for his life into the Castel Sant' Angelo, for the mainly Lutheran, mercenary troops had no mercy for the Catholics and sacked the town. Rosso was made a prisoner, stripped of his clothes and forced to work for the mercenaries.
Rosso escaped and fled to Perugia, then to Borgo San Sepolchro, to Arezzo and to Borgo again. He was a Florentine, so called now Fiorentino, Rosso the Florentine. He caused uproar in Borgo by fighting a priest during mass, and although he was in his right – says Vasari – swords were drawn against him. So Rosso left for Venice by night and was entertained there by that other passionate man, the writer Pietro Aretino.
Rosso travelled on, this time to France. He went to the court of King Francis I. Francis liked Italian artists, and set Rosso to work on the decorations of his new palace at Fontainebleau. Rosso also made designs for vessels, for masquerades and triumphs of the castle. The King came to like Rosso, and the painter received many commissions for several pictures in the halls of Fontainebleau. These are some of the most enigmatic pictures in the world, containing many symbols and pictorial puzzles. Rosso could live in a lifestyle no longer of a painter but of a prince, said Vasari. He kept many servants and he had horses and a fine house. Then, tragedy struck.
Rosso accused one of his friends, Francesco di Pellegrino, of having stolen from him a sum of hundreds of ducats. Pellegrino proved his innocence in court of justice, and, according to Vasari, Rosso understood that he had falsely accused a close friend. He could not retract because that would mean losing his own honour, which would proclaim him a disloyal and evil man. Rosso saw no solution to the issue. He decided to kill himself. He drank a phial of poison. Rosso Fiorentino died in 1540.

Rosso painted his Pietà in Fontainebleau around 1535-1540, in the last years before his death. His painting shows the difference with the style of the Renaissance. His painting is very much in tension, much in a state of conflict, strained and strong in violent emotion. Painting and art along this style could not be sustained. This art was too strong, and not really agreeable to most viewers. It was an art of softer emotions, but an art that would further build on the blatant show of emotions of the Mannerists, that would emerge to dominate: Baroque art.

Lesson Six - Movement

Zeuxis and Arte are sitting together near the house. The sun is wonderful, and both take delight in the warmth. Arte eats an apple, and Zeuxis looks at Parr. The dog runs after a stray cat, and then jumps over a bush. There are birds everywhere. They merrily chirp and fly. A few birds are close by in the garden; other are high in the sky and hover there. A slight wind stirs the leaves of trees and plants.

Arte, while chewing: I read your letter and your article on the Golden Mean, Zeuxis. They were interesting. Piero della Francesca was after immutable laws of perception, wasn't he?

Zeuxis: Yes, Arte. We have seen enough, though, of structure and fixed compositions. I would like again to talk a little about illusion, and when I look at all those birds, I think of movement. I'll teach you how to create movement in a picture.

Arte: Now you are talking nonsense, Zeuxis. A painting is a fixed object, it doesn't move. Nor can pictures on frames.

Zeuxis: I pronounced the word illusion, Arte. Showing volume, depth and space in a painting is an illusion, since the canvas is only two-dimensional. But after all, volume, depth and space remain properties of static. One can look and continue to look at a wide and deep landscape, just as one can look at a picture of it. Reality and image do not change.
It is more difficult and much more illusionary to create a sense of movement, of action in pictures. The canvas does not move, and a scene cannot move. It seems impossible to show the swiftness of a moving object in addition to the illusion of volume and depth in a painting. Yet, painters are masters of illusion. They also discovered several techniques to depict movement.

Arte: How then did they do that?

Zeuxis: A first technique is the use of oblique lines. We already talked about the illusion of movement in paintings when we discussed unsupported slanting lines. Slanting lines are a departure from equilibrium, and thus give an impression of movement in pictures. When representing dancing or running figures, these figures are usually painted in positions away from the natural equilibrium, and the oblique positions indicate action.
Among the first painters to remark the power of oblique lines for creating movement were Jacopo Robusti, the Tintoretto, as well as Pieter Bruegel. Michelangelo Merisi, called Caravaggio, brought the technique to perfection, and he used it suddenly in very obvious ways. Later painters, like Nicolas Poussin, then analysed and formalised the technique.

Zeuxis projects a painting of Nicolas Poussin.

➔ Nicolas Poussin (1594-1665). The Adoration of the Golden Calf. The National Gallery. London.

Zeuxis: A good example of using unsupported slanting lines is in Nicolas Poussin's "Adoration of the Golden Calf". Various dancers are seen in the foreground, around the statue of the Golden Calf. In order to give an impression of wild elation, Poussin painted the dancers in oblique directions. Other painters have used this technique to represent dancers.
The movements of the dancers seem exaggerated. The dancer in the foreground is completely out of any gravity's balance, and also in real dancing would immediately fall to the ground. Poussin needed to depict the perception of wild dancing, so more than any position of mid-dance, the potentiality of the dance had to be shown.
We find this technique in many other paintings. More than the evident stages of movement, the potentiality, the symbol of movement is shown, and this then evokes in the viewer even more a sense of the movement than any realistic, "right" position could have done.
Nicolas Poussin used other techniques to indicate the dancing as movement. I will explain these later.

Zeuxis: A second technique consists in grasping one moment of the movement, and by the image created in that moment to suggest the movement.
In Rubens' "Descent from the Cross", several figures are caught in the act of lowering the body of Jesus down from the cross. These figures are shown in a frozen moment of time, and by this alone the viewer also obtains a suggestion of movement.
One of the main techniques for showing movement is thus to paint figures, animals or moving objects in one moment, in the middle of the very act of moving. This moment is of course always a moment of lack of equilibrium. The effect can be enhanced by showing the figure in mid-air, such as showing a leaping tiger in the middle of its jump, while it touches neither rock nor ground but flies in the air.
Flying in the air is the very epitome of movement, so since very early times painters have shown birds flying in the air to give a sense of movement to viewers. You will often find birds in medieval paintings such as the pictures by the Van Eyck brothers. The birds and the leaping tiger must remain static on the canvas, but the mind of the viewer adds the impression of motion to the scene.

Zeuxis shows a picture of prancing horses on his magic screen.

➔ Eugène Delacroix (1798-1863). Arabian Horses fighting in a Stable. Le Musée d'Orsay. Paris. 1860.

Zeuxis: A picture in which this effect is brought to its fullest form is for instance the "Arabian Horses fighting in a Stable" of Eugène Delacroix.
Delacroix once accompanied French ambassadors on a mission in Morocco, and he saw a scene there of fighting horses. He painted such a scene. In his picture we see two horses fighting, two servants thrown down on the ground but still trying to stop the horses with up heaved arms, and another servant running from the right corner of the canvas, almost leaping out of the room into the scene. The canvas remains static of course, but Delacroix catches all the figures and the two horses in full action. Remark how the artist used slanting lines, as well in the horses as in the running figures. The Moroccan servant on the right leaps towards the scene and he also is painted in a slanting way. Moreover Delacroix used hard brushstrokes, and contrasting colours to enhance the effect of conflict.

Arte: This way of depicting movement can be called 'movement caught in the act'.

Zeuxis: Very rightly so. Movement can also be indicated in a very simple way, and elementary way, by using abstract or natural forms. That would be a third way to create a feeling of movement in pictures. Painters can set various shapes along each other in a certain direction, and maybe elongate them gradually in that direction, suggests a movement in that direction. Let me show you.

Zeuxis draws plate 69.

Plate 69
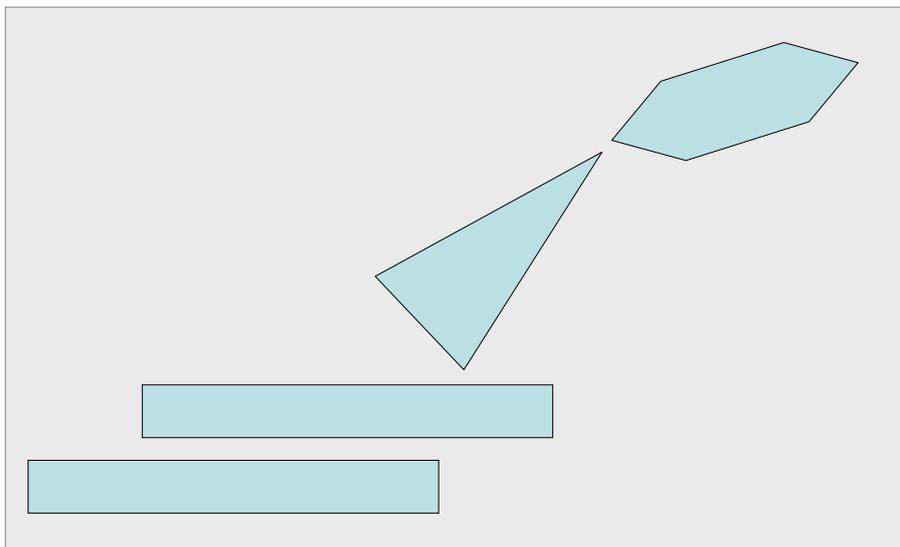
Zeuxis: Movement is repetition. In the first days of photography, experimenters invented rapid photography, so that movements could be analysed by taking a series of pictures in rapid succession. Such a procedure can also be used in painting. One specific technique of suggesting movement is thus to repeat many times the same image of an object or figure and to show this repetition on the canvas. The painter can even superimpose the images but draw their contours just a little next to each other. And he can gradually change the images, usually of figures, as deformed by the movement.
The modern painters of the beginning of the twentieth century that were in quest of pictorial innovation exploited this process, to show the speed of modern mechanics. But the technique is much older. The painting of the "Blind leading the Blind" of Pieter Bruegel is a marvellous example of the effect.

Zeuxis shows on his magic screen a funny picture of blind men falling in a hole. Arte starts to smile suddenly.

➔ The Parable of the Blind. Pieter Bruegel the Elder (ca. 1527/1528 – 1569). Museo e Gallerie Nazionali di Capodimonte – Naples. 1568.

Zeuxis: That is a nice picture, isn't it! Pieter Bruegel painted falling blind men. Several blind are following each other. The first blind man stumbles and falls into a hole in the ground. He falls thoroughly, but the following men all are seen in some other and subsequent moment of the same act of falling, each one falling somewhat less. The last man is aware of nothing, and he continues to walk, but the man before him senses already that something is amiss since the one before him just pulls him a bit more forward and down. The various stages of the fall are thus suggested in this remarkable picture of Pieter Bruegel. Also in other paintings Bruegel showed such moments of action. In this "Parable of the Blind" we find however an obvious exercise in style.

Remark how Pieter Bruegel the Elder favoured the right side of the painting. It is towards this side that the movement of the falling blind men is directed. This direction is most agreeable to viewers, as we remarked earlier. It is also the direction shown in our previous figure. Painters preferably sent movement this way. The two horses fighting in Delacroix' picture also prance to the right, and many other examples of the right side as the direction of honour in painting can be found.

Arte: I liked that Pieter Bruegel painting, Zeuxis. It was funny. Those silly men! Who would think of a blind leading blind?

Zeuxis: Yes. That is humour. Have you ever remarked that humour is a very dynamic process? Humour always involves a sudden, unexpected element, a surprise. When the surprise disappears, and that is usually very quickly, in an instant of time, humour disappears.

Humour has been particularly difficult to show in paintings, just because of this quality. A picture and a painting is a very static, unchanging object by its very nature. Surprise is almost impossible to obtain with a static picture, and even if a picture could create an element of surprise in a viewer who passes by, that effect would disappear rapidly, leaving a picture in which the humour would quickly be absent again. That is a fundamental characteristic of all humour. As all clowns know well, an act of humour loses its effect when it is repeated over and over again. Since a painting is a constant picture, if it were truly humorous the humorous effect would be seen repeatedly, and obviously lose its quality of humour instantly.

It is not astonishing therefore that a painting may be nice, sweet, joyful, light-hearted, naughty, funny, gimmicky, but a painting always remains quite serious. Nobody has ever been hilarious before a picture, or suddenly seen bursting into open laughter. At most, a delicate smile can be induced in the viewer. Museums of paintings always have a very serious atmosphere. That is more so, because most museums show pictures made by artists long dead, so that an atmosphere of nostalgia, respect and sadness lingers. And once a picture is finished, something always dies in the artist. The painter Ad Reinhardt once said, "A museum is a treasure house and tomb, not a counting-house or amusement-centre." [G86.] A visitor must seek other emotions than glorious, overt laughter in museums. This in itself may be a sad remark, but it is a true one. Even Pop Art, which seems often outrageous and funny, ultimately remains serious, because it lacks the dynamism of humour.

Humour is therefore an effect that has been very difficult if not impossible to create in paintings. The moving pictures obtain humour far more easy. Painters have learned how to produce illusions of volume, depth and even of movement, but real humour has remained quite elusive. Painters came only close to humour by being funny, witty and in producing a smile of surprise.

Arte: Do not continue like that, Zeuxis! I want to be witty, and if I ever fall in love it will only be with a man that can make me laugh. I guess now that you told me this about paintings, that my fiancé will not be a painter. If I understood you well painters are not funny.

Zeuxis, mockingly: Oh Zeus, what have I done now to painters? Well, you'll find that out later, Arte. Let's continue with our lesson.

Zeuxis: The technique of repetition can be coupled to another way of representing movement, which is by its effect on the environment. That would be our fourth way of representing movement.
An aeroplane pierces the air, and leaves behind it turbulence in the air, which can be seen. Painters can use this effect of air that is broken, or of ripples of water behind an object that moves. The effect of a moving object that passes through a gas or fluid is of course a technique of content, and less of lines or forms. But the illusion of the displacement of air or water can be obtained by repeating forms or patterns.

Zeuxis shows Luigi Russolo's car.

➜ Luigi Russolo (1885 – 1947). Dynamism of an Automobile. Musée National d'Art Moderne. Centre Pompidou. Paris. 1911.

Zeuxis: An example of this kind of arrangement of shapes can be seen in Luigi Russolo's "Dynamism of an Automobile", in which the automobile breaks through the air. By arranging several triangular forms one above the other, Russolo induces an impression of the car that pierces air and creates shockwaves behind it. Remark also the strong sense of direction generated by this process.
Russolo was a member of an Italian school of artists who particularly gave attention to the dynamic effects of modern technology. This school was called the "Futurists". Filippo Tommaso Marinetti (1876-1944) wrote on this in 1909 in "The Manifesto of Futurism", "we affirm that the world's magnificence has been enriched by a new beauty: the beauty of speed. A racing car whose hood is adorned with great pipes, like serpents of explosive breath – a roaring car that seems to ride on grapeshot is more beautiful than the "Victory of Samothrace"". [G86]

Arte: I see this car whamming through the air when I move my head rapidly from right to left, like this. Whoaam!

Zeuxis: Easy, easy, girl. I see movement inspires you! But stay calm, now. You youngsters seem to be obsessed with speed ever since Luigi.
Movement in a picture needs to be seen indeed in a rapid movement of the eyes. Then you will perceive immediate action, perceive the moment of change.
Movement in paintings is expressed action, and is usually shown by the crossing of oblique lines in composition or by the attitudes of the figures. We know from real life that an outstretched arm, a grasping of an object, a prancing horse, are all attitudes that cannot be sustained for long in figures. They are brusque movements. Painters will show just these, and therefore their pictures will have a striking immediacy in the display of emotions. But a painting is also a static picture. When movement is too much emphasised and does not have at least some static quality, then the viewer will

soon sense that something is missing or wrong in the picture. Movement is direct and very visible, but the viewer knows that such a movement cannot be continued. When he or she continues anyhow to look at the painting, the sense of movement becomes so strong that after a while it will be perceived as being unnatural.

Only very great painters know how to present movement in their pictures, and still give that representation a static character that makes the painting acceptable, realistic, balanced also in motion, even when the viewer looks at it for longer periods.

Nicolas Poussin for instance painted dancing figures, and one dancing figure would soon become artificial for a viewer; but a round of several dancers is a stable form, a form that can continue to exist for long. Great painters will seek for such stability in aggregation of movement or for the static element in action. Luigi Russolo's painting of a driving automobile is also acceptable as a static picture. The impression of cleaving the air is one that our mind forms, but the viewer can continue to look at the object, as it is stable also in the way it is shown in the picture.

Arte: Can we stop here, Zeuxis? It gets late.

Zeuxis: Sure, Arte. Movement tires, doesn't it?

Zeuxis takes a last long look at the birds. He sighs and disappears.

Baroque Art

The Italian word "baroco" means bizarre or ridiculous. The name "Baroque" may also come from the Portuguese word for an irregular pearl.
Baroque art started in the beginning of the seventeenth century, primarily in Rome. It was concerned with the response of the spectators to images, and like the counter-reformation, its objective was to attract people, to gain support for its concepts and ideas.

In Baroque art we can discern between several schools and types of painting, which although belonging to the Baroque mainstream distinguish themselves by particular themes. Hereafter we provide some information on a few of these trends and schools.

Tenebrism
Tenebrism was a movement of the Baroque started by the Italian painter Caravaggio. The Caravaggist painters emphasised contrasts between light and dark. They painted backgrounds in dark tones and brought figures dramatically to the forefront, out of the sombre tones in full light. Typical pictures were scenes lit by a single candle that threw its light on a group of people. Tenebrism characterised especially Caravaggio and Rembrandt, but also Spanish painting of the seventeenth century. Spanish devotional pictures were made in very low tones, dark in colour and content.

Genre painting
"Genre" denotes paintings of daily life. As such it denotes content, not an art historical period. This art contains no idealised or religious themes. The style was however created in the Netherlands in the seventeenth century, and it is as such very characteristic of the Baroque period. Genre painting was applied also in the eighteenth century in other countries, such as France (Jean Siméon Chardin), Italy (Pietro Longhi) and Great-Britain (William Hogarth). Dutch genre not only represents themes of the life inside the houses of common people, but also often scenes of taverns and brothels. The scenes often convey a moral message.

Dutch Italianates
The Dutch Italianates were a group of painters of the seventeenth century in the Netherlands. The painters incorporated Italian subjects in their work. Those were often typical arcadian scenes, such as taken from Claude Le Lorrain's pictures, and shepherds grazing their flocks among ancient ruins. These artists made pictures that much differed in themes from their contemporaries in the Netherlands. Some of them were also Caravaggists. Painters of this group were Bartholomeus Breenbergh, Andreas Both and Jan Both (both of Utrecht), Cornelis Poelenburgh, Pieter van Laer, Karel Duyndam, Nicolaes Berchem and Jan Asselijn (both of Haarlem).

Bamboccio
Bamboccio was a style of Baroque painting that was created in Rome in the first quarter of the seventeenth century by the Dutch painter Pieter van Laer. In Bamboccio, picturesque scenes of many figures are shown, usually of daily Italian country life, with humble and poor peasants, and sometimes gypsy themes or themes of thefts and attacks on country roads.

During the Baroque period, discovery was made of the usage of slanting lines for movement. Vertical lines were abandoned as preponderant directions of aspiration. Horizontal and diagonal lines were preferred.

Baroque was characterised by curved forms, much decoration, evasive symbolism, pathos, confusion of figures, and energy of movement in dynamic scenes. The left and right basic triangles of composition were often used, as the diagonals were followed as supportive lines around which the drama of the scenes evolved. The stage composition was much used in narrative pictures. Some painters also arranged their scenes in compositions of horizontal layers (such as for instance Paolo Veronese).

Strong hues were used in Baroque, often in broad brushstrokes. This freedom in applying paint, sometimes in thick layers, was a new expression of the emotions of the painters themselves. Baroque is characterised by a preponderance of warm red and ochre colours, in quite low tones. Usually however, strong vitality of colours was used to underscore the passion and drama.

Baroque art was mostly the religious art of the Counter-Reformation of Roman Catholicism. In Italy and Belgium, Baroque was about Contra-reformation, so still many devotional pictures were made. Also mythological scenes were popular. Not all art of this period was so luxurious or sumptuous. Caravaggio's contrasts of dark and light in naturalistic, but still stern scenes, are also counted to the Baroque period. In the Netherlands and Germany more restrained subjects were painted, many Old Testament themes were taken up. Typical characteristics of Baroque art are the strong appeal on the emotions of the viewer, also in the devotional themes.

Baroque applied great illusion of depth, sometimes in very mannered stage compositions. Aerial perspective was much used. There was less emphasis on wide and deep landscapes with linear perspective.

Painters of the Baroque period were Caravaggio, Pieter Paul Rubens, Anthony van Dyck, Aelbert Cuyp, Orazio Gentileschi, Rembrandt Harmensz van Rijn, Guido Reni, Sanchez-Cotan, Diego Velazquez, and Francisco Zurbaran.

Mainly two features mark Baroque art, as compared to the Late Renaissance. One was unbridled show of emotions in a dramatic, theatrical way. However, Mannerism had already much evolved in this, so that Baroque art is for this aspect only an evolution of Mannerism, and one that was less ruled by tension, more natural and not so violent. Baroque art introduced a freedom in brushstrokes that was unknown to Mannerism however, and the pathos that was still more visible.
Mannerism stayed to a large extent a contemplative art, and an art of idealised scenes. Baroque would introduce naturalism.

The other novelty that was introduced was the use of the contrast between light and dark.
Caravaggio truly started a revolution also in two ways, which modified forever the art of painting. He introduced full realism in his pictures. Showing Jesus Christ as the portrait of a real person was new, and shocked by its naturalism. Caravaggio explored

like no one before him the play of light and darkness to a kind of painting called Tenebrism, but that aspect was not taken up as far by all Baroque painters. Caravaggio learned moreover how to use oblique lines to give an impression of movement, and that style element was fully acquired by subsequent artists.

These were the ingredients that Baroque art needed to be a spectacular new way of very showy representation of emotions. Baroque may have in this been a logical evolution merely of Mannerism, but Caravaggio accelerated the change. Then the change was exploited for at least a century. Thus Baroque art was a powerful, mature and enduring art form.

The Descent from the Cross

Pieter Paul Rubens (1577-1640). The Courtauld Institute and Art Galleries – London. Painted in 1611.

The inevitable pictures of Baroque and of the theme of the "Descent of the Cross" are the several versions Pieter Paul Rubens made of the subject.

Rubens was born in Siegen in Germany in 1577, but moved when he was very young to the metropolis of Antwerp. Antwerp was then probably the largest and richest port of Western and Northern Europe. Pieter Paul had various masters to teach him the art of painting in Antwerp, but he left in 1600 for Italy and stayed in Mantua, Rome, Genoa and even in Venice. Around 1608 he returned to Antwerp, and became the painter of the Archdukes Albert and Isabella who governed the Southern Netherlands and thus also Antwerp. After 1620 Rubens would start again on a series of travels to Italy, the Northern Netherlands, Spain and England. He travelled not just as one of the most renowned painters of his era but also as a diplomat.
Rubens' style was famous throughout the whole of Europe. He was a painter of Kings and Queens. Maria de Medici, then Queen of France, commissioned to him an enormous set of pictures on her and her husband's life, which paintings are still kept today in one vast hall of the Louvre in Paris. Rubens died in 1640.

His painting "The Descent of the Cross", made for the Antwerp Cathedral, dates from 1612 to 1614. The version in the Courtauld Institute of London is from a somewhat earlier date, from 1611. So, this was a first try at a subject to which he turned several times.

The picture strikes by its bold composition around one of the diagonals. Jesus is lowered from the cross, and his body hangs in a line going from the lower left to the upper right. Rubens had learned how to use diagonals probably from Caravaggio, who used these lines with preference. Rubens had been in Italy and in Rome just before Caravaggio's death, and had seen this master's innovations for instance in the use of oblique lines of composition. Rubens had a much less rigorous character though than Caravaggio in painting. Caravaggio was uncompromising and indomitable, and so were his pictures, especially his later ones. Rubens compromised with his

commissioners. But he condescended as a Seigneur. Of course he grew very rich. Rubens was all abundance, greatness, unrestrained pathos, grandness in design, and he always tried to browbeat any viewer by his stunning effects.
In some pictures, such as in the series he made for Maria de Medici, Rubens was unrestrained in his exaggeration. But Rubens could also, without leaving his personal Baroque way of painting, be strangely intimate and quiet. Thus, we have marvellous landscapes of him such as the "Winter" and "Summer" in the Wallace Collection in London. In the "Descent of the Cross", Rubens has applied his usual exuberance, but he created at the same time a devote and very expressive image of Jesus.

Jesus hangs lifeless in a white shroud. He is lowered in and by the shroud. The shroud follows in a long movement the diagonal of the painting. The body of Jesus hangs in the linen, almost as pale and livid as the cloth. His arms still hold the form of the cross. Rubens has Jesus's arms supported by a disciple who has climbed to the top of the cross. Thus in death, Jesus has retained the first form of the symbol of Christianity.
In the triangle to the right of the diagonal of Jesus are Saint John, Jesus's beloved disciple, and a figure that could be Joseph of Arimathea. John wears a red robe Rubens painted in marvellous colours and detail.
In the triangle on the left, the upper triangle, is Nicodemus. He may be recognised by his richer dress, but also by his large cloak and cap, for Nicodemus was the one who came secretly in the night to argue with Jesus on his teachings. Nicodemus also is dressed in red.

The red of Nicodemus' cloak answers the red surface of John symmetrically, and these two volumes are aligned along the second diagonal of the frame. Thus there is strong composition, strong lines and balance to be found in an otherwise seemingly chaotic scene. The scene is in intense movement. Lowering Jesus is a difficult task with so many figures around, probably with all people giving a hand but nobody in command, and all in awe over the body of the dead Son of God. A dynamic scene with strong underlying composition is always one of the main features of the greatest artists.

Mary Magdalene kneels at the foot of the cross, as was the tradition. She holds the lowest tip of the shroud and she is knelt, together with the other Mary, the mother of James and John. Jesus's mother in the blue maphorion is on the left and the Virgin Mary shows her grief and tenderness for her son by trying to touch her son, even though Jesus is not fully lowered yet. Hence her outstretched arm and long hand touching Jesus's elbow, in a dramatic demonstration of love, which remains however entirely credible despite the obvious mannerism of the gesture.

The three Maries form again a triangle, which is matched symmetrically by the triangle of the two workmen that are on top of the cross, and their outstretched arms. The two men are half-naked, and the bare arms and necks of the two Mary's match these colours of flesh. The workmen are powerful, and Rubens has once more used the occasion to show his skill in depicting male anatomy.
The arm of the man on the left is strong and very muscular. Rubens has painted this arm with the shadows of the muscles brought to full volume. The arms of Jesus are more slender and fine. Rubens has expressed here the difference between the delicacy of the intellectual Jesus and the rough workers.

Colour symmetry can be found furthermore in the blue of the Virgin Mary's robe and on the other side of the point where the diagonals intersect, that is the middle of the frame, stands Joseph also dressed in the same blue.
The whole structure of the composition then is also a pyramid, formed by the two ladders that have been put against the cross, on which stand Joseph of Arimathea to the right and Nicodemus on the left. An attentive viewer will be astonished to discover the many deliberate lines, the balance and symmetry of colours, and the structure of volumes that the seemingly unbridled Pieter Paul Rubens has used, underlying in this picture.

Rubens had made a painting around 1609 of the "Lance Thrust", in which he had a soldier pierce Jesus's right side. Here Rubens shows the wound of the lance, but on the left side of Jesus.
Jesus is shown totally lifeless and livid. His head hangs down powerless, and also his lips have opened, in what could be understood as the last pain. Jesus is depicted as an ascetic man, and also the lines of the white shroud are strict, elongated, and almost straight. All around Jesus however are folds, curves, flowing robes, and round forms. There is an encircling movement of heads and robed bodies around Jesus, which surround him in human emotion. Emotion is all curves and volume; emotion is not expressed in straight geometric lines. Thus, although this "Descent of the Cross" has very strong structure, the tondo form of the humans around Jesus is the central theme of feelings. The picture is a warm expression of compassion. The warm and harmonious colours used by Rubens enhance this feeling.

With the "Descent of the Cross", Rubens has undeniably created a masterpiece. The exuberant master has shown here that he could contain the apparent exaggeration of expression of feelings within strict geometrical structure. The result is an example of the greatness of image the best painters could aspire to.

The Entombment

Michelangelo Merisi called Il Caravaggio (1570-1610). Pinacoteca – The Vatican. Painted in 1604.

Although Rubens had good masters in Antwerp like Adam van Noort and Otto van Veen, none of these could have taught him such sophistication in expression. Rubens had seen and studied this in the pictures of Caravaggio in Rome. Rubens had learned a lot of Caravaggio, but he added empathy and sentiment to the immediate realism of the Italian master.

Michelangelo Merisi, called Caravaggio, painted an "Entombment" in 1602 to 1604, during the time when he was still in Rome. This painting is now in the Vatican Pinacoteca. Rubens must have seen it while he stayed in Rome; such a picture was not to be missed. Caravaggio's "Entombment" however, is quite another scene than Rubens'. The cross, the form of which is very apparent in Rubens' image, lacks here. Caravaggio was a true innovator, and it is no wonder that he pictured an

"Entombment" without the obvious sign of the cross. This painter was subtler and less conformist. Caravaggio's scene is more a scene relating how Jesus was brought down Golgotha to his tomb. Joseph of Arimathea and John are carrying the lifeless body of Jesus. They are bent under the effort. Somewhat higher are the three Maries.

Caravaggio also has used the diagonal that goes from the lower left to the upper right, expressed in the line that goes from Jesus's right arm to the heads of Joseph and Mary Magdalene. The form of the cross could not entirely be missed in the picture, so Caravaggio has shown the third Mary with outstretched arms in the form of a cross. This becomes credible since also the arms of a cross are high.

In Caravaggio's painting there is much movement and gestures, as the scene is caught in the flux of the moment. But equally, there is such strong structure as to be almost unbelievable.
There is the diagonal. There is a pyramidal structure with as top the head of Mary Salome, and further on as basis the body of Jesus and the slab of stone at the bottom. There are two very strong horizontal lines, one in the body of Jesus and one in the stone slab, emphasising the earth to which Jesus returns.
The stone slab shows in an ominous way the border between life and eternal death. The heads of Joseph and of John are in symmetry, and along the sidelines of the pyramid. So are the heads of Mary Magdalene and the Virgin Mary. The long, bright red robe of John indicates the second diagonal.

Caravaggio has shown his great talent of realism and of expressing the psychology of the persons in their faces.
John is a worried, very sad youth. He remains in the darkness of shame and private pain.
Joseph of Arimathea - a figure that may also be Nicodemus - is an elderly man with a wrinkled face, very intent, but tired. John is knelt and does not seem to suffer of the weight of Jesus. But Joseph is bent under the effort. Joseph is totally concentrated on his act of lowering Christ into the tomb, yet he also looks at the viewer and thus seems to call us in to testify and to seek comprehension for the drama.
Mary Magdalene holds her eyes down in shame and true sadness. She has wept, and dries her eyes with a white cloth, maybe a corner of the shroud. She is a young girl with marvellous curls around a beautiful face. The Virgin Mary is the suffering mother, not the young Virgin anymore but the ageing mother of the mature Jesus. She has covered her head in an ancient sign of mourning. Mary Salome throws her hands to the heavens in an outcry of grief. She may be a servant woman, with a more plain face. In these expressions of the various faces lay one of the many strengths of the remarkable painter Michelangelo Merisi.

Rubens must have stood in awe at Caravaggio's tour de force of combining movement and static lines, not in one but in so many pictures.

Caravaggio has painted then all flesh and muscles in splendid volume by the play of the shadows. Jesus again is not a very muscular man, but a graceful person. His chest is forceful but hairless; it is painted very respectfully. Here also, the white shroud is around Jesus, but hanging in loose curves down from him. Remark that Caravaggio has shown Jesus with a head hanging aside powerless, and with open lips. Rubens' image of Jesus is similar.

Who of these two painters has made the most powerful image? Both pictures are undeniably masterpieces, and since the two scenes are different we need not ask such a question. Caravaggio's picture is maybe a little too static, whereas Rubens has known perfectly to blend complete and extreme lively movement with the strong structure and symmetries. But Caravaggio's picture appeals to us more, as we are plunged in the middle of the scene and are very close to the lifeless Jesus. Both pictures are unforgettable, and show the final sophistication in expression of the highest moment of Jesus's passion.

The Descent from the Cross

Harmensz Rembrandt van Rijn (1606-1669). Bayerische Staatsgemäldesammlungen. Munich. Painted around 1633.

Rembrandt's scene happens in the evening. A dead corpse is lowered from the cross. We see only a highlighted white cloth into which lies an inert body. The body needs to be supported at legs, arms and head, and it sags miserably together. But for the centre scene of brightness, all is dark. The "Deposition" of Pieter Paul Rubens and the "Entombment" of Caravaggio show a Jesus of dignity, but there is no dignity in Rembrandt's Jesus.

Rembrandt painted from a very austere composition. The cross is high and ominous. It dominates the scene by its verticality. It divides the painting exactly in two and its vertical beam does not go much beyond the horizontal part that once held the arms of Jesus. This sign of the cross is unusual. It resembles more the Egyptian Tau symbol, showing that Rembrandt deliberately wanted to make a picture that differed from traditional presentations, also in this detail.
The monumentality of the cross is very apparent. Jesus is lowered down the cross and as the human body disappears, the symbol becomes more towering, as it will be from now on the symbol of Christianity, the symbol of a movement that will conquer the European world. Jesus is lowered, the cross shows transcendence and it grows in meaning. Yet, the horizontal beams stop its élan, its movement towards the skies, and Rembrandt painted there, at the top, a simple man. This man needed to climb there to lower Jesus. He is just any man, a simple worker who has seen the only practical solution to lower a corpse down gently without regard for the formidable symbol of the cross. With the simple means of a horizontal line that stops a vertical direction and the figure of a common man Rembrandt brought a scene of very spiritual aspirations back to earth. This was a very Protestant view, in which the clergy and the religious community always stressed the humility of humans, the humanity of the broken Christ, as compared to the emphasis of the Roman Catholic Church on the splendour, glory and epic of Jesus and the Kingdom of the Heavens.

Rembrandt worked in the Tenebrist way. Everywhere is darkness, but for the central scene. This scene is exactly in the middle of the frame considered as a rectangle. Here Rembrandt used his famous lead-white hues in harsh brightness. The white cloth and

the white, nude corpse enhance the light. It shows in full misery the sagging body that crumples together as it is lowered. There is no rigor mortis in the body. The various parts of Jesus, his arms and belly slump under their own weight and must be supported everywhere. Rembrandt had to draw Jesus like this to show him entirely as lifeless, without energy, and without the later dignity given to him by the New Testament.

The symmetries of the composition are multiple, and built around Jesus's head. A triangle of three other heads surrounds Jesus's face. These three heads confine the central theme of the suffering Christ. They imprison the view, so that the viewer's gaze would stay for a longer time on Jesus's face.
Rembrandt constructed a second triangle to a traditional pyramid composition in the figures standing below on the right and on the left. Rembrandt's picture of the "Deposition" has therefore a very strong structure that realises the unity of forms. The structure is very stable and solidly positioned on the base of the frame, supporting the symbol of the cross. This solidity seems to build in a sense of eternity, and yet the act of the moment also breaks this feeling.
These contrasts between the strong composition and the obvious monumentality of the cross on the one hand, and the various almost picturesque details on the other hand, create a tension and a feeling of uneasiness in the painting that is quite deranging for the viewer.
The deposition was the real moment of horror in the Passion of Jesus. Until then, Jesus had been venerated like the God he proclaimed he was. He was respected; he taught and reproached people. Even on the cross he had been formidable, calling on his Father and a terrible storm with darkness, wind and lightning had still testified to his power. Now the God had died and only a miserable human is lowered. This corpse has to be touched, to be manipulated, and nobody really knows how to do this with dignity and respect. Therefore a man has climbed on top of the cross, oblivious of the future power of the sign. Here is the meaning of the tension in Rembrandt's picture.

The "Deposition from the Cross" was a picture that Rembrandt made around 1633. He was then only twenty-six years old, having been born in the town of Leiden in Holland in 1606. But Rembrandt was already a well-known artist. He had been living in Amsterdam since two years, in the house of the art merchant van Uylenburgh and he received many commissions. He met the niece of van Uylenburgh, Saskia van Uylenburgh, and he would marry her the next year 1634. So these were quite happy years for the painter. And yet, in all happiness and with the longing for fame, fortune and filled with creative energy, Rembrandt made an intimist and sad painting such as this "Deposition"! His potential to reflect seriously on a theme, live himself into its essence was formidably present in him, already at a young age. He had already discovered how he wanted to paint his life through. His scenes would always emerge out of the darkness with a dramatic immediacy, fully impressing in the viewer the strong emotions of the figures. This was where the genius showed, as Saskia must have sensed.

Rembrandt had been a painter before, in Leiden, and Constantijn Huygens, the secretary of Prince Frederick-Henry of Nassau, had remarked his talents. In 1632 the Prince bought paintings from Rembrandt and commissioned him a cycle on Jesus's Passion. Rembrandt worked on the panels from 1633 to 1639. The "Deposition" was

made for this series. It has remained the best known of the five pictures, because it is the most poignant.

Conclusion

We have shown three Baroque paintings that were very different.
Caravaggio's painting is the earliest. Caravaggio practically invented Tenebrism, but we saw that his picture, despite a very dark background, was still in splendid colours, and all the figures were painted well visible. We found in Caravaggio strong structure, organised around the left diagonal, but in which also the horizontality was stressed, as Jesus is returned to the earth. Jesus was still a powerful man for Caravaggio, and his body is treated with respect. Caravaggio mainly showed the grief, but there is much energy in his painting.
Pieter Paul Rubens showed a lifeless body, but equally a strong muscled man that everybody wants to touch, as life still seems to linger in it.
Rubens and Caravaggio showed triumphant scenes, even if the scenes were scenes of death. These were scenes of epic.
Rembrandt then only showed the misery of a scene that is almost a sacrilege, or in which all the figures seem to fear touching Jesus, thus let the God slump together.
Rembrandt had another concept in mind than Caravaggio and Rubens.
Rubens represented glory, Caravaggio the realism of sadness and confusion, Rembrandt showed misery.

The "Deposition" however was indeed the saddest moment of Christianity. It was the moment between the Passion that accomplished Jesus's mission and his Resurrection. It was the most terrible moment, as hope was destroyed, since the presumed God had died ignominiously, had become a sagging corpse that needed to be handled in the normal but always disrespectful way to bring it down the cross and into the tomb. Nothing seemed to remain then from all the hopes and aspirations that the disciples and family of Jesus might have had, all promises quenched. In Rubens and in Caravaggio's picture, the cross is practically invisible. With Rembrandt, in spite of all the humility of the corpse, the symbol of the cross becomes formidable, such as it was to conquer the European world.

Still Life with Parrots

Jan Davidsz. De Heem (1606-1684). The John and Mable Ringling Museum of Art. Sarasota, Florida. Painted in the late 1640s.

Many still lives are bleak pictures, without inspiration, closed and without joy. There are often only a few objects displayed, the pictures are exercises in style, or the painter had no other meaning but to show his craftsmanship. Although colours may be bright, especially for seventeenth century Dutch paintings, the background is often brownish, quite vast and without interest. After all, although in most languages these

pictures are indeed called "still lives", they are called in French "Nature Morte" or "dead nature".
We usually are at unease with these paintings. We have an impression of solitude, such as we can feel when we wake up in an afternoon alone in a quiet house. We feel lost and aching, without aim in life, and undefined fears take possession of our mind. These were the feelings that the philosopher Jean-Paul Sartre called "La Nausée", the nausea, the existential fear, and the one emotion that was so hated and utterly refused by Europeans. It was the loneliness and fate of the frail human being confronted with vast eternity.

The painting "Still Life with Parrots" also is supposed to be such a picture of things dead, of life that was, of lifeless objects, things drawn artfully together either to show the skill of the painter or to be an object of decoration. Yet this picture of Jan Davidsz De Heem is something quite different, isn't it?

Life is crawling all over the place. The parrot is well alive though not flying; he proudly guards and shows the exhibition. There are shells of sea life with contorted forms, and dark green leaves reminiscent of a half-wild garden. There are apples and citrus fruit, luscious grapes, and the menacingly long knives of a lobster. It is all a feast for the eye, and one easily believes the whole to live a life of its own. These objects talk to us, as they are together. They talk of joy, of far countries; they make us dream and wonder. We will enjoy a feast, and while looking at them or eating them we will not be alone anymore. One object says, "I grew in an untended and wild orchard in Holland". Another, "I stood with my sisters in a meadow in Spain". Yet another, "I was crawling under hundred fathoms of water". Or, "I am to be found on the beaches of the South Seas, I open my interiors to you – please come in to find a mystery, a pearl, and a dream". "And I, the nut, am so small, but I am the boss of it all, see: I climbed on a pedestal!"
This is pure happiness in colours and forms!

The art of the painter is of course present. The objects are not just thrown together at random. There is mathematics and geometry here, as good as in the best Piero della Francesca. There is a hard line of sharp-angled objects going from down right to upper left. One of the seashells in the lower right points to the lobster and the parrot's beak. This line is drawn from sea-life very deep (the shells) over the earth-things (fruit) to air-life very high (the birds, the parrot) with the lobster as an animal in-between. The lobster is an odd-man-out here. It should have been at the lower part of the picture, not so high. And it peeks from behind the curtain. It has apparently escaped from the design of the artist. It has a life of its own, it was not quite dead, and it has crawled from where it should be, to another place. De Heem's painting really is alive. The parrot is the deviation from structure and content that brings life.

Another line is at a right angle to the former. This line starts left, and goes to the right. This is the soft line of small round things: citrus fruit, apples, round oysters on a long oval plate that accentuates the direction. It goes from acid (citrus, oysters that just ask for lime) to sweeter fruits (the grapes). So we have to look twice: once from the big shells to the lobster and parrot, to the animal that hangs in the air biting a cut round object, and then we follow the other, lush, soft round flesh citrus-grapes line. Even the large golden vase is all made of round protruding rose buttons, eyes, or whatever your

imagination dictates you instantly after following the other round things. It makes the vase also alive.

Most of the objects are open to you, not closed. They invite you to enter or to touch them. They cry out "you are not alone, we invite you amongst us. Touch us, feel us, plunge your hands in us, penetrate us and wallow in us". The horn shells open their mouths, the citrus is half undone and shows its juicy interior, the oysters are all ready and moist, the melons show their red flesh inside until - following the first line always - we can rest and hide in the green foliage. One can easily surmise very sexual meanings in all this display of open flesh. The other line may then tell us of the angular, thorny pains of sin that can follow.

The overall theme of de Heem's picture is abundance. There is profusion above the structure. The displayed fruit and objects have all been used in Dutch still lives for their symbolism. Thus, the white and red grapes with in between the peaches are a recurrent theme. The grapes generally are symbols of the union between Man and God.
Grapes need much tending and long maturation. The grapes are symbols of the virtue of patience. The white grapes give white wine, which is drunk by the Catholic priest during the Holy Mass liturgy in the Roman Catholic Church. The red grapes pressed, with their skins added to the juice, give a liquid as red as the blood of Christ. The half-filled glass next to the grapes, holding a wine, refers to the Eucharist. This idea is emphasised by the butterfly near the glass. The butterfly is ready to fly and so lightly that it was a symbol of the soul.

The peaches among the grapes were a symbol of truth in ancient iconography. A peach with one leaf represented heart and tongue. Truth springs from the union of heart and tongue[G41]. Christ's good message was a true message.
The grapes and peaches are on the left side next to a blue box on which stands another wineglass. Blue was always the colour of heaven, of piety and of divine essence.
The pomegranates that are close also are a Christian symbol. They refer to the Resurrection of Christ. The many seeds contained in its case are a symbol of the unity of the many under one authority, the authority of the church's clergy.
The lobster also has been cited as a symbol of the Resurrection, but most often it represented extravagance and ephemeral pleasures.
Vases are symbols of smell, one of the five senses. A golden vase such as in de Heem's picture can refer to abundance. Its position close to the grapes and wineglass can indicate a ciborium, used to contain the hosts of the Eucharist.
All the elements in this part of the picture thus refer to Christ's sacrifice.

Symbolism continues in the tilted dish with the oysters. A tilted dish was used for special meaning in Dutch paintings. It was for instance the main theme of a Roelof Koets still life now in the Museum of Fine Arts of Orléans- France. De Heem used the theme in other of his pictures, as for instance in a still life of the Louvre, Paris. The tilted dish was an additional means to show more fruit in the still life. The tilted dish however meant instability, moral degeneration. In de Heem's picture the element is associated with open fruit showing their opulent flesh. The oranges near the oysters are symbols of sin. Oranges are often a replacement of the apples of original sin. The oysters themselves are a symbol of lust and sexual desire. Oysters are shown frequently by Dutch painters in genre scenes, for instance next to a man holding a

woman's breasts. Spices were supposed to arouse sexually, a spice holder for pepper is near the oysters.

The dark, silver pitcher on the lower left is an attribute of Hebe, who was the handmaiden of the Gods. Hebe personified temperance[G41]. Thus, the pitcher can be understood as a symbol of temperance. It contains the water to put out the fires of lust. The pitcher symbolises sexual temperance.

The citrus fruit down from the oysters are unwound, representing the passing of time. This feeling is strengthened by the empty seashells, which may indicate the emptiness of life.

Finally, the red damask tablecloth is withdrawn from one corner of the table to show a dark mass of foliage. This may represent hell, a dark disorderly space into which an immoral life leads.

Underneath we see a lamp. It is not lit, but Jesus referred to himself as the light in the darkness. This light is extinguished here.

The upper part of the painting represents the virtues of a life according to God's word. Here all objects are reminiscent of Jesus's life. The lower part represents lust and lechery, immorality.

The painting "Still Life with Parrots" of de Heem does not just show abundance of objects and forms. It contains dense symbolism. It seems to be almost an encyclopaedia of spiritual symbols used in Dutch still lives of the seventeenth century. De Heem puts all the symbols and meanings skilfully together in an ordered and yet natural manner. The painting is all order beneath the confusion. It looks so simple, yet it has several hidden meanings to what is a complex moral message. The five senses can be discerned in the images. The parrots can represent hearing, the oysters represent taste, and the protuberant forms of the golden vase can represent touch and all the luxuriant food, and a symbol for sight. Wonderful smells are certainly in the air, and the prominent golden vase was also an ancient attribute of smell[G41].

Dutch still lives most often were full of underlying moral meaning. They were then called "Vanitas" still lives, which admonish the viewers to remember the transience of life and the worthlessness of earthly pleasures. "Vanitas vanitatum, omnia vanitas" is a phrase from the Ecclesiasticus book of the Bible, referring to temperance and the passing of time. In the painting of de Heem the magnificently coloured parrot looks with pity at a killed, dark parrot hanging head down and dead from the ceiling. Thus, life is immediately linked to death. This idea is also emphasised by the border of the table. Here is the end of the space of the scene, the end of life, and the oyster dish dangerously slips off that space and time into dark oblivion.

Finally, the whole movement of symbols leads to the nut on the pedestal, just on the border of the table. The outer, green case of nuts represented the flesh of Christ. The hard shell of the nut was the wood of the cross. The kernel of the nut represented Christ's divine nature. The nut stands in de Heem's painting between lust and death. The nut has also been used as a symbol of female virginity. The breaking of the nut was thought to represent the breaking of the hymn in marriage. The oysters also refer to this image. In de Heem's painting, the nut can either symbolise continued lust, or the remembrance of Christ at the time of death and the last redemption.

De Heem was Dutch, born in the town of Leiden in 1606, so he would be prone to some moralising since he was brought up amidst the stern Protestant Holland environment. He moved to Antwerp in 1635, and spent most of his career as a painter there, until he died in 1684. Antwerp was then still an important port, but her golden days were over. The worse times of the religious wars seemed past, but had broken the city. Alexander Farnese had conquered and taken the town in 1585 for the Catholic Spanish king. Most of the Protestant clergymen had to leave after that or convert, and had indeed left the town. With them, of course, went most of the wealth. Businessmen and merchants left the town for Amsterdam, which would know from then on, through the whole of the seventeenth century, a booming economy, and its Golden Age in arts.

The town of Antwerp was to be Roman Catholic. The flamboyant counter-reformation kind of Catholicism prevailed. And while to the north of Antwerp the more austere Amsterdam flourished with its newly found wealth brought by the Protestants that had fled from Antwerp, the Brabant Antwerp was left between hope for better times and fear for worse. The hope and fear you can find in both lines of the painting of de Heem. Worse was to come.

But the first three decades of the 1600s were still benign to Antwerp, and de Heem could still find all the exotic (exotic to Flanders and Brabant) fruit, birds, animals and objects that are depicted here. De Heem could find here wealthy burghers to buy his paintings, as painters at all times looked for, and worked where the money was. The new Catholic South Netherlands had both (still) the money, the tolerance and the joy of life that a painter like de Heem needed to thrive on. He was not just an artist, but also an excellent artisan, a skilled professional, who knew all the tricks of his profession. Such as to build in delight of oysters and surprises like the lobster and the nut to discover.

De Heem was certainly not the only Antwerp artist in that period: the most famous Rubens lived there from 1577 to 1640, Anthony van Dyck from 1599 to 1641, and Jacob Jordaens from 1593 to 1678. There were many, many others. Look at the dates. David Teniers lived from 1610 to 1690, Adam van Noort from 1562 to 1641, Marten Pepijn from1575 to1643. Abraham Janssens lived from 1575 to 1632, Gerard Seghers from 1591 to 1651. Theodore Rombouts lived from 1597 to 1637, Cornelis Schut from 1597 to 1655, Erasmus Quellin from 1607 to 1678. Theodore van Dulden lived from 1600 to 1669, Jan Boeckhorst from 1605 to 1668, Thomas Bosschaert from 1613 to 1654, Abraham van Diepenbeeck from 1590 to 1675, Cornelis de Vos from 1585 to 1651 and so many more. Many still life painters lived there also, such as Frans Snijders, Daniel Seghers, Jacob van Es and others. Antwerp was a marvellous town for painters, with many rich citizens avid for visual delight in their houses, always ready to boast among each other and show off as true Brabanders with their acquisitions of luxurious paintings.

Antwerp, as Brussels, was in earlier centuries a part of the Duchy of Brabant. The last Duchess of Brabant had died childless in the fourteenth century, and left her lands to the Duke of Burgundy. The last Duchess of Burgundy then, Mary of Burgundy, had married the Austrian prince Maximilian. This marriage would lead to an enormous empire that would encompass in the seventeenth century the North and South

Netherlands (with Flanders and Brabant), the Austrian lands, as well as of course Spain with all its wealth in South America.

The Protestant Antwerp revolted against the Catholic King of this empire, but contrary to the Northern Netherlands, could not hold out. The Brabant joyful spirit, however, continued to live.

A Dutch writer, Gerbrand Bredero of Amsterdam, wrote in 1617 a novel called "The Spanish Brabander Jerolimo", in which he brings mockingly on the scene a boisterous, cantankerous Brabander. The rich and poor shared the same joy; you can find it also represented in Pieter Bruegel's paintings of Brabant village feasts. Despite the war lost to the King of Spain, despite the loss of half of its population, humiliated and castigated, the Antwerp Brabanders did not lose their joy. They continued to show off, as if they were still the proudest and richest people of Europe.

Therefore this painting had to depict expensive fruit and rare animals. The lobsters are always associated with luxury and extravagance. Citrus fruit certainly did not come cheap in the Antwerp of the seventeenth century, and oysters were a luxury just as they are now in Paris, where they are still symbols of opulence and richness when you see them in the stalls of the restaurants along the fancy boulevards. Parisians would be quite surprised to find out that their favourite oysters were not one of their twentieth or at best nineteenth century's inventions, but were already on the plates of burghers of the seventeenth century. By the way, in Antwerp today you find no open stalls with oysters. The restaurants are full of mussels and French fries for the masses. And of course, our contemporary clothes have lost the buoyancy of colours and different textiles of the seventeenth century.

One can easily understand why John Ringling bought this painting in the 1920s. The John and Mable Ringling Museum of Art is entirely dedicated to Baroque art. Ringling liked Italian art, but also the Rubens, Jordaens and van Dyck paintings, and those of other Antwerp masters. He liked the exuberance of Baroque art. The museum gives these pictures the splendid vast rooms, which suit them so well. It is an enormous Italian Renaissance villa, with two long wings, lined with vaults and columns, around fountains in a wide patio garden. There even is a full-sized copy of Michelangelo's David in the courtyard. Ringling was a showman and collected some of the finest, most grandiose paintings in the world. Among which this de Heem's "Still Life with Parrots".

The Baroque era appealed most to a person as of a character like John Ringling. He was a partner in the Ringling Bros. Barnum and Bailey circus, maybe the most fabulous circus the earth has ever seen, and you can still find his circus museum next to his art museum in Sarasota, Florida. He built a Venetian villa close to the museum, and Mable Ringling had a real Venetian gondola to make trips in Sarasota Bay.

The Ringlings came to Sarasota because the Barnum and Bailey circus held its winter quarter there. This tradition has been continued for four or five generations of circus people now. Sarasota is the winter quarter of most of the independent circus people of the United States of America. They remain in Sarasota for the three winter months with their caravans, elephants and tigers. In the evening they meet in their own tavern hall "Show folks", where the walls are lined with memories and photographs of the artists. There is even a circus school in Sarasota. The town has really remained the circus capital of the world.

European intellectuals can be scandalised by the incongruous and odd display of nouveau-riche fortune that John and Mable Ringling assembled in the Sarasota museums. They may find this all "kitsch" art. But we cannot but admire the joy and the self-confidence of the Ringlings, which would have appealed to the old Brabanders. The Ringlings were certainly encouraged by their artistic environment. All this display testifies to what circus people try to show: we can do many amazing things on this earth, wherever we want, whenever we want. Dream, and your dream will come true. And dream also of higher learning and higher art. So, Ringling brought back to the Unites States some of the art that was as much his heritage as the heritage of contemporary intellectual Europeans.

We should be grateful to John Ringling, and admire him for the wonderful museum built in the town of the winter quarters of his circus.
As Robin Skynner and John Cleese remark in "Life and how to survive it"[G27], "a circus is a place of apparent madness where we can enjoy the excitement of seeing wild animals, but circus people do know how to handle them."
Baroque art and this "Still Life with Parrots" are certainly like that. Baroque art was "the madness over structure".

De Heem knew how to keep order in his own circus … well, except for the lobster.

Lesson Seven - Content

Zeuxis and Arte walk on a rainy day. They have been strolling along the river. Then they walked a wide bow around the meadows. Arte is in a gloomy mood and Zeuxis tries to cheer her up.

Zeuxis: I sense, Arte, that this is no day to talk of theories, of lines and structure, of shapes and balance, or of how to create illusion of movement. How about me telling you a bit about subjects of pictures?

Arte, sullenly: That would be fine, Zeuxis.

Zeuxis, while striding forth: Content in a picture is the subject matter of the picture. It is the subject matter that you can recognise, as compared to your life in your natural environment, Arte. This subject matter can be objects, figures or environments or particular settings of these.
Content can induce strong feelings in humans such as fury, violence or kindness. Thus it is a blatant triviality to state that content is extremely important to communicate emotions from the artist to the viewer.
In pictures without content, which is in abstract pictures, communication is all the more difficult because the obvious display of emotions in the content matter is lacking. I will later show how abstract art can alleviate for this.

Arte: You use such words, Zeuxis! "Natural environment". Pooh! What do you mean?

Zeuxis: Sorry, Arte. By "natural environment", I meant your meadows, your garden, your house, your town. But the natural environment can also be any setting of living in any century. It can be an environment of a natural landscape or of a twentieth century city of skyscrapers, or the interior of a bizarre room. You must recognise the environment and situate it as an environment where you have actually been, and that you have really seen or that is plausible in the reality of your life. It may be an imaginary environment, as long as this was seen and represented several times before, so that it still can be recognised or remembered. In this last way some of the strangest settings can become familiar. The Surrealist painters in particular exploited this aspect. I'll explain the style of Surrealism later, Arte.

Arte: So content is imitation of the things I have seen or imagined?

Zeuxis: In a way, Arte. But it is more than that. Figurative representation shows objects that exist in the real world, objects that we can touch. Before the advent of non-figurative art, that is abstract art, it was believed that all art was essentially imitative. We called that "mimesis". Art represented existing things and "good" art was judged by the extent to which it represented faithfully these objects.
The theory of the Greek philosopher Plato however, asserted that there existed an ideal form, of which the real world objects were only instances. The objects we see and can touch would therefore only be copies of this ideal form. Plato was not just talking about real objects such as a bed, but also about concepts such as Justice or Beauty.

If a real object is only a reflection, a diminished copy of the ideal form, a painting, in imitating the copy only should be even more inferior. Plato did not think much of art.

Arte: Your Plato must have been a dull chap.

Zeuxis: Plato wrote in "The Republic" that there are forms (or concepts, ideas, abstraction) of things and instances of these. He took the example of a particular bed or of a table, which is an instance, a particular instance, of the form or concept "bed" or "table". Plato then argued that a craftsman might exist who was capable to create all artificial and natural objects in the world. It would be a man who spun around a mirror in all directions. That man would of course make only reflections of all things, so a threefold hierarchy could be established: form (or concept), instance (a particular object) and reflection.
Imagine the form of a bed. The carpenter manufactures a particular bed, and the artist represents what the carpenter made. The painter however only represents part of the superficial appearance of the bed.
Plato stated that the art of representation, of "mimesis", is far removed from the form, from the concept, and from the truth. Therefore an artist makes copies that are a third removed from reality.
Plato even stated that all the poets from Homer downwards had no grasp of the truth, but merely produced a superficial likeness of the subject they treated. The painter who makes a likeness of an object knows nothing about the reality, but only something about the appearance.
Plato wrote that there were thus three techniques: use, manufacture and representation (or mimesis). The quality, beauty and fitness of an object were to be judged by reference to the use for which man or nature produced it. The manufacturer has a belief about the merits and defects of an object, but he has to listen to someone who uses the object, and thus who knows how relevant the use is. The person with knowledge is the user only. The painter has no direct experience of the use of an object, and also not of his or her painting. The painter does not know whether his or her painting is good or right, and he or she has no correct opinion coming from someone who knows what he or she ought to paint. Therefore, the painter has neither knowledge nor correct opinion about the goodness or badness he or she represents. So Plato concluded that "the artist knows little or nothing about the subjects he represents and the art of representation is something that has no serious value".
Plato continued to argue that art appealed to the lower, irrational part of the human nature.
Plato proposed reason and restraint in his ideal state. He said that art encouraged the unreasoning, the irrational part of humans by creating images that are so far removed from the truth. Artists gratify and indulge the instinctive desires in humans, and the better nature of man relaxes its rational control over such feelings. Plato wrote that what we feel for other people must infect what we feel for ourselves. So if we are feeling pity for the misfortunes, sex and anger of others, then those feelings will grow so strong that it will be difficult to restrain such feelings in ourselves.
Plato believed that the artist infects those who look at paintings with the feelings that these paintings show or inspire. Since these feelings are often not "the good", but of a lower moral order, such representation must be treated with much concern. The philosopher went as far as to condemn Homer's poetry. The issue at stake was for Plato of course the choice between becoming a good man or a bad, and paintings didn't help in that.

Arte: Gee, that guy Plato really must have been a sourpuss! I believe that the pleasure received from art uplifts man and brings us closer to the "good". Moreover, I believe that the observation of "bad" representations of low moral content does not necessarily corrupt man or woman. Man and woman have a free will, and the fact that art of low moral content can lead a human to acts of low moral content seems to me to be entirely unproven.

Zeuxis: Hmm, Arte. Now, later thinkers adapted Plato's theory a little! They argued that a painter could be evoking not the representation of the object itself, but of its ideal form. Plato would have asserted that a painting that tried to represent an object was an imitation of an imitation and thus an inferior representation. Later Platonists could argue that paintings, even purely figurative ones, or representational pictures, tried to represent the ideal form, and thus could represent more closely the ideal form than the real object such as a table or a landscape. That was a Neo-Platonist view. Many Renaissance painters may have thought of their art in this way.

Arte: Do we still think that imitation is thus idealist, even divine?

Zeuxis: In our modern views of art, "mimesis" or imitation is not a criterion for the value of art anymore. The later form of Platonic theory would already allow for modifying the shapes and colours of a real world object, since the artist might argue that his particular view was a better representation of the ideal form. Imitation is in our view not the sole and valid criterion of art that pleases or has great value. Paintings however do exist that try to give a perfect illusion of the real world and the best examples of these are the "trompe l'oeil" pictures , the "deceive the eye" pictures. We may appreciate these pictures for the degree to which they reach their aim of being perfect illusions of the real world. It remains true that many techniques of representational or figurative painting, such as perspective and chiaroscuro, were aimed at creating more perfect illusions of the real world.

Arte: You were talking about content …

Zeuxis: Yes! I must return to my original subject!
Content can be dense or weak in a picture. A landscape painting for instance of a flat, entirely white winter nature bears probably little content in the opinion of most viewers. The picture may induce strong feelings of loneliness and of cold, but there is little communication of narrative. There is no further intention than to show a landscape and induce one feeling only. Other paintings may be denser in subject matter, contain many elements of narration or of representation of natural objects and scenes.
Content can be expressed by various means. In the first place there is the subject matter of the picture itself. One can see objects, figures, landscapes, architectures, and so on, on the canvas. These may be real objects or imaginary objects.

Zeuxis projects in the meadows, while they walk, the image of just a pot. Arte cannot but smile again, her mood changing.

➔ Jean-Baptiste Siméon Chardin (1699 – 1779). The Copper Fountain. Musée du Louvre. Paris. 1733.

Zeuxis: The French painter Jean-Baptiste Siméon Chardin showed pots and pans as if they had an inner life. One of his most famous pictures is the "Copper Fountain", a picture of a copper pot used as a recipient of water. Chardin named the pot a fountain, a true name in French, and thus gave the simple object a concept for the imagination that was far wider than the object. The object is simple, an everyday kitchen utensil, and yet this object by Chardin's view and attention received an almost mystic presence. The object becomes permeated by the idea, the inspiration of the painter. Many pictures have as their sole content the object itself. This is the case for the still-lives, for pictures of a few objects seemingly brought together by chance, for pictures of flower bouquets and for landscapes. In these paintings the aim of the painter is in the first place to show his or her skills and to admire the object. The artist may find an answer to his or her mood in the objects or in landscapes. Or he or she might have no other intention than to please and to decorate.

Zeuxis shows another picture.

➜ Giorgio de Chirico (1888 – 1978). Il Pensatore. The Giorgio and Isa de Chirico Foundation. Rome. 1973.

Zeuxis: Giorgio de Chirico placed imaginary objects in his pictures, such as people with idealised heads, but still recognisable by the viewer. "Il Pensatore" or the "Thinker" is a strange picture, a meta-physical picture as de Chirico called them. The human form is recognisable, although the form has not the proportions of normal humans. The head of the figure resembles a Greek helmet, and only eyes are indicated with two dots but not in normal positions. The arms are too long, the chest is disproportionately long as compared to the legs, and the body is not constituted of flesh but of all the elements associated with an intellectual. There are books, Greek statues and columns, mathematical compasses, a blackboard, a harp and scrolls. Yet, in spite of this strange un-physical treatment of the subject, the human from remains recognisable, and de Chirico goes just to the limit of the recognisable but he does not trespasses that borderline. Yet, by going to the border, he brings the viewer in the realm of the imagination and the unusual, away and over realism, into the meta-physical.

Arte: You seem to like Giorgio de Chirico!

Zeuxis: I do, Arte. His pictures remind me of my own world, and yet they always make me very much aware that that world has disappeared. De Chirico works with many symbols from my reality.

Arte: What are symbols? That is a new word for me.

Zeuxis: A symbol is a single pictorial element that represents a more complex image or a meaning. The element can be very simple, reduced to a line or to a few dots. The element can also be a single, connected drawing and thus an image, generally small, on its own. A symbol can be opened in its own right and have as much meaning as a full picture.
Medieval paintings were often crammed with symbols, icons of meaning. Each small area of these pictures could be covered with symbols. A white lily for instance could

represent the purity and virginity of Mary, Jesus's mother and thus represent the Annunciation. In Medieval paintings, very many symbols were associated with the Virgin Mary, and images were taken from King Solomon's Song of Songs of the Bible. You might read again my text on the Madonna of Glatz. Mary was depicted inside a closed garden, near the fountain of life, reading in the Book of Wisdom of King Solomon, and seated on a throne of wood. Other symbols referred to Christ. A glass of red wine and a piece of bread could refer to the Passion of Christ, and thus call to the mind of the viewer not just the Last Supper but also his Crucifixion on Golgotha. In Sébastien Bourdon's picture of the "Martyrdom of Saint Andrew", Andrew's arms form a cross but not an oblique cross. Andrew's arms form the cross of Jesus, and thus the painter showed the desire of the saint for the same martyrdom as Jesus in symbolic representation.

Symbols represent a more complex image, but that image was tangible, well known in Medieval and Renaissance times. The symbols made it actually easier for the viewer to understand the picture. In later periods painters used symbols in their work that represented an idea or an image, of which only they knew the signification. This idea or image could be guessed by the viewer, and thus in a very intellectual way create admiration, at least in those viewers interested enough in this kind of exercise. This way of representation could lead to very hermetic pictures, however.

The symbols could even become icons without any meanings, which also had no real meaning for the painter, but which were added at the artist's instant whim, as this was his or her particular style.

The symbol images might be used purely for technical reasons. The form of the icon might suit the composition, or could introduce colours that matched the overall colour patterns. Painters could add symbols by an instantaneous inspiration to enhance the impression of mystical strangeness in the viewer. Often then the image, icon or symbol can be analysed and interpreted as the viewer wishes. This was much the case for the Symbolist painters. Artists of that period (the late nineteenth century) added symbols because each viewer could interpret these differently, and that search joined the mystic of the picture or its overall lyrical mood.

I stated that in still-lives the painter might have no other intention but to please and to decorate. But even in flower pictures, the most classic of all still-lives, profound meaning can be suggested by symbols. That was certainly so for the Dutch seventeenth century Vanitas pieces, in which all the flowers or objects were carefully selected so as to represent the vanity of life. They brought to mind, through the symbolic values of the objects, the swift passage of a life or the Passion of Jesus. Grapes next to a glass reminded of the Passion, parrots reminded of the vanity of unrestrained speech, apples were a reference to the Original Sin.

Arte: So, symbols at least appeal a little to my imagination. Paintings that imitate rarely appeal to the imagination of viewers, don't they?

Zeuxis: Do not think that, Arte! Paintings always appeal to the imagination, but many of them do that in very subtle ways so that you are not aware of it. Let me explain some of the effects for you.

Content immediately broadens the scope of the picture. You see actually and usually much more in your mind than is represented on the canvas.

When Chardin painted merely a drinking pot in a picture, you can imagine using the pot, or see the pot forgotten in a kitchen. You can build and imagine a story around the object. In this way, a picture does not merely presents its inner glow to induce

emotions in the viewer, but it also appeals to the intellect and the imagination of the viewer. The picture appeals to more of the spectator than just his or her emotions of the first impression. After the first impression, the viewer will add more content in his or her imagination. For people who are not so well tuned to the inner beauty of lines, forms and colour, the additional meaning of the content can be very gratifying. The admiration of the viewer and his sensations at the sight of the picture are heightened. The interest of the viewer is stimulated, and hence the painter captures the viewer's attention also through these means.

Arte: I like pictures that tell a story.

Zeuxis: Ah, the most content indeed lies in pictures that tell stories. Such pictures may show a moment of a story and indicate that moment in a title. For example, Nicolas Poussin's picture of the "Adoration of the Golden Calf" shows the Hebrews dancing round their Golden Calf statue. The viewer knows that Moses remained long on the mountain, receiving the tablets of the Law. While Moses conversed with Yahweh, the Israelites told themselves that Moses had disappeared. They needed a new God to lead them further. So they made the Golden Calf and had a great feast. You know all that. We have seen that scene before.

Zeuxis projects Nicolas Poussin's picture again.

➔ Nicolas Poussin (1594-1665). The Adoration of the Golden Calf. The National Gallery. London.

Zeuxis: Now comes the trick! You know this is a picture of Moses and I am sure you had Moses all the time in your head. But where is Moses?

Arte, puzzled, goes near to the screen. She searches all over the canvas, until she triumphantly points at a very small figure.

Arte: I found him!

Zeuxis: Yes, he is in there. But I am sure that your idea of Moses was quite larger in your mind than that! Poussin showed in a very small corner of his painting Moses coming down the mountain and shattering the tablets from anger. This is a picture that shows one moment of a story in one unity of time. Again, we know the whole story, so that what Poussin showed on the canvas was but part of a very rich image that came to our mind when we look at this work. Nicolas Poussin did not really have to picture in Moses. Every viewer knows that Moses is there! The title widens the painting, since all readers of the Bible know Moses' story and what happened at the adoration of the Golden Calf, during the feast and afterwards. Moses became very angry and smashed the Tables of the Law. Thus a great disaster is in the making, and the scene of Poussin is a scene of tension.

Arte: Poussin showed scenes at different times then in one painting.

Zeuxis: Yes. Painters sometimes however put various scenes of a story together in a frame. This was often the case for Flemish Primitive painters of the fifteenth century. We see for instance in paintings of the Adoration of the Magi not just the Magi

kneeling before Jesus, but often the viewer will find in the background a scene of the arrival of the same Magi, or the Magi on their way. Here there is no unity of time in the picture and many scenes of different moments of time were combined. This way of painting stories continued well into the Renaissance period and after. Many painters used this breaking of unity of time. Andrea del Sarto for instance made a painting of the life of Joseph the Egyptian, in which various scenes of Joseph's life are shown in one and the same canvas.

In these examples the painter helped the imagination of the viewer in showing some of the scenes that might anyway have come to the mind of the viewer. So these are examples of explicit assistance. In other paintings, such as Nicolas Poussin's painting, the suggestion may be subtler.

In many abstract pictures, the help provided to the viewer by visual means is practically absent. All the imagination of wider content is then left entirely to the viewer. The important point to remember is however, that paintings and their content are but windows not only to reality but also to our imagination. More often than not the actual mind-view that the spectator has at seeing a painting if far wider than the scene proposed physically on the canvas. In this lies probably the greatest magic of painting. We will see further examples of this effect in the next lessons.

Arte: Are there other means to stimulate our imagination in this way?

Zeuxis: Oh yes, your imagination and intellect can be further enhanced, through very many means.

In the representation itself, recognisable objects can be modified, so as to be barely recognisable. The Cubist painters analysed an object, tore it apart, and then they presented the separate pieces out of context in several places on the canvas. The viewer could still reconstitute and thus recognise the object in his mind. The Cubists were asking themselves questions on just how far one could thus dissect an object and still recognise it. The viewer had to search over the painting, but that search also stimulated his interest and curiosity. The viewer was captured by the image, trying to reconstitute the object, and he or she kept looking.

All these means had in common that the painters aroused in the imagination of the viewers a picture that was far larger than their actual physical work. A whole world of images, sounds, dynamic scenes come to the mind of the viewer when he or she is confronted with a familiar scene. Maybe that is the reason why painters have taken up time and time again just a limited number of well-known themes. The viewer generally appreciates better a painter who knows to stimulate more of his senses and imagination. Viewers appreciate when their emotions and their intellect are appealed to, instead of a painting that appeals to only their emotional reactions, however powerful such feelings might be.

Zeuxis: How do you know what happens in a painting, Arte?

Arte: I usually understand that by looking at the title.

Zeuxis: Of course, and a smart answer. Beyond the mere representation of objects and figures, the painter has at his or her disposal other means of adding meaning to the content. He or she can indeed give a title to a picture.

The title may indicate the artist's own emotions, to for instance an abstract picture. Or, as William Turner often did, the artist may add an entire program to the picture. Turner called one of his paintings "The Fighting Téméraire taken to her last Berth to be broken up". This is an entire story that broadens far the scope of just the image of the white, dignified sailing ship being tugged by a black and dirty steamship. Such phrases widen further the world-view into which the picture is perceived.

The title furthermore can refer to a well-known story, so that the viewer can situate the picture as one moment of a drama. For many centuries the best-known stories were those coming from the Bible, from the Old and the New Testament. It sufficed for a painter to show a picture of the Crucifixion of Jesus to allow the viewer to situate such a scene in the whole Passion and life of Jesus. A picture of Moses, entitled as such, brought the towering life of the patriarch to the mind of the viewers. Even summary titles such as "Dynamic Suprematism" give the viewer an idea of the intentions of the artist, and that starts communication. Phrases and titles therefore add to the content and induce comfortable meaning and recognition in the viewer. They bring equilibrium, since the viewer can situate the picture and situate himself versus the picture. Without these explanations of the intentions of the painter, a picture will remain the exclusive property of the artist. The artist may have made a work that appeals to the emotions of the viewer, but less to the viewer's imagination and intellect. Yet these last elements add to the pleasure of the viewer.

Arte: I saw also paintings in which words were written on the canvas. They were often funny!

Zeuxis: Not satisfied with titles, painters combined written words and phrases directly in their pictures. This was often the case in medieval times, and also in Gothic paintings. Pictures of the Renaissance also brought phrases on the canvas. These further explained the content. The technique is also avidly used in modern and contemporary art.

The idea to use words in a canvas was re-discovered by Georges Braque in 1911 when he stencilled words in a painting called "Le Portugais".

In the twentieth century, the Surrealist painters took up this tradition also, but now to make playful use of words. René Magritte's picture "Ceci n'est pas une pipe" contains these words under a simple image of a pipe. Magritte played with words and image, for of course, an image of a pipe is indeed not the object itself. He experimented fully with the relationship between words and images. Magritte sometimes did not paint the object, but the word. Thus words made explicit the ambiguity between the object and its image, just as a painted image of an image refers to the object itself, but is not the object in real. Painting remains a process of creation of illusion and Magritte made the illusion very explicit.

Zeuxis projects a painting of René Magritte.

➔ René Magritte (1898-1967). The Dispute of the Universals. Musée National d'Art Moderne, Centre Pompidou. Paris. 1928.

Zeuxis: Look at the "Dispute of the Universals" of René Magritte, Arte. The words "cheval", "miroir", "canon", "feuillage"' stand for pictures of a horse, of a mirror, of a cannon and of foliage. A cold, neutral, non-committing, inorganic, grey star holds the words together. How dull can such a painting be as compared to the real,

figurative images that the viewer might expect! So while passing by Magritte's work, you have to do all the work and re-constitute the painting in your imagination, Arte. Why exactly these words or images are brought together does not matter much. Magritte proved his point.

Letters and words can be read, and thus widen the meaning of the picture, to meaning far beyond the flat space of the canvas. Then words have an expressive value for the work of art. A word stands for what it designates like a symbol or an icon. Cubists and Surrealists introduced words for objects instead of showing the object itself. This had a surprising affect on the viewers. Thought processes and visual processes were combined on the canvas.

Raoul Hausmann (1886 – 1971) for instance used this technique when he put letters in a random order next to each other. The letters invited to be read, but the sequence of letters not necessarily formed words. Therefore the letters became a drawing. And the effort to read caught the viewer's attention to the canvas.

Phrases are constituted of words and words of letters. Letters are pieces of straight or curved lines. Words and letters can thus have a decorative use. Letters therefore can become images in their own right. We think of course of the very beautiful flowing lines of the Arabic script and of the icon images of Chinese writing. When the letters still remain the letters of existing alphabets, we talk of calligraphy. We know how Chinese calligraphers turn their icons of words in works of art. But the European or Arabic letters can be regarded in their own right, distorted and changed into unreadable language and signs.

Zeuxis projects an abstract picture.

➔ Christian Dotremont (1922 – 1979). Logogrammes. Musée Communal d'Ixelles. Brussels. 1978.

Zeuxis: The Belgian Cobra artist Christian Dotremont (I will explain you later what Cobra means) went this road the farthest, when he transformed series of letters in vibrant dynamic compositions. Words became pictures. Dotremont made "Logogrammes" in 1978. This picture is composed of eight pages of Japanese paper on which the transformed letter signs were brought in black ink. The picture consists only of these curved lines. Dotremont's pictures are devoid of content. What remains is the emotion of letters transformed to fluent beauty. Such pictures are fully abstract art.

Arte: Content, content, … You also talked to me sometimes about abstract art, about lack of content.

Zeuxis: Yes. The contrary of content is lack of content in pictures.
In the beginning of the twentieth century a few Russian and East-European artists engaged in a search to understand what differentiated man from nature. They could but find the mind and the self-consciousness of man as the differentiating element. The mind could think in mathematical formulas, and imagine forms that did not exist in nature. These were the elementary shapes, squares and rectangles, points or dots and lines. The Russian artists, like Kasimir Malevich, thought that by showing combinations of these they could show something of the unique working of the mind. Other Russian painters such as Wassily Kandinsky, tried to represent pure emotions in

colours and curved, open or close shapes, in pictures without any representational forms.

At first these artists referred still to some form of figuration. Kandinsky thus often spoke of horse riders even though it was hard to see an image of a horse rider in his abstract pictures. Other artists that evolved to abstract art or came very close to it were the Orphists, the Cubists and the Futurists.

Orphists like Frantisek Kupka and Robert Delaunay were investigating the effects of circles or of vertical patterns, to try to understand something of the working of the mind confronted by pictures that were colour patterns only.

The Cubists tore objects apart and placed the parts or only some of the parts in random places on the canvas. It was left to the viewer to reconstitute the original image by his or her imagination. As such pictures became more hermetic they reached abstraction.

The Futurists emphasised the speed of modern machinery and the stress of modern society. In showing the speed, they used increasingly pictures denuded of figuration and aimed at patterns that gave an impression of the shock waves caused by movement through air, or of the turning of the wheels of machines.

In all cases, abstract art was created, that is art that had no reference to any subject matter anymore. This art represented pure mind pictures or pure feelings in colour and shapes. If abstract art was so popular in the twentieth century, even though the later Post-modern artists abandoned it partly, it could be because of the emphasis of the artists on "l'Art pour l'Art" or "art for art's sake".

A fallacy of abstract art could have become the trend pursued by certain artists to make works of abstract art only for art's sake. The work of art would exist for itself only, and not for a viewer. Moreover, abstract art was apparently easy. It brought a new fashion that was eagerly taken up by artists who had not much talent at drawing or colouring.

But the first abstract painter, Wassily Kandinsky, already told that every art should communicate the inner glow of the artist. Thus in abstract art the necessity to communicate with the viewer and the power of the original idea, as told to the viewer, remains a very important element of the picture.

Here we have the fundamental issues with abstract art. Abstract art has no subject matter. It shows no recognisable objects or figures. Often, abstract paintings have meaningless titles and they leave the viewer helpless in his search for content. Abstract art then still has to communicate the intentions or moods of the artist. A picture that cannot appeal to the emotions of the viewer, and that has no content, no subject matter, does not communicate. Pictures that are made purely for their own sake, or made by artists who want their feelings to remain so cryptic as not to be comprehended by any viewer, such pictures refuse communication with the viewer and are thus without aim as art. They are indeed art for art's sake – or should we say pictures for the pictures' sake, since pictures without aim to communicate merely exist, seemingly without purpose or even intention of being viewed. We know of course that that is never the case.

Where communication is lacking, there is no art. Communication could be addressed to the intellect or to the emotions of a viewer, but at least one of these should be inherent in the picture. The viewer must know the artist's intentions. Juan Miró's "Dance of the Poppies" is a powerful picture, because the idea that was expressed in the picture is indicated in the title. Without the title such pictures lose much of their value and the work of art has no meaning.

Stating that a picture exists only for its own sake is a communication in itself, even if only a communication of arrogance and defiance, but such communication bores after the first picture, and thus further works become meaningless and without interest for further viewing. After a few pictures, "art pour l'art" pictures stop quickly to appeal. Abstract art allows an unlimited spectrum of combinations of lines, shapes and colours. It allows the combination of language. More importantly, more than previous art styles, it allowed enhancing each of these elements by their own right. Therefore, abstract art will continue to find new, original expressions until the end of times. But without the idea of the artist it will either just appeal to waves of emotions in the mind of the viewers, which is to be music, or be purely of a decorative character. The abstract paintings that appeal most to viewers are those that express a strong explicit idea of inspiration of the artist.

Arte: That was a long discourse, Zeuxis. I like it when you talk while we walk, especially as it rains. But this rain gets stronger. I'm going to make a run for home.

Zeuxis, shouting while Arte runs away: Arte, Arte, please read my next article! It will be on content.

Arte: Yes, yes. Bye, Zeuxis!

Types of Content

Pictures can be categorised according to their content. Particular styles of painting have been called after the content of the pictures of a period. Overall, there are four main categories of representation: the landscape, the human figure, the still life and historic narrative. Themes of the human figure include portraiture and the nude; historic narrative includes allegories. Hereafter is a short overview of the contents that are most commonly expected in paintings.

Devotional themes:

During the Middle Ages devotional content, that is content representing scenes from the Bible, from the Old and New Testament, was with portraiture almost the only content of painters. Society was pervaded and ruled by Christianism in Europe, and stories of the Bible were so well known that the subjects of Christian religion were the most rewarding for painters and viewers. Such scenes were readily understood by even the less literate viewers. Until the seventeenth century, scenes from the Old Testament were rare, except maybe scenes from the life of Joseph the Egyptian, in which parallels with the Passion and life of Christ could be drawn. With the advent of Protestantism, also scenes from the Old Testament became more popular. Devotional themes declined from the Enlightenment on, but especially from the beginning of the nineteenth century by the de-Christianising of European society. Some of the pictures contained many stories in one painting, so that they could be called "narrative" pictures. This is the case for instance for many scenes of the life of Jesus, of pictures like of the theme of the "Seven Sorrows of the Virgin", of scenes from Genesis, of the lives of Moses and Joseph the Egyptian.

Scenes from classical antiquity and mythology:

During all centuries, and also in the twentieth century, themes from classic antiquity and classic myths remained popular. Classic scenes are especially of the Greek gods of the Olympus. Also, painters amply used the themes from the Iliad and the Odyssey, the epic poems of Homer, themes from the writings of Virgil, or the voyages of Jason. The best well-known and most frequently painted classic theme must be the theme of Venus. Venus allowed studies of the formal anatomy of women, appealed to sensual feelings in the men who always were the first buyers of pictures, and by this classic theme offered a socially acceptable excuse for buying pictures of female nudity. In the twentieth century Surrealistic or Meta-Physical painters such as Salvador Dali and Giorgio de Chirico took up classical antiquity themes once more.

Portraiture:

Portraiture was always a popular kind of painting, especially at times of history before photography. But even in the nineteenth and twentieth centuries, portrait painting remained in fashion. Early portraits show only the faces of the models, either in

profile or in front. Later other positions could be used. One of the main portrait painters, who defied any tradition in the art, was Tiziano. But also Leonardo da Vinci and Raphael made remarkable portraits. Portraiture was the most popular kind of art in painting in the United Kingdom in the first centuries of its art.

Realistic scenes:

Realism was a kind of painting that existed through all centuries. Nevertheless, mainly painters of the nineteenth century French school of Barbizon and the Dutch school of The Hague depicted landscapes or intimate scenes of nature in a realistic way. In these scenes common people at work were often shown so that the pictures have also a social undertone.

Genre themes:

By genre painting one defines generally scenes of everyday life or of contemporary scenes of towns or of the interiors of churches or of rooms. Genre painting became very popular in the seventeenth century with Dutch painters. A particular genre is the Dutch moralising pictures, which are often of brothel or of vulgar scenes, translated however in the finest visual narrative representations.

Still lives:

Still lives, in French denoted by the term "Nature Morte", are paintings of flowers, of arrangements of flowers, of fruit, of fish or meat, of fowl, or in very general of everyday objects. Still lives were throughout the centuries good subjects for exercises of painters, until still lives became a prized content for collectors and for the decoration of rooms.

Landscapes:

Landscape scenes were used in the Middle Ages as background of portraits or of devotional pictures. Two Walloon (Belgian) painters, Joachim Patinir and Henri Blès, used landscape for its own sake in pictures, and thus started this particular kind of painting. Landscape or seascape or cityscape painting remained a preferred way for Northern, that is Flemish, Dutch, German and Scandinavian artists.

Marines:

Dutch society and its wealth in the seventeenth century were based on overseas trade. The merchants and the military wanted pictures that represented their wealth and glory. Many Dutch landscape painters also painted scenes of ships at sea and of sea battles. Soon, marine pictures became a kind of painting on itself. The genre remained popular in the naval headquarters of the European powers, in France, England and the

Scandinavian countries. French famous painters of landscapes such as Claude le Lorrain and Joseph Vernet established the art in France.

Historical themes:

Historical scenes were painted also all through the history of the visual arts. Paolo Uccello painted the Battle of San Romano for instance in the fifteenth century. Historical painting really became popular in the nineteenth century, during the Romantic Movement.

Illusionistic themes

Painters experimented more and more with the subject matter. Painters represented figures with faces like ancient helmets, as Giorgio de Chirico did. They showed figures in imaginary settings, not associated with real natural environments. Various objects that were never seen together in nature could be joined on a canvas, much as the Surrealists did.
René Magritte made a train locomotive come out of the open hearth of a room. He painted a horse running on top of a car, or a huge stone with a medieval castle on top, hanging above a sea. These were new images, but some such settings had been used before to surprise and interest the viewer. Jan van Eyck painted his figures in the "Arnolfini Marriage" in too small a room and he added the phrase "Van Eyck has been here" in the centre of his picture. Van Eyck also put several objects as obscure symbols in his picture to capture the interest of viewers, an effect that also the Metaphysical painters like de Chirico or the Surrealists like Magritte were after.

The nude

Painters took the human figure as subject and admired the body of male and female figures. The male nude was often represented in Saint Sebastian and in Apollo; the female nude was Venus or Aphrodite. Painters sought eagerly themes that allowed them to show nudes, and they compared their skills at depicting the human body.

Erotic and Pornographic Themes:

Many genre and classic themes, but also portraits, can be handled in a very erotic way by painters and have been produced to that intent. A major example that is nevertheless the pride of its museum, is Francisco de Goya's "Maja Desnuda". Goya made a picture of the Maja dressed and undressed.
Pictures of Venus, of Danae, of Diana and of other classic mythical heroines or goddesses often were but an excuse for overt eroticism. This genre was particularly popular in the Rococo period of France's eighteenth century. In this period of King Louis XVI, female nudity was added to frivolity.
Openly pornographic paintings have reached far less popularity, obviously because these pictures could only address a particular public. Yet the genre exists, and seems to become more applied in contemporary art as some painters attack all taboos of society in an urge to attract interest by all means, even be it voyeurism interest.

Moral Content

The question of whether the content of pictures should be moral or not has heavily been debated over the centuries.

George Bernard Shaw (1856-1950) had one opinion. He wrote, "Art should refine our sense of character and conduct, of justice and sympathy, greatly heightening our self-knowledge, self-control, precision of action, and considerateness, and making us intolerant of baseness, cruelty, injustice and intellectual superficiality or vulgarity. The worthy artist or craftsman is he who serves the physical and moral senses by feeding them with pictures, musical compositions, pleasant house and gardens, fiction, essays and drama which call the heightened senses and enabled faculties into pleasurable activity". [G87]

But Friedrich Nietzsche (1844-1900) had another view as he expressed, "L'art pour l'art. The fight against purpose in art is always a fight against the moralising tendency in art, against its subordination to morality. L'art pour l'art means, "the devil takes morality"". [G87]

These contradictory views are still very at the order of the day, as in contemporary Post-Modern art a class of painters deliberately address our society's last taboos of sexuality in very provocative pictures. Every viewer must take his or her stand. We will generally prefer Shaw's position in these lessons.

To some degree works of art have a moral effect on viewers. To just what degree that is, remains matter of debate. Morally tuned people will rapidly turn away from corrupt works made by corrupt minds, whereas morally un-tuned viewers will remain attracted to such art. The viewer's attitude is already in the viewer before he or she seeks the work of art. The definition of what is moral art, up to what limit it goes, is not so easy to define and changes with time and culture. Corrupt art does not necessarily corrupt, nor is it certain that "good" art improves the morality of the viewer. Whether corrupt art needs to be censored is also not an easy question. Censorship restricts freedom in a society. Censorship restricts artists from being creative, and we may find it more valuable to protect the artists' freedom than to guarantee protection from "bad" influences. Freedom of creation and of expression is extremely valuable for a society, whereas the effects of art on moral attitudes of a society are not very well demonstrated conclusively.

The viewing of paintings is not a social act. It is a very individual act. Morality is about our attitude, our relationships with others. To the extent that paintings are communication however, there is a social aspect also in them, and an aspect of relationships. The experience of paintings does not help much in "bettering" our relations with our fellow-men, even though we may be touched by certain scenes that show the misery of other people.

Contemplation of certain pictures may thus be an invitation to act socially, but pictures that incite viewers to start acting towards charity or heighten moral attitudes are rather seldom. Paintings do make viewers understand better how others might feel, and thus help moral attitude. But this effect remains very relative. It gives insight into others, and that is always moral attitude.

Rococo

Rococo was a light, playful and very decorative style of art that developed out of the Baroque around 1700 in France. The term is derived of the French word 'rocaille', an elegant shell with capricious but natural forms used for the decoration of fountains and grottoes.

Rococo was the period and style of painting in which of all periods most use was made of flowing and inter-flowing curved lines and forms.

Rococo introduced for the first time in painting very loose, round forms and compositions. Compositions could be based on strong structure, but needed not to be so. Figures and decorative elements were intertwined in the heydays of Rococo in chaotic, nervous and very dynamic scenes.

In painting mainly pastel, light colours and tones were used.

Rococo was primarily a style of interior decoration characterised by charm, elegance, and playfulness. It was the art of the lavish decorations of Venetian and German palaces and churches of the eighteenth century. All themes were handled in this way, but preference was given in France for instance to scenes of light morality, with daring scenes of lust, often based on themes of classical antiquity. Rococo brought overloaded compositions of profusion of figures and of decorative elements such as chains of flowers, and Greek columns. Usually many small angels or putti, shepherds or other bucolic elements were showed in the pictures. Devotional themes were also painted in this style.

Volume was created by chiaroscuro on the figures. Space and depth was not a main theme of Rococo, also because many scenes remained of an intimate nature. Some artists however applied Rococo to epic scenes of antiquity, of battles and conquests, and then aerial and linear perspective were used fully.

Painters of the Rococo period and style were, among others: François Boucher, Antoine Watteau, Jean Honoré Fragonard, Jacopo Amigoni, and Giambattista Tiepolo.

Baroque art had been in place for over a hundred years but society had evolved at the end of the seventeenth century. The Royal Courts of Europe reached a decadent refinement. Rococo modified Baroque to become more playful, lighter, less emotional and more decorative, so that palace halls, palace ceilings and churches could be decorated with images that were non-committing, overloaded with detail and with sweet figures of all sorts. Voluptuous, sensual scenes were added to the pictures of the Court of France, but also in Italy and in Germany. This was not necessarily new, since painters before had practised a more sensual art, but the genre had not been so overtly accepted before.
The passage from Baroque to Rococo was an evolution in forms and composition, but foremost in society, and in an attitude to art. Rococo did add new style elements such

as the images of putti and gentler colours, but in the end this art did not last because its foundations in society faltered with the spirit of the Courts of France.

Venus and Amor

François Boucher (1703-1770). Staatliche Museen Preussischer Kulturbesitz Gemäldegalerie – Berlin. Painted in 1742.

Venus and Amor rest in a sunny open space near a pond of a dense forest. Venus lies there on red silk, and on her richly decorated robe. She has thrown off her garments, and is barely covered by a flimsy white shirt. She looks affectionately at Amor, who is cuddled comfortably with his head in her lap. Amor has put down his arrows and bow and plays with white doves that he holds at the end of a blue ribbon. Amor is totally nude, Venus almost, and the few pieces of shirt only accentuate her generous forms. They lie near an oyster-shaped spring; the water flows gently out of the shell, into a clear pond. Venus cools one of her feet in the water. Close to the pond are green flowers and grasses; Venus and Amor are hidden by gentle brown foliage behind. Venus was born in the foam of the oceans, so the pond, the oyster-spring and the sea-pearls in her hair remind us of where she came from.
This is a real sensual scene, but refined and delicate, Venus hides some and shows all. She apparently likes to be naked, to warm her skin in the sun and play with innocent, nude boys.

François Boucher's ladies are sensual females, not skinny girls. They are young and mature French courtesan ladies who apparently liked chocolates, other delicate food and good laughs. They do not worry. They like to flirt and to love, and they are certainly not shy. They show their nakedness in intimacy, but then freely and without reserve. They may seem objects to be savoured by men, but that is not even hinted at, and they certainly are the queens of the pictures. These ladies are very conscious of themselves, of their bodies and their good looks. They like their skins, like to hold it against the rays of the sun. They want to charm and seduce the male viewers, so that these serve them with delicate courteousness. The ladies are very much aware of their importance, and of the power they hold over men. They are naked, but know no embarrassment. They use their nudity as a tool of gentle dominance. The ladies are definitely self-confident.

François Boucher epitomises the gallant French period of the eighteenth century when Philippe d'Orléans was regent, and afterwards Louis XV the King of France. He was the main painter of the French Court in the middle of the century. Paintings like Venus and Amor were subjects that Boucher took up over and over again, because they were so popular with French aristocracy. His mythological themes may be reference to his neo-classical masters, but they are used as a pretext to show sensuous young women in forests or in lonely corners.

Boucher was born in Paris in 1703. He was a pupil first of his father Nicolas Boucher, then of the Baroque painter François Lemoyne, but he was much influenced by Jean-

Antoine Watteau. Boucher however did not seek the delicate poetry of Watteau. He preferred the directness of the nude, as was permitted and even wished in the times of Louis XV. He did know how to paint, though. He was a young genius, and received already a first price of the Parisian Académie at twenty years old. He went to the "Académie de France" in Rome for more than three years: from 1727 to 1730.

François Boucher left France just twenty, on the grand Italian tour, to study Tiepolo and Correggio. In Rome he saw Nicolas Poussin's works on classical themes, but Michelangelo's style and even less the chiaroscuro of Caravaggio, did not seduce him. His paintings radiate with light.
After his return he became a member of the Academy of Paris in 1734. He was appointed as a director of the Academy in 1765, and was then also the First Painter of the King. Boucher came early into the favours of Louis XV. Louis commissioned paintings to him since 1735.
The King's official mistress Madame de Pompadour admired Boucher, and also commissioned him paintings. As most of the King's painters, Boucher designed cartons for the Royal tapestry factories, mainly the factories of Beauvais in the north of France. He was an inspector of the Parisian Manufacture des Gobelins from 1755 to 1765. He died in Paris in 1770.
Boucher was not altogether happy before his death. Denis Diderot, who dedicated his life to the first French Encyclopédie, considered him a pernicious old man, who perverted young artists. The new virility and austerity of Jacques-Louis David's new classical way of painting would follow the gallant François Boucher. David was just twenty-two in 1770, but had understood the new message his time demanded.

Louis XV was then the new Sun King of France. He had brought prosperity to France, victories at battlefields, a flourishing industry. Later defeats like the battle of Rossbach, fought in 1757 against the armies of Frederic II of Prussia, did change this image, but only gradually. Louis XV was at the height of his power a vain man and weary of the early successes of his generals in the Polish and Austrian Succession wars. He was restless, nervous, shy and pious in his younger years. He seemed always to think that he was not intelligent and strong enough to face his formidable tasks as King of France. He doubted his own capabilities. He became melancholic, weary of the endless feasts at the court. He liked to hunt though, and could remain in the open, in forests for days. He must have liked François Boucher's forest scenes of naked women. Because, although the King in the beginning liked his wife, the daughter of the former King of Poland, Maria Leczinska, and although he liked the children she had given him, from 1732 on he detached from her. He started to look for other interesting women.

Louis XV's first mistress was Louise de Mailly-Nesle, who remained the secret favourite of the King until 1738[G12]. Her sister Pauline seduced the King from then on. Louis married her out, but she died in pregnancy. Who could better console him than the youngest sister Nesle, Marie-Anne Marquise de la Tournelle. Marie-Anne, the most ambitious of the Nesle sisters, who banned her rival sister Louise from court. But Louis XV fell ill in 1744 in the town of Metz and repented. He broke the engagement that had now become a scandal even at the court. Only to call her back soon, of course.

Carle Van Loo has made a painting of the three sisters Nesle, which hangs now in the most famous Loire castle of Chenonceau. The Nesle sisters are women as Boucher would have liked them: young, well in flesh, plaited hair, small mouths, all thighs and legs. The three Nesle sisters are painted as the Three Graces Aglaia, Euphrosyne and Thalia, who have also been called respectively Beauty, Voluptuousness and Chastity. Beautiful and voluptuous they certainly were. But Chastity? Well …

In 1745 Louis XV met a lady called Jeanne Antoinette Poisson[G12], married to a Le Normant D'Etioles. Louis XV met her on a masquerade ball, fell in love and soon Madame Poisson or Madame Fish was made the Marquise de Pompadour. She knew well how to divert the King, organised theatre representations for him. In order to divert the King, no expenses and no extravagances were spared. It was Madame de Pompadour who spoke the words "Après nous le deluge", after us the deluge. She helped Louis in his political decisions. Due to her, the Duke of Choiseul became Prime Minister, which turned out to be a lucky choice.
Madame de Pompadour brought art again to the palace of Versailles. She much favoured art, literature, sculpture and painting. The Encyclopédistes like Diderot could work, Jean-Jacques Rousseau, Montesquieu, Buffon, Voltaire were encouraged, but were not invited to the French court. These key figures of the Enlightenment did not condone the lack of morals, the many feasts and the frivolous life of the court. Madame the Pompadour favoured especially François Boucher, but also the other painters of the mid century: Jean-Marc Nattier, Carle Van Loo, François Lemoyne, Quentin la Tour. Madame de Pompadour, Boucher's major Maecenas, died of tuberculosis in 1764, aged forty-one. She, like her art, was rather short-lived.

François Boucher could paint other subjects besides young, naked girls. He made several portraits of Madame de Pompadour.
One of the most representative portraits is in the Wallace Collection of London. This private Collection holds one of the largest series of paintings by Boucher, as assembled by Richard the fourth Marquess of Hertford, who particularly fancied the refined taste, elegance and ostentatious luxury of the Ancien Régime[U9]. This Marquess lived for a long time in lavish apartments of the Rue Laffitte of Paris, and he owned the Château of Bagatelle in the Bois de Boulogne, still famous for its rose gardens. Lord Hertford possessed a large collection of works of art of the Rococo period, of over 30 pictures of François Boucher, over 25 by Greuze. He owned works by Fragonard, and over 40 paintings by Watteau and his pupils Lancret and Pater. He was known in French society circles, and became a friend of Emperor Napoleon III. The Marquess had not married, but he had an illegitimate son, also called Richard, by a Mrs Agnes Jackson, née Wallace. This son changed his name from Jackson to his mother's maiden name of Wallace. By this name the Wallace Collection is now one of the richest in the world of paintings made in the French Rococo style. It took an English Lord of the nineteenth century to admire and collect the diffident art of Louis XV's period.

François Boucher's picture of Madame de Pompadour epitomises the French Rococo style. She is painted in an overabundance of curls, flowers and foliage. Behind her stands a sculpture of "Love and Friendship", which she had commissioned, from the sculptor Pigalle. It symbolised her Platonic later relationship with King Louis. Madame de Pompadour is depicted as a magnificent young lady, ravishingly

beautiful, with the small cherry-red lips of desire. She smiles amiably and her arm rests nonchalantly on the sculpture thus emphasising its meaning.

 While Madame de Pompadour was ill, Louis XV continued to need women like the delicious Louise O'Murphy. He fell deeper and deeper however, especially after also his wife Marie Leczinska had died in 1768. Prostitutes and young ladies, who would serve anyone who could pay them, were discreetly called to a pavilion of Versailles, the "Petit Trianon". Two courtiers decided to take opportunity of the sexual foibles of the King. The Duke of Richelieu and his friend the Count Jean du Barry found it a splendid idea to present to the King a new young lady, Jeanne Bécu, who had already enjoyed the favour of too many nobles to name but who was barely twenty and a renowned Parisian beauty. The King immediately took a fancy for the beautiful Jeanne, so the two conspirators quickly wedded her to the brother of du Barry who was completely indebted and all too eager to comply for a handsome amount of money. Madame du Barry replaced Madame de Pompadour. The court hated her. The very young wife of the Dauphin, Marie-Antoinette of Austria, could not stand her. The better people blamed her for the licentiousness that continued in Versailles. Madame du Barry started to interfere in politics. Richelieu opposed the Duke de Choiseul, and hoped to use du Barry to influence the King against the Duke. When Madame du Barry felt attacked by the very able Prime Minister and Duke de Choiseul, she simply told the King to ban the Minister from court.

Madame du Barry remained the favourite of the King, till his death in 1774. Then, as wanted by Marie-Antoinette, she would first be banned to a cloister, then to her castle of Louveciennes, where she continued to have lovers. Imprisoned by the Revolution in 1793, an ardent supporter of the aristocrats wanting to overthrow the Revolution, she died on the guillotine the same year. Madame du Barry led an eventful life, yet she is described as a charming, generous lady, a protector of Voltaire and also of other artists.

The Lock

Jean Honoré Fragonard (1732-1806). Musée du Louvre – Paris. Painted in 1778.

One of the painters to whom Madame du Barry commissioned works was Jean-Honoré Fragonard. Fragonard made a series of paintings for her, called "Progrès de l'amour dans le coeur des jeunes filles", on the progress of love in the hearths of young girls. A whole programme! Fragonard decorated also for Madame du Barry the pavilion of her castle at Louveciennes.

The painter-protégé of Madame du Barry, Jean-Honoré Fragonard, had of course been a pupil of François Boucher, after shortly having worked in the studio of the more austere Jean-Baptiste Chardin. Fragonard was born in 1732 in Grasse, the town of Provence perfumes in the south of France. He followed the traditional career: in 1753 he was a student of the Royal Academy of Young Protected Artists where he worked under the Carle Van Loo who had painted the Nesle sisters. From 1756 to 1761 he lived in the French Academy in Rome. He mainly painted landscapes. He visited

Naples, Florence, Venice, and as so many others came under the influence of Tiepolo. Fragonard returned to France and the Court, but continued to travel: to Holland in 1772, to Italy in 1773-1774. He worked on mythological subjects and portraits, but he is most known for the frivolous idylls he painted for the court of Louis XV, Madame du Barry and Louis XVI. The names of his paintings say it all: "Le verrou", the lock, "La chemise enlevée", the shirt taken off, "Les baigneuses", the bathers, "Le feu au poudre", fire to the powder, "Jeune fille et son chien", young girl and her dog.

This last painting is one of the most sensuous Fragonard dared to paint. It was so "osé", that even his contemporaries dared not publicly show it. A young girl lies on a bed and plays with her white dog. But her shirt has been pulled up; she holds her legs high, she holds the dog on her knees. But the dog has a small intent head, and the dog's fluffy tail caresses between the girl's naked legs.

In his later years Fragonard became less sensuous. He had married, and had read the books of Jean-Jacques Rousseau. The Enlightenment had reached even the King's painter. The Revolutionaries of 1789 considered Fragonard an utterly decadent painter, so he was not allowed to work anymore. His rich supporters had disappeared. He was ruined. But Jacques-Louis David, who had been his student, protected him, and could at last obtain for Fragonard the post of Conservator of the Louvre Museum to earn his living. Fragonard died in 1806.

We have chosen "Le Verrou" or the lock, as the example painting for Jean Honoré Fragonard.
The painting is made in soft brown, yellow colours, in all harmony of analogous colours. A strip of bright light falls obliquely in a room where a young man holds a woman in his arms, and closes a high lock on a door. The strip of light enhances the long oblique line of the entwined man and woman, and the outstretched gesture to the lock. The woman seems to want to stop the closing of the door, but of course she succumbs all too willingly.
Fragonard has splendidly made one dynamic movement of the ardent lovers. Her leg continues the line of arm and shoulders of the man. The woman passionately curbs her back, supported by the left arm of the youth. Her head is held apart, but kisses will come and are awaited. The bed beckons the couple, with its heavy red curtains of passion, half-open with deep cushions and linens. We feel that the lovers will disappear in the softness soon. But on the table in the left corner lies the apple of sin and ruin.

"Le Verrou" was painted in 1778. One year later would mean the end of the Ancien Régime, of the traditional Monarchy of France. The French Revolution wiped it all away.

For France in the eighteenth century was a country with many contrasts, contradictions and conflicts. On one side lived the Court of Versailles and its frivolous, libertine courtiers. These aristocrats dedicated their time to courtly love and pursuance of young ladies who were admired, but who were also not much more than objects of desire. The Courtiers lived as best they could, using up the state taxes also as best they could, spending the money on spectacles, feasts, castles and jewels. These Monarch and Courtiers thought it was their absolute right to dispose of the funds of the nation. Next to them however stood a Parliament that became more self-assured

and could only with ever more difficulty be restrained from taking control of the state. Parliament went as far at one time as ruling away the Jesuit order. General displeasure augmented. Already in 1757 an attempt on the life of Louis XV was made. The King received a knife wound, but recovered quickly.

And then there were the Philosophers of the Enlightenment. These intellectuals of France were called Philosophers, after the name given to the natural sciences in the Encyclopaedia that some of them were assembling. They proposed a new set of values. They wanted reason to prevail, freed from all its restraints like religion, tradition, monarchism, and intolerance of the churches. French Monarchy was based on all these values of tradition and religion. However tolerant the French Court remained to these ideas, the King and his nobles could not but see that the ideas of the Philosophers were directly in opposition to theirs. But since the court danced, it did not crush the ideas. As long as they held power by the money and the army, the Court felt secure.

The Philosophers believed that man was born with fundamental, inalienable rights which they called the "Rights of Man": the right for freedom, the right for property, for free speech. The State did not have the right to control the morals or the religious convictions of its people. The State had to ensure that these laws were respected. Such ideas originated in England in the seventeenth century, when John Locke wrote an "Essay concerning human understanding", which laid the groundwork for empirical science. Slowly, man became again the centre of thinking, and every man had the right to think and to express what he thought. Empirical investigation into the forces of nature, physics and chemistry started. Hence also the later idea of bringing all knowledge of mankind together in one immense work: the Encyclopédie. Denis Diderot would dedicate his life to this work.

The Count of Montesquieu continued this line of thinking in France, first by ridiculing Court life in his "Lettres Persanes", and then by writing "L'Esprit des Lois", the true spirit of laws. Voltaire and Rousseau brought the ideas to a culmination. Jean-Jacques Rousseau wrote the book that would be the final blow to monarchism. In "Le contrat social" he stated that a committee of chosen men would govern his ideal world.

And next to the philosophers of the Enlightenment stood women who held salons where the writers and artists could meet. These were the intelligent women who supported, encouraged and drew to publicity the new ideas. They were saying to the world that women could also be ladies of wit and determination, quite different from the Court mistresses. Madame de Tercin received Montesquieu, Fontenelle and Helvetius. Madame Geoffrin in particular cultivated Rousseau; Madame du Denant did the same with d'Alembert, who went also to Madame de l'Espinand's salon, which was also frequented by Diderot.

Thus, the France of Louis XV and Madame de Pompadour, of François Boucher and Jean Honoré Fragonard and the France of the flamboyant, luxurious palaces was at the same time the France of the Age of Reason. The contradiction could not last; it was too blatant.
Diderot died in 1774, Rousseau and Voltaire in 1778 the year before the Revolution. In these last years before the Revolution, the French convention would start to control the taxes, thus the money the court traditionally managed. The Parliament began to

assemble its own armed bands, and to control the nation's army, so that it became incapable to act for the King. The King was left without a Court, without an army that could be commanded, soon without power. Then, the King lost his head.

What to say then of the King's monarchical century Court art epitomised by Boucher and Fragonard? Of course, the Philosophers were right. They made sure that not just the very few King and Courtiers could claim all rights. They gave each man his dignity and his place in the universe. And that also to each woman. They looked at disgust at the Courtiers humiliating themselves while serving the mistresses. Every man and woman would have the same rights as King and courtiers. Every man and woman should choose his representatives in his or her state's government. The philosophers wanted art to reflect stricter morals.

But art is art. Artists deliver works as commissioned to them. One could hardly decorate Versailles or Bellevue with scenes of scientific experiments or with the portraits of the austere Philosophers. The Rights of Man surely include the right to enjoy us. One of the unalienable rights the Philosophers have given us is the right to like works of art, whatever the motives that led to their creation, for art's sake.

The paintings of Boucher and Fragonard are splendid works of art. They were painted by very gifted artisans and by very intelligent, subtle people. These painters were no irresponsible men. They painted to live, and had the occasion to paint, as they liked. They must have liked the light gallant Court style; they must have found the Royal Court a paradise on earth, and Court life, or the superficial part they could see of it, a possible ideal for mankind. And these men worked hard as Members and Directors of the Academy. They reflected on their paintings and subjects as much as any painter in any century.
The structure of the paintings of Boucher and Fragonard are as sophisticated as paintings of Jacques-Louis David. And they are nice to look at. The colours are harmonious; the scenes lovely, the ladies are a joy for the heart. We can finally enjoy the sweetness of life and the lighter emotions called by these paintings, without referring continuously to the stains of France's Ancien Régime.

Lesson Eight – Guiding the View

Zeuxis and Arte are sitting inside Arte's house, in Arte's room. It is still raining outside, a very heavy rain that drains all energy. Zeuxis looks appreciatingly around in the girl's private space. It is a very romantic room, with walls painted in soft orange colours. Apparently Arte is an orderly girl, for all her private things are well stacked away in cupboards and drawers, except for the photographs of her parents, her books and records. Her girlish relics are on the sofa: her teddy-bear and a cloth giraffe, next to where Zeuxis comfortably groans.

Arte: Oh, Zeuxis, when we will at least begin to see something of colours? It has now been a long time that you taught me all there is to know about lines and shapes and a few tricks of illusion even. But I hunger for colour. Just a little on colour, please, please.

Zeuxis: All right, Arte. For talking about colours however we need the sun, light, and the open. There is but one small subject left before we should embark on colour. That would be ideal for this day. So the lesson after this, I promise, we will start studying colour. Have you well read my texts on content in paintings?

Arte: Oh yes, Zeuxis, I did. I particularly liked the part you wrote on moral content. I also browsed through my mom's Pliny however, and found in there that a certain painter Zeuxis wanting to paint a portrait of Helen of Troy. Unable to find any one woman beautiful enough to serve as a model, he inspected all the girls of the town naked to chose out five, whose peculiar beauties he proposed to reproduce in his picture. And Angelica Kauffmann even painted a picture of the scene!

Zeuxis, choking and reddening: Why, Arte, eh, by Zeus that is a surprise. I, I, Hmm. I thought that that story had been forgotten since long. Damn Pliny! I never touched one of those girls; I just looked and reproduced. It is a painter's privilege to seek out the pretty, also in women. The nude is noble. My intentions were pure. At least the picture of Helen was more pure than that picture Parrhasios made of Atalante and Meleager doing things to each other young ladies had better not see.

Arte: Right, right, Zeuxis; no need to get angry. Just looking, eh? Were you not also a little a François Boucher "avant la lettre"? Well, well, one wonders at all the interesting things one can find out by reading. Anyhow … that picture of Parrhasios, was that the one that was bequeathed much later to the Roman Emperor Tiberius on the condition that if he did not like it he could have ten thousand gold pieces instead; and that Tiberius not only preferred to keep it, but hung it in his bedroom? I read about that in Suetonius. What then did you still want to teach me today? I will be patient, I promise.

Zeuxis embarrassed thoroughly now: I will show you, girl, how painters are so clever sometimes that just in a little picture that you look at they take you cunningly by the nose without you even noticing so.

Art laughing out loud: That, Zeuxis I really would like to hear about! The person that takes me by the nose is not born yet. I am all ears.

Zeuxis, laughing also now: I truly believe that, Arte! Checking on Pliny and reading Suetonius! By all the gods of Parnassus! Let's start then.

Zeuxis: Have you observed that when you look at a painting, you usually do that in various stages? In a first phase you look at the overall picture. Then you start taking in details, and begin to reflect on the painting, and even on the artist. All viewers do so.

Arte: What do we, viewers, then, do at first?

Zeuxis: The first view takes only a glance. But in that time, the viewer will obtain a very important general impression. This is the moment when the global idea of the painting pervades the viewer and brings forward feelings only due to the overall colour patterns and the patterns of the composition. In this phase of course the general mood of the content helps in forming an expression that appeals most directly to emotions and intuitions. Here, the most mysterious processes of the mind are at work, inducing feelings only on general impressions.
I have in the previous lessons tried to explain some of the principles that induce feelings and moods in a viewer, even though the most important element of all, colour, has still to be discussed. The architecture of the elements of lines, shapes, composition, colour and content generate the miracle of the emotions of the first instant. Feelings of rest, of nervousness, of tension, of cruelty or of pastoral scenes, the general mood of the prevailing colours, pervade our being and either make us happy immediately, or surprised or interested, or make us stand in awe. The elation or the quietness of the picture will be observed. Once the first phase finished, and that usually after only a few seconds, the viewer will enter into the details of the picture.

Arte: So that is the second phase?

Zeuxis: Yes. The viewer can begin at random somewhere at any point of the picture to study the details, and proceed from there also at random, scanning the painting as his eye leads him or her. This leading of the eye, arranging of emphasis in the picture to guide the view, is exactly what many painters, and most of the best, have worked on. The painters will lead the eye of the viewer over the canvas. The artists can build their compositions and use all the elements at their disposal, as we have analysed, to guide the viewer over the picture. Surprisingly, often the viewer is not aware that the painter guides him, as the best painters have done this so discretely that the viewer does not realise he or she is being guided.
The painter can use lines to direct attention. The eye of the viewer will follow the directions of the general lines. These lines can of course be formed as well by figures, as by the forms of the composition.

Zeuxis projects against Arte's wall a picture of wonderfully bright colours.

➔ Wassily Kandinsky (1866-1944). Yellow – Red – Blue. Musée National d'Art Moderne, Centre Pompidou. Paris. 1925.

Zeuxis: The painter may have used bright and pure colours that attract the view to one point of the picture. Then, with further bright colours, but maybe less bright that the spot of brightest light, the painter can lead the eye of the viewer further into a certain direction, or all around the picture. Then the painter used colouring to guide the view. A good example is Wassily Kandinsky's painting "Yellow – Red – Blue", in which the viewer is first attracted by the shining yellow colour and then follows the colours to the red and blue parts of the canvas.

Colours of high intensity, fully saturated, pure colours attract the eye of the beholder. Areas in these colours will be drawn to the front of a painting. Less intense and darker colours will be drawn to the background; areas in these colours will be more discreet. These areas will be supportive surfaces, contribute less immediately to the first impression. They will need to be discovered in later phases of contemplation. Pure hues also will tend to expand and occupy larger areas than they really have. That is why many great painters used these hues sparingly.

When the painter did not so much emphasise his colours to guide the views over the canvas, he or she had still the composition of the scene at his disposal.

The artist can really exploit all the pictorial means in the same panel. He or she can use the breaking of symmetry, the breaking of gradual repetitions, or the breaking of balance to attract attention.

Arte: We saw that already, Zeuxis. How can I be led by the nose, as you told?

Zeuxis: You are taken by the eyes! A very powerful means of guiding the attention of spectators is vision, the act of viewing with eyes, itself. The eyes of the figures in the painting take up a viewer so that his or her own glance will follow the directions of where the figures in the picture are looking at. Often such directions of eyes in the painting take on the viewer, and the viewer can be led unknowingly from one look to another all over the canvas.

The painter wants the viewer to start looking at a certain point, and then guide his or her view in a certain sequence over the scene. The artist may have wanted that to emphasise the central theme of the picture, to attract the view first to the central part of the scene and to the essence of the idea and the expression. But the painter might also have wanted to draw the eye first to details, and then to guide the viewer to the essence, thus to lead him or her from picturesque detail to the surprise of the central idea. This central idea may be hidden amongst details in a far corner, as well as being in the middle of the picture, as long as the viewer understands that the whole composition of the picture points to there. Surprise is an interesting feeling that almost always brings admiration, if only for the intelligence of the artist.

Zeuxis projects an ancient Spanish picture.

➜ Bartolomé Esteban Murillo (1617-1682). The Virgin and Child with Saint Rosalina of Palermo. Museo Thyssen-Bornemisza. Madrid. Around 1670.

Zeuxis: To illustrate this concept let us look at a picture of a painter who was once very popular, but who has in modern times often been denigrated as being much of a too nice, suave nature.

Bartolomé Esteban Murillo (1617-1682) was a painter of Spain's Golden Century for art. He was a painter who made many pictures of picturesque scenes of Spanish

children playing in the streets, and of devotional scenes. One of his pictures is the "Virgin and Child with Saint Rosalina of Palermo".

When you look at this painting, Arte, you will remark first the strong structure under the left diagonal, a structure of which we have spoken in this book. Murillo placed his scene in the basic triangle under the diagonal. Moreover, he applied the pyramid structure for his scene of the Virgin and Child. You can easily see how the pyramid is formed beneath the head of the Virgin by the composition of the way Mary is seated, and how St Rosalina kneels deeper below the Virgin and Child.

When you look at the picture your eyes will at first follow the strong diagonal and immediately ascend to the right upper corner. This is an effect of the strong diagonal, which leads the eye to the upper border. There your eyes come to the head of an angel and the eye of that angel captures your sight. Remark of course how this angel holds a reed leading all the more to the upper corner, and thus supports the direction of the diagonal. The angel looks down, so your eyes descend, guided naturally with that look, and come to the head of the Virgin. There again the look of Mary catches your view. She looks down at St Rosalina, so your eyes also go down lower. When you arrive at the Saint, the eyes of the girl again capture you and she looks at the child Jesus. Your eyes followed thus a whole trajectory from the upper right corner down to where Murillo wanted you to end, which is at the Child Jesus.

Here your view lingers, because the Child looks at Rosalina, so you wander in a circle, as your eyes are now caught in the view of two figures that look at each other. Your eyes are caught now between the two figures, your view goes to and fro, from Rosalina to the child and back again. This affects us deeply, because the bonds between Jesus and Rosalina are very strong as so subtly shown by Murillo.

Nowhere in the rest of the painting will you find similar links. Indeed, Murillo not only fixed and interlinked the gazes of the two figures, but he also painted their arms in directions that point to the two. The right hand of Rosalina goes to Jesus, all quite naturally since she is offering a flower, and the left arm of the Child goes out to Rosalina. This strengthens even more the mystic symbiosis of the Saint and Jesus.

All the time, the viewer is not really aware of how the painter has led his or her view. When you finally break your attention away from this couple, and that really takes an effort, your view will probably again go upwards, guided by the elation of the supported oblique line of the diagonal, and reach the angels again. Now your eye will go to the left, since that scene was not yet explored, and you will discover the little angels or putti on the upper left. From there your view can go down again to the last detail of the scene, which is the landscape of the town in which Saint Rosalina is seen preaching the good word. You have then assimilated the whole scene.

Arte: That painting looked very un-interesting, yet that Murillo was a smart chap!

Zeuxis: Yes, Arte. Many viewers will find this picture so easy as to be a common, uninteresting old scene, like you had in the beginning. Through seeing you learn, and for seeing, intent is necessary, and that means learning. Some viewers only, like you now, will have learnt how the artist guided their view intelligently, and they then will admire the skill and professionalism of the great artist that Bartolomé Esteban Murillo truly was. The smallest details can then be explored, like the bare feet of Rosalina, the skills with which the robes are painted and the harmony of nice colours.

Arte: Thank you, Zeuxis. You are nice. I guess with those words we have reached colour?

Zeuxis: Yes, we have, Arte. I would like you to read some more on how to look at paintings. I will write you a letter on that subject. But promised, the next lesson will be on colours. I am afraid though that you will be disappointed in the beginning, because there is so much to tell you on colours that we have to start with theory again. After the first lessons, you will call your tortoise after me!

Arte: Oh my, Zeuxis, I recognise you once more there, the logical Greek philosopher, whereas I want strong emotions to rock me! And my tortoise already has a name. We call it Achilles! But lessons on colours will have to wait. I have to travel with my mother. I'll be off for a while and we may not be able to meet.

Zeuxis: To Spain, to Granada again?

Arte: No, to France this time. My mother helps students of the horticulturist school in our town. She organises with the students a part of a flower show at the town of Épinal in the Vosges Mountains. I have to help her to arrange the flowers in a space allotted to us. We will mostly exhibit rare orchids and we will install a small cascade of water to imitate the jungle where the orchids live. Our orchids are mostly orange and that will go nicely with the green.

Zeuxis: We will get to colours there then, Arte, all in due time. A flower show is a most marvellous place to study colours. We will find time before the show and at evenings when there are few people around. I'll show you how flowers can be arranged with nice colours combinations.

Arte: That would be nice, Zeuxis; we'll see if I can have free time for us at Épinal!

Zeuxis disappears.

Fourth Letter of Zeuxis: Looking at Paintings

My dear Arte,

A central question in these lessons, a question that came up time after time at the assessment of each element of form, was on the criterion of beauty. How does one define the "beautiful"?

We admire paintings when they are beautiful, but the definition of beauty remained elusive and complex. We expressed the concept sometimes with words like "harmony" and "balance", but rarely dared to come on the word itself. With art we are not just anymore and only searching for feelings of pure pleasure incited by aesthetic beauty, even if we could more narrowly define or describe what that means. Viewers of the sixteenth century might have looked exclusively for the criterion of beauty, and have tried to define it in terms of solemnity and dignity in the content. They tried to define the concept in terms of symmetries in colours and shapes, in terms of clever and balanced composition, of true observation and skilful imitation of nature. But these criterions do not satisfy us anymore. After the discoveries and experiments of the twentieth century, our feelings over what might be "beautiful" can be have become more complex.

We have still essentially to believe that the reactions of contemporary viewers determine the many-faceted pleasure given by art. These reactions are complex, but come in three discernible separate phases and the feelings of pleasure, interest or admiration of each phase add up or destroy each other. We will propose in the following paragraphs a definition of those phases.

First, viewers look at the picture and take in the whole view of the painting. They have an immediate impression and reaction in their mind to the overall image that they see. They see mainly the general hue of the colours, the global composition and the subject, the content, the scene. After the pleasure – or aversion - offered by the first impression, viewers start to look more attentively at the painting. They discover the details then, and will look over all the painting with focused interest to discover the skill of the painter. This can bring additional interest and admiration. After that will come the mostly intellectual pleasure of the comprehension of the idea of the picture, the idea of inspiration expressed by the artist. This may involve and need extensive knowledge of the history of art and of the life and motives of the painter. Then the viewer will recognise – or reject - the genius and the inspiration and motives of the artist.

We will call these three phases by the main words we have used to describe them. We will call the phases by the terms "Impression", "Discovery" and "Recognition". We describe these three phases in the following paragraphs.
We do not believe that for all of these phases the sensation of pleasure, as an agreeable emotion, is necessary for viewers to admire and like a work of art. One sensation of the three is enough for viewers to admire a painting and call it art.
The three phases emphasise three aspects of our reactions to paintings. The three aspects add up to the aesthetic pleasure and any of the three is enough to lead to appreciation – the "pleasure" – of the experience of a painting. But since we handle

the aspects usually in sequence and separately, we prefer to use the word "phases" to indicate the additional aspect of time as our admiration grows – or declines -, since admiring and recognising art is also a matter of maturity and of gaining knowledge.

This emphasis on time or on the act of comprehending art is not new. Beauty is, quite simply, not an object – it first comes into being through perception.
Friedrich Theodor Vischer (1807-1887) wrote already in "Critique of my Aesthetics" in 1866, "Beauty is the contrast between an object and an apprehending subject and since what is truly active in this context is the subject, it can be termed an act. In short, beauty is simply a particular form of perception". [G87]
Like Vischer, we believe that beauty is in the act.

Impression

When viewers look at a painting, a first and short glance evokes in most viewers a strong emotion of admiration and pleasure. For some paintings, the patterns of the coloured areas and then of the lines and forms induce aesthetic feelings almost instantaneously. These feelings are close to what we experience when we hear music. They are an immediate appeal to still unknown, and therefore mysterious processes, which go on in unknown centres of our brain, focused probably on overall harmony. People like Wassily Kandinsky are very sensitive to patterns of colours and of lines. Their reaction to the purely visual composition of a picture is immediate and strong. Most people to a lesser, but to some extent certainly, find a picture appealing at first glance or repulsive. They use the terms of "beautiful" or of "ugly" to express their first impression.

The most sensitive viewers will be touched by the patterns of colours alone, by the harmony of forms, and that will be the case for most abstract art. Patterns of pure hues placed together in a well-balanced way will always attract and appeal rapidly when viewers come to a picture. Viewers may include in their first impression the content, that is the feelings expressed by a scene, by the object matter of the painting, as far as there is content matter, for figurative art. We understand the urgency for abstract painters of the twentieth century to probe into the essence of the immediate impression by the means of the infinite combinations of the fundamental style elements. In abstract art, only composition of lines, forms and colours are displayed without subject matter. It remains true however, that most viewers receive stronger impressions when content matter is added, the content matter being representation of objects, of landscapes or of scenes with human figures or animals.

The first impression will more often than not be generated by the colour patterns of a painting. Colours are seen first, before the details of a scene, before its lines and structure. Very intense, saturated pure colours will attract attention first, as these colours tend also to dominate a scene. But also other more subdued patterns, forming a particular mood in the picture, will be noticed instantaneously. Or the viewers will perceive the energy of the picture, maybe represented in harder colours, and in the content.

The first impression phase then is one of immediate emotions, during which the viewer will obtain an instant feeling of the harmony of forms and colours, or the lack

thereof. This is the phase that corresponds to the emotional aspect of the painting created by the form of the art of painting and the perception of content.

It is rather irrelevant in this phase to know or to understand whether the emotions the viewer feels are also those expressed by the artist, or whether the artist has felt nothing at all but used the technique of painting to arouse emotions in the viewer. In other words, it is rather irrelevant to know whether the feelings were expressed, or whether the artist manipulates to a certain extent the viewer. As viewers we simply feel, and we appreciate the degree to which emotions are invoked in us. Whether or not the painter felt the same emotions is what the viewer might explore and try to discover in subsequent phases of viewing the picture, and while learning to know more about paintings and painters.

Discovery

After the first impression, viewers will take some time, and perhaps even a long time to discover the details of a painting. The patterns of lines, shapes and colours are then analysed by the viewer.

The viewer will look at what the general direction of the picture is, how the horizontal and vertical or oblique lines are used in the composition. The viewer will maybe discern movement or more static poises, and find out by what means these aspects were created. He or she will look at the general composition, and discover the pyramid, open V, stage theatre, diagonal triangles, or other presentation structure. The viewer will find how the colour areas are cleverly distributed over the panel, how the forms are in equilibrium, and how this distribution is harmonious, that is symmetrical and balanced, or whether balance is broken and thus tension introduced. He or she will remark how the artist has laid emphasis on certain parts of the content or of the colouring to guide his or her view. The viewer will analyse the scenes for the professional skills of the painter in representing a known or uncommon theme. The viewer will discover the symbols in the picture, as well as elements of linear and aerial perspective. He or she will look at how volume and depth is created. In short, the viewer will look over all the elements we have discussed in the previous chapters, in detail.

Finally, the viewer will analyse the colours. We have exposed in these lessons the difficulties that painters have to take into account when they juxtapose various colours. We cannot fully explain the pleasure at seeing nice contrasts of colours or the pleasure at seeing a picture almost entirely painted in analogous colours. Yet, the viewer can admire the harmony and judicious choice of hues.

We hope that these lessons might help viewers to systematise their analysis of the single elements of style in paintings. The viewer will admire the intelligence and the intuition of the painter in the diligent use of these elements.

In the discovery phase, the viewer looks at the details of the elements of the form of the art of painting. The viewer remarks the lines, shapes, colours, the rendering of volume, the perspective, and the space and depth of the picture. He or she discovers the content, as well as the skills of the artist. This phase corresponds to the artisanal

and intellectual aspects of the picture. The viewer analyses the picture, and discovers its formal features. He or she finds out how the painter has used the elements of design that artists of the visual arts have at their disposal. This discovery may heighten the degree of appreciation of the work of art. Thus, the analysis of form, as much as the emotions evoked in a first phase, is important for the appreciation of a work of art.

Recognition

A few viewers will additionally seek information on the painting, and thus show an interest that goes well beyond the visual overall view and the detailed view. These viewers will look at the title and at other information supplied by the museum researchers, so that he or she better understand the ideas that lay at the basis of the work. He or she will find further information in a summary study on the picture. The viewer will look up the period in which the picture was made, the art tendencies of the moment, the evolutions of art that took place during the lifetime of the artist. Often, a picture can be admired because it is part of a series that in its totality only shows the evolution of the artist and the times. The viewer will find out how much this particular picture was a precursor of new trends in art and in society. He or she will investigate on what the intentions of the artist might have been with the work, what the intentions were of his or her whole oeuvre, on the way the artist lived, and on the cultural state of his or her society. The viewer will place the particular work in the context of the entire work of the artist, and of the works of other artists of that time and that society. In a wider perspective still, the viewer will situate work and painter in the context of history.

This phase is not merely an intellectual phase, because sympathy for the painter and the work may grow steadily in the viewer, as he or she proceeds with his or her investigation. The viewer will develop an intimacy, an empathy with the artist, with his or her emotions, and with the visions developed in the painting. Or the viewer will develop aversion.

It remains true that scientific research is necessary for this stage. Luckily, art historians have written much on the subject of art, on painters and their work, and on styles of painting. Historians have uncovered not only the facts of history, but also the undercurrents of economic, social and psychological developments of the past. This information may add to the understanding of the idea, of the inspiration of the picture.

During this phase, the viewer may develop admiration for the painter and possibly understand, then find interest even in "ugly" paintings. Knowledge leads to understanding, to recognition both of the work and of the painter. Understanding leads to acceptance of the painters' motives for strange works, then to loving.

The phase of recognition is an intellectual phase. The viewer likes to find out more in a painting than the picture yields at first sight. Ernst H. Gombrich (1909-2001) said of this, "We prefer suggestion to representation; we have adjusted our expectations to enjoy the very art of guessing, of projecting."

We suppose this to be more true for the researcher and truly interested amateur than for the occasional viewer, but even the curiosity of a casual visitor is touched more often than not by knowledge of the works of art and their history and story.

During the phase of recognition, the title will help the viewer. The viewer will reflect on the idea, on the inspiration of the painter, and on the objectives of the artist with the work. The viewer will learn why the picture came to be. He or she will investigate into the social, political, economical and artistic state of the painter's society. This phase corresponds to the intellectual aspect of the aesthetic pleasure

In the third phase of "Recognition", we try to recognise the idea that the painter expressed in his work of art. Whether that was the original idea of the artist or the idea that he or she ended up with while working is interesting to know and may help us in admiring the work of art more. But it is not a necessary perception. It is not a necessity to discover this idea for us to like a work of art. We may discover our own idea, discover an interpretation of our truth, that is not exactly the idea intended by the painter, or the original idea expressed by the painter at the end of his or her work. This last idea might be the "Truth" or the "Idea". Suffice it for our purposes to discover our own "idea" or our "truth", our particular and personal interpretation. It is more than often anyway extremely difficult, if not impossible, to grasp, to understand fully the artist's idea. Even if the artist described in words, in letters or in explicit explanations what he or she intended in the work (the title may help), it is hopeless for viewers to grasp the whole idea, the whole "truth", the being, of the painting.

If a viewer learns to know the intentions of an artist with his work – a few artists have done that in writing, like Wassily Kandinsky, or provided explanation in filmed interviews, like Pablo Picasso or Giorgio de Chirico – then the viewer comes closer to the true meaning of a work.
A viewer can always see another interpretation in a work than the explicit intention of the painter. Is such an interpretation then to be condemned as a lie? To us, the explicit intentions of an artist are not necessarily relevant. Still, they will enrich in most cases the viewer's admiration and certainly the viewer's understanding of the work; but the viewer has always the right to formulate his own interpretation.
This puts of course again the question of communication: how can there be communication when the viewer sees something else in a picture than what the artist intended? In our view, the communication does not stop when the sender allows for various interpretations of the message at the receiver's end; this intention is then part of the message.

A viewer does not merely look at a painting. He or she experiences it thoroughly. One quick look at a painting seldom goes further than a phase 1 impression, and this is in most cases inadequate to fully appreciate a work of art.
This is very much the case for modern and abstract art, which as the French philosopher François Lyotard defined in 1982, "I shall call modern art the art which devotes its "little technical expertise" (son "petit technique"), as Diderot used to say, to present the fact that the un-presentable exists. To make visible that there is something which can be conceived and which can neither be seen nor made visible; this is what is at stake in modern painting." Such an intention to present the un-presentable cannot be appreciated in a first or second phase.

Looking at paintings

We illustrate the foregoing principles with a few examples of paintings that we have already encountered.

Three Maries at the open Sepulchre

➜ Hubert (1365 – 1426) and Jan van Eyck (1390 – 1441). The Three Maries at the Open Sepulchre. Museum Boymans - van Beuningen. Rotterdam. Around, but after 1430.

Impression

When we start to look at a painting like the "Three Maries at the open Sepulchre" of Hubert and Jan Van Eyck, we will instantaneously admire the harmony of its colours and the symmetrical, balanced composition. Van Eyck mainly used bright, pure hues and these always please viewers. We will see how all details are painted in intricate, splendid detail and admire the smooth glistening areas of paint. The distribution of the colours appeals to our sense of aesthetic beauty. We will immediately be delighted so that our first impression of the picture will be very pleasing. Casual visitors will stop here.

Discovery

Some visitors will be interested further. After a while, they will start looking at the details, such as the marvellous way in which the painters depicted the robes of the three Maries, and the splendour of the light playing on the armour of the soldiers. They will discover the nice landscape in the background. They will find the directions of the lines that support the obvious open V structure. They will remark how the lines of the lances and arms of the soldier, even their own positions, are all oblique, whereas the three Maries enhance the vertical lines of the picture. The viewers will understand that the painters have emphasised with this the artificial sleep of the soldiers, in opposition to the quiet dignity of Jesus's family. They will also notice the white flower, a symbol of the Virgin Mary, and the pot of balm of Mary Magdalene. Many more details are to be discovered in this picture. This analysis must support the more alert viewers in their opinion that the van Eycks were truly master painters.

Recognition

In this phase we will start to ponder on the names of the artists. We will understand that this is a picture of the fifteenth century. We will be astonished at the good state of conversation of the painting, and look in awe at the professional knowledge of the brothers in paints and preservation of hues in such an ancient panel. Then we may learn that the brothers probably both worked on only a part of the painting. We may read on Jan van Eyck's life and his career at the Court of the Dukes of Burgundy. We may learn about the Burgundian lords, their ascent from sons and family of the King of France, to their later enmity with the King. The Dukes of Burgundy at one time became allies of the King of England. We may arrive at the history of the Hundred Year Wars in France, at the technology of the English longbows that gave the English early victories. Then we may learn of Joan of Arc, and of the turn of the victories,

until the French warlords ultimately forced the retreat from France of the English armies. We will be surprised at the demise of the House of Burgundy but also of the splendour of its erstwhile Courts. We will find out the wealth of Bruges, of the cities of Tournai and Dijon.

Conclusion

We have now admired the work in three phases, in three of its aspects. We went through first impression, discovery and analysis of details, recognition of the painter's status. We have liked the work at every stage. The "Three Maries" is a painting that will thus be easy to be admired. We take pleasure in the three stages. We will say this is a "beautiful" picture. This aesthetical pleasure is a complex accomplishment.

The Dance of the Poppies

Let us now look at "La Danza de las Amapolas" of Joan Miró.

➔ Joan Miró (1893-1983). La Danza de las Amapolas. Museo Nacional Centra de Arte Reina Sofia. Madrid. 1973.

Impression

When we step before this painting, we only see two black lines and three orange dots. Although there is a nice kind of balance between the lines and the dots, also in their colours, so few elements will probably incite no particular feelings in the viewer. We may be a bit puzzled, and may even laugh mockingly at such a spare use of painterly means. Pleasure is scarce. Most viewers will walk on, unconcerned.

Discovery

We look more closely at the picture to try to find more interesting details, in composition and colours. But the discovery simply of what we see, of our purely visual experience, yields little. No new feeling adds to what we have discovered so far. Our discovery phase will be as short as a first glance. So in this phase, we feel no real pleasure, no admiration. Our initial feelings of a "cheap" picture may even be enhanced, and our admiration may sink deep.

Recognition

In a last attempt at understanding, we will read the title and start thinking on the implications of the phrase. We will then understand by ourselves or have somebody explain us that the two black lines might represent the lives of two poppies or of lovers that meet, as the intersecting lines. Throughout their lives, the poppies are unable to separate, and they will evolve close to each other as the black lines, but not come together again to that strange symbiosis of the fulfilment of love. The lines thus represent time that passes, a long period in the lifetime of the poppies or of the lovers. The dots represent space, for they indicate the moves of the dancers on a floor. So Joan Miró represented several dimensions. We see the two lines on a vertical canvas to represent fleeing time, and the dots to represent horizontal space. We may then

admire the power of the idea of Miró and the marvellous inspiration of the painter to represent such a strong vision with so frugally few elements. Suddenly, our mind becomes filled with a lifetime and with a dance floor full of people dancing tango. But how can poppies dance? A few lines and dots have filled our mind with rich images.

Conclusion

Here is an abstract painting that cannot be admired in its two first aspects. A viewer who does not proceed to the third stage of recognition will never come to admire Miró's painting. On the contrary, he or she will think the artist a crazy man and a cheat. The painting will remain uninteresting, even ridiculous in its frugal depiction. But the third phase induces very strong feelings of admiration and of sympathy, since we now know what the painter wanted to express and now only can we admire his skill in showing an idea with a few elements. We admire Miró and his work.

With abstract art we often need to go to the third phase to appreciate a painting, and recognise its value. Yet, many abstract works also take viewers in their grip from the beginning, at first glance, and maybe even at first glance only! This is the case with the works of Wassily Kandinsky and Mark Rothko for instance. These paintings are so strong in colours and in composition of abstract forms, that they inspire immediately feelings in the viewer, not unlike the feelings experienced when hearing music.

Joan Miró's picture is an example of abstract art that uses as few elements of form as possible, and yet that constitute a work of art.
The American critic Clement Greenberg expressed this in 1962 as follows, "What is the ultimate source of value or quality in art? The worked-out answer appears to be: not skill, training, or anything else having to do with execution or performance, but conception alone. Culture or taste may be a necessary condition of conception, but conception is alone decisive." [G86.]
Or as the painter Sol Le Witt (b. 1928) said in 1967, "When an artist uses a conceptual form of art, it means that all of the planning and decisions are made beforehand and the execution is a perfunctory affair. The idea becomes a machine that makes the art". [G86.]
Joan Miró made a work that is reduced to conception. Yet in a third phase of Recognition viewers may appreciate it, and be interested so much as to like the picture.

Time

We proceed to another intriguing example of painting, to Francisco de Goya's "Time", also called "The Old Ladies".

➔ Francisco de Goya y Lucientes (1746 -1828). Time, or the old Ladies. Palais des Beaux-Arts. Lille. Ca. 1808-1812.

Impression

Every viewer will be extremely uncomfortable at his or her first view of this picture. The patterns of colours invite to pleasing emotions, but we cannot but notice the horror of the subject of painting. The old woman is appalling in an ugly scene, while Chronos or Time prepares cutting at her from behind. How could a painter, of whom we might have heard that he was a great genius have made such a terrible scene? We will thus find no pleasure, but only aversion, at first impression, after looking at Goya's work. It only awakens feelings of rejection. We feel no pleasure in the first phase of impression and would as rather proceed to the next panel of the Palais des Beaux-Arts of the town of Lille in France.

Discovery

In the discovery phase, we will however find interesting details that demonstrate the skill of Goya. Goya was a wonderful colourist, and in the overall subdued tone of the picture we also discover the marvellous way in which Goya painted the white robe of the lady. Goya knew extremely well how to create splendid colours with few means. He gives us an impression of many details from a distance, whereas as seen from close by the brushstrokes are rapid, forceful, nervous and seemingly at random. Goya painted the whole scene in brown hues, but the white robe of the old woman stands out because of the contrast, and therefore constructs a magnificent picture.

Our emotions of rejection remain nevertheless strong throughout this phase. Our admiration at the skills of the professional and at the temperament of the painter will not overcome our aversion.

Recognition

Now we may remember that Francisco de Goya lived in a period of very harsh times for Spain. Spain was occupied by the French revolutionary armies, and suffered much. We recall that Goya once fell ill, almost died, but recovered. He stayed partly deaf however. He became a bitter, isolated man. He lived alone, turned inward, and we can understand how terrible that must have been for a man so sensitive. From then on, he developed an acute and different vision of his fellowmen. He had been close to death; now all the vanities of life seemed futile and small. There was little nobility of spirit left in Spain, only corruption and self-indulgence. Goya, in an equally vain attempt at wanting to change the attitudes of the people of Spain, showed the vanities in all their realistic horror. Then he grew aware of his failure, and he became more sarcastic, his palette darkened, and that evolution can partly be seen in this painting. With time, Goya would only paint in grey and black. But he recovered also from that phase. In later life he had to leave his beloved Spain, and lived in Bordeaux, in France.

Conclusion

So, now we know of Goya's social motives, and his warm feelings and concern for humanity. One cannot change humanity by showing nice pictures. One has to shock with the contrast between splendid art of white colour and the horror of dark vanity.

At this knowledge, our aversion at Goya's painting does not disappear, but the aversion now is understood, and we accept the purpose. More than the painting, we admire the painter, and his feelings for humanity. Goya's painting now can be accepted, admired, and then loved.
But as with Miró's work, we needed to proceed until the second and third phases to learn to appreciate Goya's work.

In the preceding examples, we have shown how viewers can react and learn to love art. The first impression is always very individual. Here, the viewer receives an impression of art that cannot be learned nor analysed. This is a crucial moment, but more must be learned of a painting in order for us to admire it more – or to reject it as little art. We have explained in the preceding lessons all the elements that painters can use to interest us in their work. During the phase of discovery we can keep this analysis in mind, and compare the work against our knowledge. Finally, some paintings will need the intellectual work of research into the painter's life and times before we can love the picture.
These phases are but aspects of a work of art, and often these phases blur and overlap, but the three aspects complement and enhance our opinion.

Art and the art of painting in particular, engage the emotions of the viewers. It develops their powers of imagination. It develops their intellectual powers also, since it promotes and introduces them to reflection. Art helps understand other men better. The visual arts enhance the aesthetic experiences of viewers, as it is more valuable to see beautiful things than to see ugly or commonplace things.

Over the centuries, painters had various and different views on how to impress viewers with strong first emotional reactions, and on how to use details to interest the viewer further. We are even interested in a few painters almost only by the way they lived, and can only admire their art by knowing much of their character. That is for instance the case of Edvard Munch and probably to some extent also of Vincent Van Gogh.

Painters used the elements we have analysed in various ways over time. How they did that, how their views evolved on the depiction of the elements, is the subject of the parts of the lessons dedicated to the individual styles.

Yours truly,

Zeuxis

A Letter by Arte – Arte's Categories

Dear Zeuxis,

I read your letter with interest. I took it up while we were waiting to depart for France. I was in one of those moments that remain between action and expectancy of action. My mother is really an obsessive packer, and when she says we are ready it still takes her hours to re-pack and prepare, to take back things and re-shuffle everything, then add some more. I waited and waited! It was a sad morning with a dark, heavy sky. A misery rain drilled down relentlessly on the meadows. I could not even see the river banks and its trees. The rain veiled my view before it reached so far. Like Holly Golightly I had not just the blues, but also the mean reds. I let myself crawl onto the welcoming sofa before the window, and pondered on what you wrote about the way you looked at paintings. After a while I started to hate doing nothing, I thought of playing. So I suddenly had the idea I might do some combinations with the features of paintings.

You wrote of three stages of looking at paintings. First Impression, Discovery and Recognition were how you called them, and these corresponded also to three phases of perceived pleasure for a work of art. So, whether these pleasure phases are well present or not, to satisfaction, could be indicated by Yes or No. I know that there are all gradations of quality and pleasure possible for the features, but let us assume simply a Yes or No as first approximation. Then there are but eight combinations possible for your features of paintings, aren't there? The combinations are YYY, YYN, YNY, YNN, NYY, NYN, NNY and NNN. Here is what I made of them, and I assigned names to the categories. Do not laugh please, I was playing!

YYY: a Singular Masterpiece or SIMA
A SIMA is a painting that strikes the feelings of the viewer instantly. It has a superb global concept that has an immediate effect on viewers. It is remarkable in its composition or colouring or detailed craftsmanship. The painter had an interesting, original idea, and the artist was in a period of his life that had a direct influence on his expression.
Among these SIMAs are masterpieces that are works of genius and that have altered the course of the evolution of the visual arts. I must call these "Singular Masterpieces that Shaped History" or SMASHes. Picasso's "Les Demoiselles d'Avignon" might be such a work, as were also Michelangelo's paintings in the Sistine Chapel and some of Jackson Pollock's works.

YYN: a Fine Masterpiece or FIMA
A FIMA is a fine painting that is visually pleasant and striking, presenting a nice concept. It is remarkable in colours and mood. It has fine lines, or is very detailed in its rendering. However, it is not particularly of an original idea, nor does it mean something extraordinary in the history of the moment or in the painter's life.

YNY: a Rapid Masterpiece or RAMA

A RAMA is a striking painting, for which one senses that the painter had an urge to express an idea, sometimes powerfully. It evokes a sudden and strong reaction in the viewer and it may have a spontaneity that has bypassed deliberate composition in colours or lines. Also, the work means something importantly in idea or in the life of the artist at the moment the painting was made.

It may lack in painterly skill, but not in inspiration and concept.

YNN: a Fine Ordinary Painting of FOPA

A FOMA is still a striking work. It inspires immediately. But it is neither deliberately designed in composition or detail, nor means anything particular in originality of ideas. It is of no special interest in the evolution of the artist.

NYY: an Interesting Academic Picture or IAPI

An IAPI does not strike a chord in a viewer immediately. So, in a way the painting is a failure visually. Yet when the viewer analyses it, he or she will discover strong composition and/or detail. Strong design on well-known grounds is academicism, hence the name. I know some very good, even excellent paintings among these, and the ideas expressed may be original. The painter may have had a strong evolution in an extraordinary moment of his or her life, while he or she worked at such a picture. But despite all the good qualities the picture is not inspiring by concept, and hence something of a failure. The viewer may like it in a sort of intellectually satisfying way, but he or she receives no strong gut feeling about it.

NYN: a Nice Piece of Craftsmanship or NIPCA

A NIPCA cannot really move a viewer and there is no thrilling, original idea in the picture. The painting may have been well thought out by the artist, and the artist may have shown great talent in the form of the art of painting. But nothing thrills one in such a picture. Emotions are not stirred, and there is also no particular intellectual pleasure in recognising a fine person, an emotionally rich human being inside the professional.

Among the IAPIs and the NIPCAs one can find many ancient pictures. They have been conserved because of their historic interest. They have fine aspects, but they do not particularly strike contemporary viewers. They do not appeal to our senses anymore, yet we recognise their value in the history of art and in this way they do have interest for us too from an artistic viewpoint. One does admire the skills by which they may have been made. I call these NANTI or a "Nice Antiquity".

NNY: a Tragedy or TRAG

Such a picture does not move the viewer, and it obviously has no interest by its composition, sense of detail, or sense of the form of the art of painting. The painter may have tried so hard to express an idea, but he or she has not succeeded in bringing over the idea. The picture is just a nice idea, but the idea is expressed to no effect on the viewer, and thus the work was to no avail. This is the kind of work that must be a sort of tragedy for the artist.

When I wrote these lines above I assumed that the aim of the artist was to create a piece of art that would appeal to the viewer by its honest intentions to produce a fine work. I might modulate this view by two subdivisions of the category.

I call JOI or "Just an Original Idea" a work of art for which the conceiver has discovered a special idea and presents that idea to the viewer without much

afterthought of "fine arts". Much of pop-art is a JOI or a joy, to be appreciated because of its wittiness or wildly imaginative ideas.

On the other hand, the conceiver might have had no other intention but to shock the viewer. He or she might have depicted an amoral or horror scene or subject. This of course must be a figurative painting. I absolutely abhor such pictures, and do not find the intentions of the conceiver then honest and true. So I call these JUSE or "Just a Shocking Experience". I am now more thinking of contraptions or sculptures than of paintings, but such items do exist. I believe their place is in the trash bin.

NNN: a Non Entity or NONEN

The picture exists, it has been created and it is there, before the viewer, but there is no quality whatsoever in it. It does not move one, expresses no original idea, shows no particular craftsmanship and when one studies the life of the person who made it there is really nothing exciting in that period of his or her life. It is a non-entity. Throw it away!

So, Zeuxis, there are essentially SIMA, FIMA, RAMA, FOPA, IAPI, NIPCA, TRAG and NONEN paintings. I added a few more categories that I found useful. I opened many art books and looked at tens of paintings. I tried to assign one of the names above to each individual picture, and thus discovered the categories. I had a few surprises!

The analysis taught me something new again. The one, most important feature that I found to be necessary for what I would call great art, the Smashes, the SIMAs and FIMAs, was the feature or pleasure at what you called "first impression". The global concept of the work that had to appeal instantly to me! If that feature was present, if I felt an immediate thrill, I knew I had very probably a masterpiece at hand, and if I then read the commentaries in the books, most of the times I saw that yes, that particular work was universally accepted as a masterpiece. My intuition was at work, but do not ask me to define what that intuition could be. I cannot express why I immediately like a picture or not. I was so helpless, even though I tried to find for myself for what reasons I might like a picture. If I had not that first feeling, it took me quite some time to really love a painting, and I grew very suspicious when that feature was not present: rarely could I find paintings that still appealed to me. I guess that must be the magic of art.

Are there also SIMA, FIMA, RAMA, and so on painters – instead of paintings? Well, I was looking at all those pictures before me, so much so that I had a real mess of open books all around me on the floor. When my mom came in, finally with bags in hand, she had more than a fit.

I had by then discovered once more a new surprise! The greatest masters made works of any of these qualities. The probability of finding NONENs painted by Michelangelo I found to be low but not zero, but to my surprise with very prolific artists like Picasso I found NONENs to be rather common. I learned to recognise good paintings from less good ones, and I think I learned not to judge paintings anymore merely by the name of the painter. That was my judgement only; I guess other persons would judge otherwise.

Here is an overview of my categories, Arte's categories of works of art:

SMASH: Singular masterpieces that shaped history
SIMA :   Singular masterpieces
FIMA :   Fine masterpieces
RAMA: Rapid masterpieces
FOPA :   Fine ordinary paintings
IAPI   :   Interesting academic pictures
NANTI: Nice antiquities
NIPCA: Nice pieces of craftsmanship
TRAG :   Tragedies
JOI   :   Just an original idea
JUSE :   Just a shocking experience
NONEN: Non entities

I have a dozen categories, Zeuxis. It is a real joy to assign a name, and thus a qualification, to a painting. I realise this is just my playful and oh so very personal naming. I suppose other people would assign other names and qualities.

There are two other interesting corollaries on this subject.
The books I had been looking at were all on the greatest museums of the world. Which paintings should museum directors present to the public? Only SMASHes, SIMAs and FIMAs? How about TRAGs?
How would a museum director know whether a work would be considered a NONEN by everybody?
I feel that a museum director has a duty to show a bit of everything. I personally would never show a JUSE, of course. That would be dishonesty, even considering that other (sick?) people might like such pictures; but then also, I am not a curator, so I can state these harsh words and get away with them.
I also wondered how art critics judged a painting. I now will read art critics with more discernment. After all, critics are just writing their own personal opinion, and only that! They cannot claim unwavering intuition, and they certainly cannot and do not have the right to speak for everybody! I wonder whether they also have such categories pinned down for themselves.

My morning passed not into nothing after all!

Bye.

Arte.

Classicism

Classicism evolved from Mannerism and was contemporary to Baroque art. The Carracci family working from Bologna and Rome in the seventeenth century already may have founded classicism as a separate style of painting. It was contemporary to Baroque art, and these two styles often mixed to one global kind of Baroque. Classicism was a popular art form in every century, but it was particularly in fashion in the seventeenth, eighteenth and the beginning of the nineteenth century. Especially French artists took up this art form in the seventeenth century (such as Nicolas Poussin). It does not necessarily only depicts scenes of ancient Greece and Rome.

Neo-Classicism
French artists like Jacques-Louis David revived Classicism after the Rococo period, at the beginning of the nineteenth century, as a reaction to the slackening of morals of the courtly art of the French eighteenth century. This trend then was also followed in Germany and in Italy.

Classicism evolved from and in the Baroque period, but it was a reaction against the freedom of form and the pathos of early Baroque. Classicism favoured very clear lines and directions, emphasised more vertical lines and static forms. The style put emphasis on simplicity and symmetry.

Classicist painters often based their pictures on strict compositions constructed on the basic triangles of the frame. Newly founded academies of Europe taught these rules of composition.

Classicists preferred pure, but not harsh colours, in light tones. Colour areas were symmetrical and balanced.

Classicist art depicted scenes of ancient Greece and Rome, but also many religious scenes. If Classicism was still mostly devotionally inspired, Neo-Classicism was definitely un-religious, republican and lay inspired.
Classicism preferred few figures in its pictures.
For the Classicists, art had to serve a moral purpose. Art had to observe principles of clarity, of unity and of decorum. For the Classicist artists, art had to communicate, and show its meaning in a minimum of figures whose movements, gestures and expressions had to remain simple, often frozen, and could easily be understood by the viewer. Tension is smoothed out in most Classicist paintings.
Certain artists of Neo-Classicism emphasised epic scenes of battle (such as Jacques-Louis David). They heavily underscored the moral value of the message conveyed by the images.

Classicist painters created space and depth, but they did not emphasise these. Although landscapes in backgrounds abounded, Classicists preferred to give their main attention to the figures. These are often set immediately in front of the viewer, and hide the deep landscape. Landscape forms the background, but was positioned often in the upper part of the scenes, so that not much depth was created, and the figures were placed in more intimate surroundings.

Classicist painters were Lodovico Carracci, Annibale Carracci, and Nicolas Poussin. Neo-Classicist painters were Jacques-Louis David, and Jean Auguste Dominique Ingres.

Mannerism, Baroque and later Rococo, were art forms that allowed for unbridled show of emotions and elation. Quite naturally this spawned a reaction to the contrary in society. Classicism and Neo-Classicism were a reaction that aimed for more restraint and dignity. Classicist painters returned to moral values and to a keen sense of grandeur of the epic. The result was Classicism to Mannerism art and Neo-Classicism to Rococo. The change was drastic in style, which is in forms and in composition, and also in colours, but more so in the way content was represented. The painters emphasised dignity, restraint, and rigidity, moral lessons in content, and that meant introducing strict rules of structure in composition.

Christ appears to Peter on the Via Appia

Annibale Carracci (1560-1609). The National Gallery – London. Painted in 1601-1602.

In the history of art, one discovers that at certain moments and in particular places there appear geniuses with clear vision, more intelligence and energy of expression than generations before them could generate. Such was the case for the town of Bologna in the late sixteenth century. Bologna was then still one of the major towns of the Papal States in middle Italy. Lodovico Carracci, Agostino Carracci and Annibale Carracci were three members of the same family who innovated and inspired the long tradition of artistic Bologna.
Agostino and Annibale were brothers; Lodovico was their cousin. Together they founded in 1580 in Bologna an academy of painting called the "Accademia degli Incamminati". Lodovico probably had the idea the first; Agostino was its theoretician. The great Venetian artists, Titian and Jacopo Tintoretto and the Italian Mannerism influenced Lodovico. Agostino also had travelled to Venice, and preferred the Venetian colours and light to Florentine Mannerism. Lodovico and Agostino remained mainly in Bologna, and in particular Agostino favoured return to more rigorous pictures on themes of classical antiquity. This return to a more austere, solemn style of painting, was a reaction to the tension and disregard for artistic rules of harmony of Mannerism. The Carraccis preferred a calm, clear composition and well-delineated surfaces of colour.

Lodovico Carracci was born in 1555 and died in Bologna in 1619. Agostino Carracci was born equally in Bologna, in 1557, and died in Parma in 1602. Annibale, born in 1560, died in Rome in 1609. With the Carraccis, the fame of Venetian painting passed to Bologna for about twenty years.

Annibale Carracci, the youngest of the three, was the more gifted. His genius and talent were too strong for any tradition. As occurred with so many of the very great painters who worked, immersed in a certain paradigm of arts, he could not but be influenced in his youth by the style of the moment. He nevertheless grew out of any style and developed his own way of representation and of colouring. He was also more rigorous in his concepts, like Agostino, but he observed nature with a fresh, uncomplicated eye, and he found sweetness and gentleness there. Since he was the youngest, he was the one to discover the world outside Bologna. He worked in other towns, mainly in Rome.
Annibale's major work was the decoration of the Palazzo Farnese in Rome, especially the ceiling of the Galleria of that palace. The palace is currently the French Embassy. For this, the rich Cardinal Odoardo Farnese commissioned him. But Annibale had issues over money with the Cardinal. Cardinal Farnese paid him badly, or not at all. The already melancholic artist became desperate and depressed over the Cardinal's ingratitude so that although he had worked in the Palazzo Farnese since 1597, he stopped that work altogether in 1605.
Annibale's painting "Christ appears on the Via Appia" dates from this period, while he was also working in the Palazzo Farnese.

Saint Peter was among the first apostles, chosen together with his brother Andrew. Peter was a fisherman and the most humble, deeply human figure in the Evangels. He combined courage and cowardice, perseverance and despair. Jesus told the disciples that Peter would lead the church and, as is told in the Acts of the Apostles, Peter indeed took charge after Jesus's death. There were probably more intelligent and learned men among the disciples, but when inaction paralysed the group, Peter took charge with the courage instilled to him by Jesus. Peter started the real missionary work. Paul was the giant that shaped Christian religion, but without Peter the movement would have died out in Jerusalem.

Many scenes of Peter's life, as narrated in the Evangels and as passed by generations in legends, have been painted. Annibale Carracci made a picture of one of those legends that happened in Rome.
When Peter was preaching in that city, the Emperor Nero persecuted the Christians. Peter fled from the town over the Via Appia. He encountered Jesus on that same road going in the opposite direction. Peter asked, "Domine, quo Vadis?" Where are you going? Jesus answered; "I'm going to Rome to be crucified again." As had happened before, Jesus had rebuked Peter, and shown him what really needed to be accomplished. Peter interpreted Jesus's words as an order to return to Rome. He went back, and was crucified on Nero's command.

In the picture of Annibale Carracci, Jesus is seen on the Via Appia, wearing his cross. Peter is astonished, and obviously in fear at the sight of Jesus. The question, "Quo Vadis" and the answer of Jesus pointing back to Rome are in the moment.
Annibale Carracci made a sober picture, in a style that we would now call Classicism, but this was just the way Annibale liked to paint; this was his way. The figures of Peter and Jesus are shown in full, and they are very realistically detailed without elements of ornament. The action is vivid, yet credible and not mannered. The scene is natural. The landscape of the Roman Via Appia is held simple and true. Peter is the grey-bearded apostle; Jesus is half nude, as in his Resurrection and as he was on the cross. Both figures are elegantly dressed; Peter wears a coloured toga and Christ a red cloak that flows in the wind next to his body. The picture shows only Peter and Jesus.

The picture of Annibale Carracci is clean and simple, its message as directly conveyed as could be. Even though future painters of the generation after the Carraccis would be Baroque painters, the Carracci family inaugurated a way of depiction that impressed very much the French artists, like Nicolas Poussin. The French artists favoured these presentations instead of the passionate scenes of Caravaggio, and founded their own style in this manner. This style suited perfectly well the spiritual representations of New Testament scenes for intimate pictures, as well as for the grand paintings that could decorate the French palaces and churches of the splendid Courts of the kings Louis XIII, Louis XIV and Louis XV.

The paintings in the style of the Carraccis were one answer to Italian Mannerism. Mannerism showed a profusion of contorted bodies, preferably entangled, painted in drastic foreshortening, ready to burst out of the frames in violence and in hard tension. The Carraccis' calm art relaxed Mannerism. Classicism in the style of the Carraccis was a solution to Mannerism, a reaction to it and a logical evolution. Another logical evolution to Mannerism was Baroque. Baroque had all the qualities of an equally

passionate art, but the passions were absorbed, and often quietness and a lively sweetness, even sentimentality, hang over Baroque's pictures. This style was an antithesis to the tensions of Mannerism also.

The Rapt of the Sabine Women

Jacques-Louis David (1749-1825). Musée du Louvre - Paris. Painted in 1799.

At first sight there is only confusion. We see confusion of lines and of bodies. Then the monumentality of the Greek representation of the warriors inspires us feelings of epic. A grand episode of antique history is being shown. The colours of the painting are soft and the hues are subdued. The picture looks interesting, but the many details of the battle distract our attention. We perceive David's painting as special, unusually inspiring but strange. We are invited to look more closely, and to learn more about the scene.

Suddenly we remark the essential idea of the painting, for David placed a Roman and a Sabine soldier confronting each other with a woman in between. By now we have read the title and know what is represented. The young Roman colony, still very much in its Hellenic traditions, had just been founded. The Romans needed women. They attacked their neighbours, the Sabines, and stole their daughters. The Romans married the Sabine women. When the Sabine men had organised and grown the number of their warriors, they in their turn attacked the Romans to revenge their honour and to recuperate the women. But these had married, and had given birth to children. When the Romans and Sabines clashed, the Sabine women threw themselves between the fighters, showing their children. The battle stopped then, and eventually the Romans and Sabines would become one people.

Jacques-Louis David thus painted on the left a Sabine soldier before Rome, and on the right a Roman warrior with golden helmet and golden shield, upon which we can see the emblem of Rome, Romulus and Remus drinking from a wolf. In between stands a Sabine woman, now a Roman lady, with widespread arms, to stop the fighting, and to separate the soldiers. Her babies are lying at her feet. We now see other women lower down, half-naked as the men, clutching in despair at the legs of the soldiers. Yet other women stand there, showing their babies high in the air.
Along this movement and above the chaos of the left, the fortifications of Rome rise to the sky. The scene is dark there, as if the sun has hidden at the fight of the terrible battle of hatred among the Romans and the Sabines. But the fight is halted already. The Roman soldier holds his spear but the lance is halted in the air, and the Sabine man has his shield sideways, so that he is open and unprotected. He shows the first sign of peace and of the stopping of the battle.

David emphasised of course the epic clash, the grandeur of Roman heroes. Like Greek statues, his figures are marvellously carved. They stand firm, solemn and determined in dignity, fully aware of their value and symbol for future generations. Like the Greek statues, David's heroes are nude, the men first, and then also the

women as we discover them, to show the ideal proportions of man. This scene thus appears out of time and gives a strange feeling, not of drama but of the timeliness of the antique scenes of ancient Roman history that we know so well.

The scene is not just antique in content, but also Classicist in its image and expression. It is as sober in its main theme as a Carracci painting is. But David placed his statues not alone. He did not show the essence of the idea and theme with only a few personages, as he had done in the "Oath of the Horatii" fifteen years earlier, that other famous scene of ancient Roman history that created Neo-Classicism. Here, David painted the confusion of a full battle in the background. We see a prancing white horse on the right, bodies stooped and on the ground, profusion of long lances and standards, women shrieking and holding hands in the air or even fleeing the battle. All is not as simple; there is heroism but also doubt and fear.
The lances on the left are dangerously and menacingly brought forward, not straight in the air, but directed at the Romans. David did not just show the solemnity of Greece in his painting. He came also to a Romantic representation of the confusion of strong emotions, in a move that is almost Baroque in inspiration.
David combined tranquil determination and chaos of background, and therefore he also showed the link between past art and present, his own art. For Jacques-Louis David had broken already in the early 1780's with Baroque and Rococo, with Pieter Paul Rubens and François Boucher. He went back to the stricter classicism of the Carracci's and of Nicolas Poussin, to represent the epic grandeur of antiquity as examples for a new France.

The French Revolution of 1789 stopped definitely the frivolity and lack of moral standards of the French Royal Courts. A sterner, bourgeois parliament took power. The people clashed like the Romans and the Sabines, and the representatives of the different regions of France formed blocks. Girondins faced Jacobins. With the "Rapt of the Sabines" David may have pleaded for a national agreement to build a France that would re-install the new Roman Republic. As in the painting, there were no Princes or Kings to take the lead. Each citizen fought, in freedom, without a leader, but with full determination of his own value.
David pleaded for the unity of France and the unity of the people, for an end to the internal strife in a national reconciliation. He hoped that France would be the basis of a Republican state, for a new Imperial history, as Rome had organised. These feelings were of course very Romantic, but also very moralistic, and they place Jacques-Louis David completely in his time.

The lines are very important in David's picture. Behind the strict vertical lines of the two main confronting fighters, we see much confusion of directions. The general direction is vertical however, dramatically emphasised by the massive fortifications of Rome. The structure of the scene, by contrast, is very horizontal, as the battle forms a dense lower band. This horizontality is enhanced by the direction of the lance of the Roman warrior. So we remark here one of those examples of the use of the combination of vertical and horizontal directions, to create an impression of immutability, of solidity in the viewer. And that feeling is of course also expressed in the enormous walls of the castle.
Solidity is shown also in the spread, firmly standing legs of the Roman soldier. A hint of a pyramidal construction can even be seen in the Sabine woman who holds her

baby high between the two fighters. The two soldiers and the woman form the pyramid, and that movement leads our eyes higher up to the fortifications.

Most of the picture is painted in golden-brown-ochre hues, which are very agreeable as they accord well. There are but two white patches, one on the Sabine mother between the warriors and one on the white horse of the left. David brought sparingly some red on a woman in the background (holding both her hands to her head, in the middle) and then symmetrically to the middle he painted some red in the cloak of the Sabine soldier of the left. Some red also is on the ground on that left. He did the same with a few faint, blue areas. All these more colourful hues stay subdued and nicely in tune with the overall mood of the colours, so that the picture's ambience is almost an example of what Chevreul called the contrast of analogues.

David introduced much pathos in this picture. He must have felt a need, a strong need for reconciliation in France, and when emotions are strong and Romantic, the strictness of academic Classicism did not suffice anymore. David's "Rapt of the Sabines" was already a late picture for the painter, whose most innovative period dated from fifteen years earlier. In the meantime, David had been a revolutionary, a member of the "Comité de Sûreté Générale" and a supporter of Robespierre. He had been in prison for a while when Robespierre fell, but would return and paint the victorious consecration to Empire of Napoleon Bonaparte. David presaged the Romantic Empire in subtle changes in his paintings.
The "Rapt of the Sabines" is still a Neo-Classicist picture, but the solemn dignity and determination of the first days of the Revolution, as also presaged in "The Oath of the Horatii", had evolved to a combination with a more free, exuberant Romanticism.

Jacques-Louis David was born in 1748 in Paris under the Ancien Régime, when France was still a Kingdom, as it had been since ever. When he was 23 years old, in 1771, he won a second price by the French Academy with a painting that already depicted a scene of Antiquity. He received money for a voyage to Rome and accompanied his teacher, Vien, who was appointed director to the French Academy in Rome. This voyage had a great influence on him: he could admire in Rome the paintings and sculptures of Michelangelo, of Raphael and so many others. French painting had remained in the wake of François Boucher and Jean Honoré Fragonard, who had continued the frivolous styles of Court painting of the century. Jacques-Louis David sought a new, original style, much more virile and epic, in line with the moderation and austerity of the Enlightenment period. He could find it back in Antiquity, in Rome's earliest history, in the unblemished periods of early centuries, which were imagined to have remained uncorrupted by the decadence of Monarchic courts. He was back in Paris in 1780, had success with his new vision on painting, and made another voyage to Rome for more sourcing in 1783.

David's first very original painting in his particular style was made in 1784, in Rome, but commissioned by King Louis XVI: the "Oath of the Horatii". It was a scene from Antiquity, painted as an epic, glorifying feelings of virile courage and decisiveness, of sacrifice to the nation. The painting was clear and sharp, the forms strict and fine, the scene theatrical, the colours dry and crisp. David mastered an impeccable technique of painting that was very realistic in detail. This was new painting, very different from the Bouchers and Fragonards where colours turned into each other, where the frames were often overloaded with figures in passionately, outcrying poses, huge trees,

luxurious skies, angels, fleshy nudes, lots of little children, most often centred on attention to women. David continued in his sober, strict, heroic style and had great success. He had many pupils and followers, who took up his style: Anne-Louis Girodet, François Gérard, Antoine-Jean Gros, and the greatest among them all: Jean Auguste Dominique Ingres.

The French Revolution caught up with him too. He became a Jacobin. He was a member of this club of the French National Convention or Parliament. He agitated in the circles of Robespierre. He even had the ages-old French Academy dissolved in 1793. He painted the "Death of Marat" in the same year. When Robespierre fell in the Thermidor upheaval, David was also imprisoned for seven months and only saved from the guillotine by some of his former friends of the Convention. The Revolution went on, would ultimately turn France into an Empire. David became the Court painter of Emperor Napoleon Bonaparte. We owe David grand paintings of that period. When Napoleon was banned, David had to leave Paris during the Restoration. He left for Brussels, died there in 1825. He is buried in the cemetery of Brussels, and not in the France of which he was one of the greatest painters.

Lesson Nine – Colours

Zeuxis and Arte walk in the lanes of the flower show of the town of Épinal in France. The flower show is in Épinal's great hall, somewhat outside the town. The hall is very high. The Epinal builders were very proud of their wood industry. The roof is supported by incredibly long wooden beams, spanning great widths. The wood of the vast forests of the Vosges Region provides to the visitors an impression of cosy, warm grandeur. The lanes in the hall, between the flower beds, are narrow, for all around are multi-coloured exhibition spaces. All the horticulturists and nurseries of the environment, from France, Belgium and even Germany have come together to show the splendour and vigour of their flowers. Every exhibitor has competed with the rarest plants, the most extravagant constructions of flower structures, the finest colour combinations. In the beginning, Zeuxis does not talk. He and Arte simply admire the fabulous show of hues. Then, Zeuxis sighs and starts to talk.

Zeuxis: It is simply marvellous, Arte, to walk in here. I have rarely seen such effervescence of different colours, and the forms of all these flowers are enchanting. I wonder why red is red and why blue is blue. Do you know what colour is?

Arte: What do you mean what colour is? Look around you, Zeuxis.
Arte turns on herself to take in the wealth of colours.
Arte: All the flowers have different colours. I see each flower with another colour, even when the colours sometimes are almost the same. Colour is a property of the flowers; it is a property of the object.

Zeuxis: Is it now really girl? Look at this tulip. It has the fiercest red I have ever seen. Wait, I'll take it a bit in the shade. What happens?

Arte: All right, wise guy! The tulip turns dark grey. For colours we need light. But in the shade, I can still see the tulip, even if it turns grey. Colour is not a property of the object in itself. I know that now. It seems obvious, but I hadn't noticed this before. I was stupid, of course! I learned at school of Isaac Newton's experiments with prisms. Newton separated various kinds of light that all together constitute white light. When light falls on the tulip, the red kind of light is reflected on the petals and touches my eye. So that is how I see red. And when there is no light, I can see no colour. So in the shade, the tulip turns grey to my eye.

Zeuxis: Hmm. Let's try another flower.
Zeuxis takes a blue tulip now and brings it in the shade.

Arte: Gee, Zeuxis, I continue to see that tulip blue. It should turn grey like that red one. OK, you got me again. You win! There must be more to colours than merely being a property of light, or to being an effect of interaction of light with an object. Stop teasing me by showing your knowledge. I know you know all, so be kind and explain.

Zeuxis: All right, Arte. Colour is indeed not really a property of the object, and neither is it really a property of light. Of course, the surface properties of the object and the

properties of light have to do with colours. But we see colours with or eyes, and our organ comes into play too, and also what happens with the sensations of light transferred by our eyes to our mind.

Colour is a very simple concept with which we are constantly confronted, Arte. We cannot see forms without seeing colour. Yet it is one of the most complex phenomena of nature. Several physical and physiological processes have to be executed in sequence before we humans can assign the quality of colour to an object. And many if not all of these processes are still not well understood. They also are at work without us really being aware of them. I'll explain. But it will take a lot of theory, because we first have to consider the theory of seeing.

Arte: Between such a marvel of these flowers, Zeuxis, I can be patient.

Zeuxis: Light is a physical process. You knew that already from school, Arte. We ascribe the feature that we call "colour" commonly to a property of light, even though we just saw that there is more to it. Light is a physical phenomenon that consists of radiation of energy, and it is a property of our perceived universe. We describe light as particles, which have small, but not negligible, mass and thus energy – for mass is energy, as Einstein proved. We can however also describe light as an electromagnetic wave. It is not a particular electromagnetic wave, but just those electromagnetic waves that interact with our eyes.

Arte: What is an electromagnetic wave?

Zeuxis: Nobody really knows exactly. Our scientists know that the waves exist; they can describe them with mathematical formulae and describe some of their properties, but why they exist and what they are is still very much a mystery. As an electromagnetic wave, light seems to be a property of the universe, a potentiality of the environment, a possibility for certain phenomena to happen on interaction with other things or energies in the universe.

Arte: But you said light was also particles!

Zeuxis: Here already, in what we believe to be the most well understood property of the processes of colour perception, lays the paradox of a dual nature. The paradox that light can be both a wave and a particle has been well proven experimentally. Light manifests itself sometimes as a particle, called photons, and sometimes as a wave. Both the photons and the waves are probably only a human's way of explaining certain phenomena that occur when the potentiality of interaction with the environment of the created possibility realises to a tangible effect. Light is transmitted through a medium, the air, and interacts with the molecules of air and with the particles of impurities suspended in the air. Then the light arrives on us. The light interacts with us, humans in a perceptible way through our eyes. Light of different wavelengths, or photons of different energy, fall on the retina of our eyes and stimulates there various molecules.

This excitation of the retina is a photochemical process. Scientists have largely, but not entirely discovered exactly, which molecules are stimulated, by which wavelengths or by which energies of the photons. It has remained unclear also what kind of signals are sent to our brain, either as a direct result of the waves or as a result of differences of wavelengths of adjacent waves. The formation and the sending of signals to our brain over the nerve cells are a physiological process. To which places

of the brain the signals are sent is not entirely known. Unknown also is exactly which neurones are stimulated and how.

When the flux of light that reaches the retina diminishes, our physiological impression of the light of an object moves in the direction of violet. One can verify this by looking at coloured objects and diminish steadily the light of the environment. This is called the effect of Purkinje. It makes snow look blue at moonlight, and distant mountains also seem blue in the evening and dawn. It let you continue to see a blue tulip blue in the shade, but a red one dark. The way we perceive light is not linear with the intensity of that light.

Even less is known about the process that arises in our brain, the processes by which we recognise and give a quality of "colour" to the received signals. Why we "see" and call "green" the impression our mind has of a quality of the light perceived from a grassy meadow, after that quality has gone through various successive transformations until it reached our brains as electric signals, remains a deep mystery. The mind-processes also are still unknown.

The perception of colours is particularly prone to illusions. But we have to be careful when it pertains to colour to speak of "illusion", since the real colour is only the colour that is perceived, and not one or other "physical" or intrinsic quality of the object. Viewing a colour just on its own on a flower, will produce a certain hue in our eyes. Seeing just one colour is practically impossible, however. That same flower may present an entirely different hue when seen surrounded by flowers of other colours. Colours interact and a colour seems to have only a quality of hue, as well as of intensity, relative to other hues.

Finally, the perception of the quality of colour of objects calls to our mind certain associated impressions. Red means danger, green safety and tranquillity, and yellow cheerfulness. These psychological processes of association can be explained by analogy, but why they exist is largely unexplained. The information transmitted to our brain and its nerve cells is linked to previous experiences, the memories of which are stored in our mind.

No wonder then, Arte, that so many scientists and artists alike were astonished at the nature of light, when they observed its challenging effects and wrote their interrogations into the nature of colour vision.

Josef Albers, a painter and lifelong teacher of art and colours expressed this as follows, "In visual perception a colour is almost never seen as it really is – as it physically is. This fact makes colour the most relative medium in art. In order to use colour effectively it is necessary to recognise that colour deceives continually." [G94.] I will even argue that there is no such thing as a physical reality of colour!

Arte: You know so much, Zeuxis. You are a Greek coming from the beginning of times, so far it seems to me, yet you know so much. How is that possible?

Zeuxis: I did not just sleep through the centuries, Arte. I saw many smart people think on art and on colours, and I read what they produced.

Greek philosophers studied vision and reasoned on how vision could happen. Empedocles wrote that vision came from an interaction between the exterior light and a light emanating from the human body. Plato endorsed this view of light and vision that seemed to come from the inside of people. Democritus gave a more physical interpretation of vision, but also thought of vision as an interaction between properties of the world and the properties of humans. We now know that these ideas were not that wrong, as we will see later.

Aristotle thought that colour arose from the transition from lightness to darkness. He explained vision as an action on the eyes. Aristotle's works were known before the sixteenth century in Western Europe so that in the Middle Ages colours were positioned between light and black, as gradations of brightness. Aristotle's books were published in Italy in the late fifteenth century, and his theories were rediscovered and studied in the sixteenth century. These were commented upon in various books. Aristotle's treatise of colours was first printed in our modern times in 1537 in Naples and had comments by Simon Portius, who sought old Latin and Greek books for the Medici rulers of Florence. In 1548 the same Portius commented Aristotle's works in a Florentine edition dedicated to Cosimo I de Medici.

Many other works of the fifteenth, sixteenth and later centuries treated colour. Leon Battista Alberti (1404-1472) spoke of colours in his "Della Pittura", on the "Art of Painting" around 1435. Giorgio Vasari wrote of colours in his "Lives of the Artists" of 1550. Lodovico Dolci edited a "Dialogue on Colours in Venice" in 1565, and he also tried to explain some of the notions of artistic harmony of colours. Another treaty on colours with the title "Occolti Trattato de Colori" was edited in Parma in 1568. Leonardo da Vinci was of course interested in understanding colours, and he spoke of colour effects in his "Trattato della Pittura". For Leonardo, the sequence of colours in the rainbow was the norm to compose harmonious colour combinations by. He wrote on aerial perspective, and noted that he saw objects at a great distance all with the same hue and tone. He noted already that certain colours strengthened each other when placed together. He also proposed to contrast darker tones with brighter ones, such as light blue with a red colour. Leonardo da Vinci thus perceived a change in colours when they were juxtaposed, a phenomenon that Michel-Eugène Chevreul would describe three hundred years later and call "simultaneous contrast".

Guido Antonio Scarmiglione of Fuligno (d. 1620), a physician who first worked in Naples, but later came to the court of Emperor Rudolph II in Prague, wrote "De Coloribus", a book published in Marburg in 1601 and this was equally an overview of the theories of colours of Aristotle. His work was dedicated to Emperor Rudolph II[G76]. According to the art historian John Gage, Scarmiglione argued that the Aristotelian views of colour, as activated by light on the surfaces was manifestly untrue. [G97.]

The truly modern investigations into the physical phenomena of light started with Isaac Newton (1643 – 1727). Newton wrote in 1665 that a transparent prism bent light from the sun into a spectrum of colours ranging from red (least bent) to violet (most bent). Newton wrote about vibrations in the ether, which propagated through that ether to our eyes, thus effecting in humans a sensation of colours. He wrote a book published in 1730 called "Optics, a Treatise of the Reflections, Refractions, Inflections and Colours of Light". He already devised a colour wheel in which the primary colours red, green and blue were situated, and the compound colours in between them.

Newton founded the corpuscular theory of light, but Pierre Henry Fresnel (1788-1827) proved the wave theory of light. So did Thomas Young (1773-1829), who confirmed the wave theory with experiments on the interference of waves of light. In the nineteenth century, several authors started to notice that colours changed when they were juxtaposed. Changes of colour due to fatigue of the eyes were noticed. Michel-Eugène Chevreul (1786-1889), a French chemist, edited a book in 1839, in which he treated the effects of the juxtaposition of coloured surfaces and the perceived changes in these colours when they were brought together. Chevreul worked much with the combination of colours to form other hues. Chevreul had

worked with the notion of complementary colours and this notion gradually became one of the main interests of scientists and artists.

Hermann Grassmann (1809 – 1877) proved in 1854 that for every colour of the spectrum there exists another opponent colour in the spectrum, which, when mixed with the first in the correct proportions, will produce white light.

Hermann von Helmholtz (1821-1894), a German physiologist, concluded in 1866 that the union of the impressions of two different colours to a single one is a physiological phenomenon, which depends solely on the reaction of the visual nerves. The title of his work was an indication that conceptions on colour were changing, as it was called "Physiological Optics" (1867).

James Clerk Maxwell (1831-1879) was a Scottish researcher. He studied electromagnetism and also wrote on colour. He decided not to use red, blue and yellow as primaries, as Chevreul and most other writers on colour had done, but red, green and blue. Maxwell and Helmholtz showed that a variety of spectral distributions of light could produce perceptions of colours, which are indistinguishable from each other.

Philipp Otto Runge (1777-1800) was a German painter of the early Romantic period. He corresponded with the poet Johann Wolfgang von Goethe on colours. With Philipp Otto Runge, the search for rules defining harmony entered fully in the history of painting and of colour theory. Runge wrote a book on colours, called "The Colour Sphere", in which he showed a circle of six basic colours: yellow, orange, red, violet, blue and green. He varied these hues in tone and in intensity, and so came to a representation of all possible colours on a sphere. Indeed, to represent all variations of three parameters one needs a representation in three dimensions, so with Runge also started a long series of three-dimensional representations of the variation of colours. Runge thought that combinations of complementary colours were harmonious, combinations of contiguous colours were monotonous, and combinations of non-contiguous but at the same time non-complementary colours un-harmonious. In this last case he proposed using a third intermediary colour that could mediate between the two original ones. I will explain later what "complementary" colours mean, Arte. Runge's ideas on harmony were essentially close to Goethe's perceptions of harmony, and the two men may indeed have exchanged ideas on this subject. Runge wrote also on the additive mixing of colours, and he stated that harmonious colours were those that created grey when seen from a distance and combined, which is indeed the case for complementary colours of the additive process. Harmony was for Runge the relief of tension between colours, in grey. As Runge found hues that were contiguous on his colour circle to be monotonous, he also found – contrary to Leonardo da Vinci – that the progression of colours in the rainbow was monotonous.

Zeuxis: I am talking too much, Arte, and I suppose I am telling about confusing concepts. We will talk later of other writers on colours still.

I would like you to do something for me. I brought two books with me. I would like you to read these.

One of the greatest and most unexpected writers on colour was Johann Wolfgang von Goethe. Goethe was a German aristocrat, a poet and a politician, so a very unlikely character to experiment with colours. I would like you to read his book. It is old, but Goethe showed many experiments. I just ask you not to believe him too much when he tries to explain why he saw the effects he saw.

And then I have here a book of a painter, of Wassily Kandinsky. Kandinsky was a Russian who eventually he became one of the first abstract painters. He also talks of

colours, and you will like to read about the emotions that Kandinsky felt to be associated with colours.

Arte: Thank you, Zeuxis. I will be a good girl and read your books. I will write what I think of this guy Goethe.

Zeuxis: Fine then let's continue with our theory of light.
We think of light as being constituted of photons, packets of electromagnetic radiation. These photons fall on the retina of our eyes; they stimulate chemical molecules there, so that electrical signals are sent to our brain. These signals are transformed in our mind to a perception of colour. This kind of explanation is the easiest to work with, Arte.
Photons are particles, but it is a paradox of our physical universe that these packets of different energy can also manifest as electromagnetic waves.
That this dual nature of light is true can be proven by experiment.
We take a source of photons and release one photon after the other to send the photons at a screen in which a hole is bored. If we put a photographic plate behind the screen and hole, we will see a dot on the plate. That is quite normal, since we expect a stream of particles to pass right through the hole. We will not see a pattern of diminishing excitation on the photographic plate, such as the circular patterns of highs and lows of intensity of a wave. The absence of such a pattern, and the observation of a dot proves light in this experiment to behave as particles, as quanta of light.

Zeuxis makes a drawing in the sand of the lane. He draws plate 70 to illustrate the particle nature of light.

Plate 70
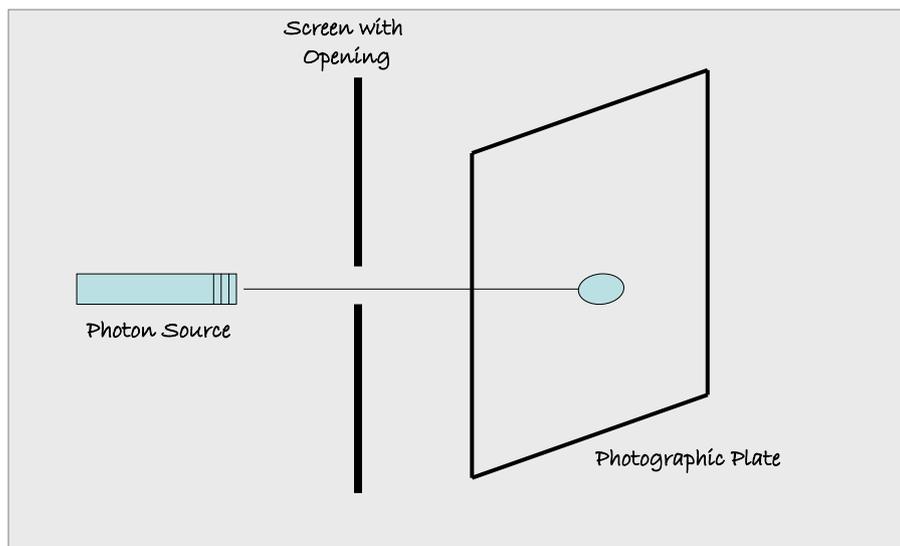
Zeuxis: In a second experiment two small holes are made in the screen. The holes do not even have to be put with one hole right in front of the photon cannon. The effect

on the photographic plate will be dramatically different from the first experiment. Now we will definitely see the interference patterns of two waves radiating from the two holes and combining their effects on the plate. This experiment proves the wave nature of light. It is as if the light "senses" another setting. By this experiment, only the quantum mechanical properties of the whole environment are changed, and since light is a property of our environment, the effect of light is different from the first experiment.

Zeuxis draws plate 71 to illustrate the wave nature of light.

Plate 71

Screen with two Openings

Photon Source

Photographic Plate
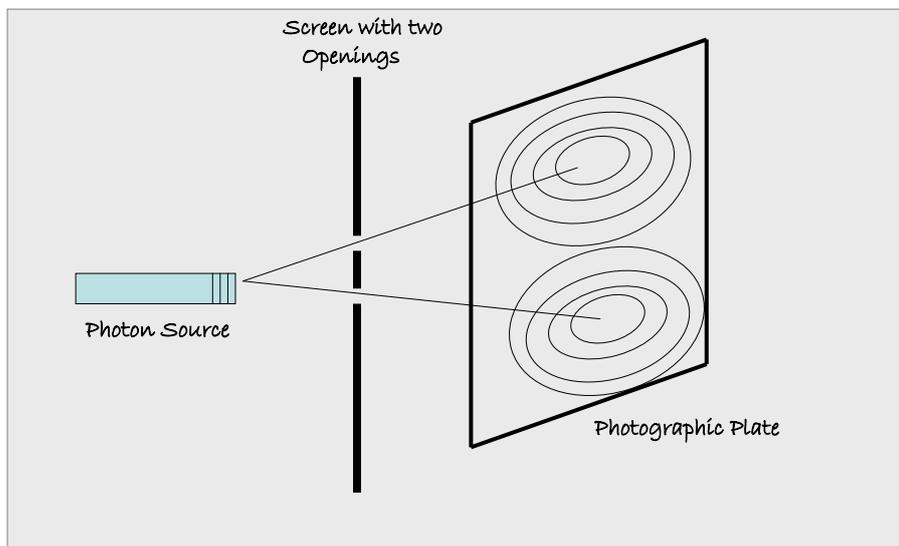
Arte: Thus, photons can be associated with a wavelength, and as well with the mass and other properties of a particle.
Zeuxis: Absolutely! Light, actually a potentiality of the environment, is perceived differently, realises differently according to the experiment staged! Yes, our world is stranger than we think, Arte. But let us not dwell on this too much. For our purposes, light is either a wave or a particle, and we will explain what we see, once by talking of light as waves, then as particles.
As a wave, light oscillates in time, and the inverse of the length of a full period in time of this oscillation, a period that is endlessly repeated, can be expressed in our numbering system. The period is called the wavelength. The inverse of this period is called the frequency of the wave. Only light or photons with a wavelength of about 350 nanometre ("nano" means ten to the power minus ninth) to 750 nanometre stimulates our eyes and mind. Between these boundaries lies a full spectrum of waves of light, which shows in certain circumstances different colours, such as we can perceive them in a rainbow.
The first colours we perceive in a rainbow are shades of blue, then green and then red. Beyond the blue colour, into light of wavelengths we cannot perceive (that means our retina is not stimulated by them), lies the ultraviolet or UV radiation. Farther than red,

with higher frequencies of wavelengths than we can perceive, is the infrared region of radiation or IR waves.

With our eyes, we only see all the shades between violet or dark blue and full red. Light of other wavelengths has no effect of colour to our eyes and mind.

Our skin absorbs more of the infrared rays than of the ultra-violet waves. Infrared rays therefore give us a sensation of warmth. Thus, humans have associated warmth with the colour red.

Within the visible spectrum of electromagnetic radiation only certain wavelengths give rise to certain visual sensations. The photons themselves have no property of colour however. Colours are representations in our mind of the stimulation of certain physiological phenomena in our eyes! Each photon of a different wavelength gives rise to one more stimulant, and these stimuli are even combined in our mind, so that stimulation by various photons give rise to the greatest variations of sensations we call colour.

When our stimuli are overloaded with photons of all wavelengths, we see the purest white. Absence of stimuli is black. In between we see shades of grey.

Arte: Zeuxis, now that we are talking about light, I think suddenly of something. Look at that man there, in the far. He smokes a cigar, and I just saw the colours of the flowers beyond the smoke change. We see light through the air, is it not, and not through the vacuum. Does that not affect light and hence also the colours of objects we look at?

Zeuxis, surprised, halts a while and then continues: It does, Arte, and not slightly! That was in fact an observation of which Goethe would have been proud, and not just Goethe! Let me explain.

Besides the corpuscular and wave properties of light and the direct effect of these on our retina, other physical effects indeed influence our perception, Arte.

Our eyes see light after the waves having passed through the medium of the air. Light may be modified on its way through the medium, affecting our vision of colours. The medium does affect colours. It does not so much change colours however, when the distance between the viewer and a painting or between a painter and the model is small, and when the air is pure. At longer distances however, for instance between a painter and a far landscape, and when the air is not pure, these effects become important and have been noticed since long.

Goethe observed that far mountains were seen in the blue colour. Before him, Aristotle and Leonardo da Vinci had studied this effect. Leonardo wrote in his "Trattato della Pittura" that distant mountains appeared blue and a more beautiful (deeper) blue in proportion, when the mountains were darker in colour. Aristotle said that the illuminated air between eyes and mountains was thinner towards the top of the mountains, and thus exhibited the darkness in deeper blue.

Goethe explained that the mountains were at so great a distance that we could not distinguish the real colours anymore, but merely a dark object, since no light was reflected from the mountains. For Goethe, this effect of mountains appearing blue was due to the interposed vapours in the air, much as he had experimented with smoke between his eyes and light sources.

Let us look at a gas in which small particles are suspended. The colours we see differ with the angles of the source of light. When we put the source of light behind the gas, we see the light as red, because the particles in the gas absorb the blue light of the source. This effect explains the red hue of the sun at dawn and at sunset. When the

source of light is however situated behind the viewer and projected onto the gas, when the viewer looks at a black background, a beautiful blue appears. The blue is reflected towards us by the particles of the gas. Absolutely clean air, or vacuum, should show us black. With a growing number of particles and with larger particles, the blue will become grey or even white, as with cigar smoke.

The colours of the sky are explained on this same principle, whereby the water vapour and the dust particles in the air play the role of the small particles of the gas. This physical effect also explains why we see the sky above us dark blue on a clear day, but lesser dark blue above the horizon. Indeed, the blue is more absorbed when we look horizontally, because we look through more particles than when we look straight up. And it explains why we see clouds in the sky white, whereas thunderclouds, heavier with water and close to rain, look grey to black.

Goethe observed at long the effect of light passing through a gas saturated with particles. This effect well explains why the sky is blue. The light of the sun comes directly at us. All waves but the waves equivalent to blue light, indeed pass through the air unhampered and reach our eyes in straight lines, as white light. Blue light however, is dispersed by the particles in the air. The blue light interferes with the particles. It is reflected to all sides and comes from us scattered from all sides, to our eyes. Thus we see the whole sky in blue. So the same physical phenomenon, that is the scattering and absorption of blue light by the air, is responsible for the colour of the sky and for the red colour of the sun at dawn and at sunset.

When we look at far mountains, no colours come to us because of the distance. But blue is scattered in the air, so reaches us from longer distances. We see far mountains blue. The effect is thus responsible for the blue colour of far mountains and even for the colour of clouds in the skies. Painters knew the effect since Aristotle, and of course by painterly tradition. If you look at old paintings of the thirteenth century, you will find far mountains in background landscapes painted invariably in blue, and not in black.

Painters and viewers are confronted with these phenomena of the natural elements seen through the air. At short distances, these effects are negligible. That means that the colours of a subject model that a painter is watching while working are not modified by the medium, as long as that is not saturated by impurities such as smoke. The air does not usually alter our perception of colours at short distances. The colours of a painting are those that a viewer perceives at distances of a few meters.

While we are at these colours of natural phenomena, we might as well explain why the night is dark. After all, in an infinite universe with an infinite number of stars, every line of our sight should eventually meet a star and thus light, so the sky should be very bright at night. The light of stars dim with distance, but this dimming should be exactly cancelled out by an increase in stars, as we look farther out. This is a puzzle called Olber's paradox. It was solved in 1848 by no less than the poet Edgar Allen Poe. He argued in a poem that the stars had not had enough time to fill the universe with light. So if the sky is dark at night, this is so because our universe has not existed forever.

Arte: It is indeed marvellous, Zeuxis, what effects light can make on our eyes. You told me you would explain also how we see with our eyes. Well, how do we?

Zeuxis: All right. There are two phenomena to form colours: the additive process and the subtractive process. Let's first talk about the additive process.

The additive process

Zeuxis: In our eyes are molecules that are basically tuned to the wavelengths of red, green and blue. The characteristics of sensitivity to wavelengths of these molecules overlap. Most wavelengths generally stimulate combinations of these molecules. The signals generated by the molecules stimulate positive and negative, inhibitory signals in the neurones.
Thus we humans say that the other colours but red, green and blue are composed of combinations of these three. When all molecules are equally stimulated, we see white. Yellow is the impression in our mind made by a photon of a certain wavelength, but we know that this is not really so. No molecule of our retina is stimulated by yellow (that is by light of a wavelength we perceive as yellow). This wave stimulates the 'green' and 'red' sensitive molecules. Since the wavelength stimulates only the capturing elements on our retina of green and red, we say that yellow is constituted of green and red in certain proportions.

Arte: Isn't that like in television sets? We learned about that in school. In a certain kind of television sets, I believe our teacher called them shadow-mask televisions, the electron guns behind the screen shoot electrons at small luminescent dots of green, red and blue phosphors on the screen. The dots transform the energy of the electrons into light. They emit light of a certain wavelength; thus they show a certain colour. That light of various wavelengths, hence colours, are combined in our eyes. The dots are so small that we only see the combinations of various luminosities of green, red and blue. Thus many combinations of colours can be obtained, but not all.

Zeuxis: Now you are teaching me, Arte. You are right!
All the colours of the natural spectrum and many more can be constituted by varying the intensities of the light of the sets of these three dots. Of course, one has to look from a distance so that the green, blue and red merge their lights, and so that one cannot perceive the individual dots anymore. Two combinations concur here. We indeed combine the three R, G and B colour tones in some ratio to obtain other colours. And we can vary the intensity of each colour to obtain still different colours and light and dark tones. The dots on the television screen have a precise colour. Suppose that we could change that colour tone (not possible on a screen) by adding more or less white to the dots. Then we would have three effects combined. The three effects are called colour hue, saturation (adding more or less white light) and tone or brightness (intensity of light). The number of colours that can thus be obtained is staggering, millions of different colours!
We will henceforth talk of pure colours as the colours of the rainbow. With these fully saturated colours, some of the combinations are also familiar. Red and blue together give magenta. In the additive process, colours produced as sensations on our retina, produced by light stimuli, add up and combine. In the additive process there are three colours that can thus form all others: green, red and blue. The addition happens in our eyes and brain.
We can represent the additive combination of colours schematically as a triangle.

Zeuxis draws plate 72.

Zeuxis: Here is a schema of the colours we talked of, a simple and first triangle of colours. Green and blue give cyan; green and red produce yellow; red and blue produce magenta.

Plate 72
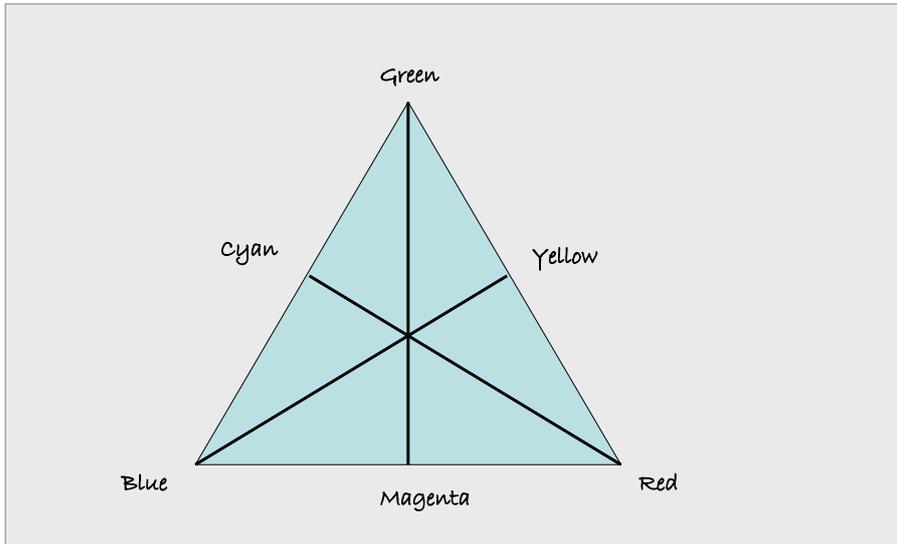
Zeuxis: White is in the gravity point of the triangle, and white can be formed either by a combination of green, red and blue, or by an infinity of combinations of two colours, some of which are indicated by the gravity lines of the triangle. For instance, yellow and blue can combine to white, as well as green and magenta, cyan and red. Two colours that in certain proportions form white, are called complementary for the additive process. Thus red and cyan, green and magenta and blue and yellow are a few and the best known complementary colours of the additive process.

Zeuxis draws circles as plate 73 to illustrate the effect in our eyes when light spots of different colours add up:

Plate 73
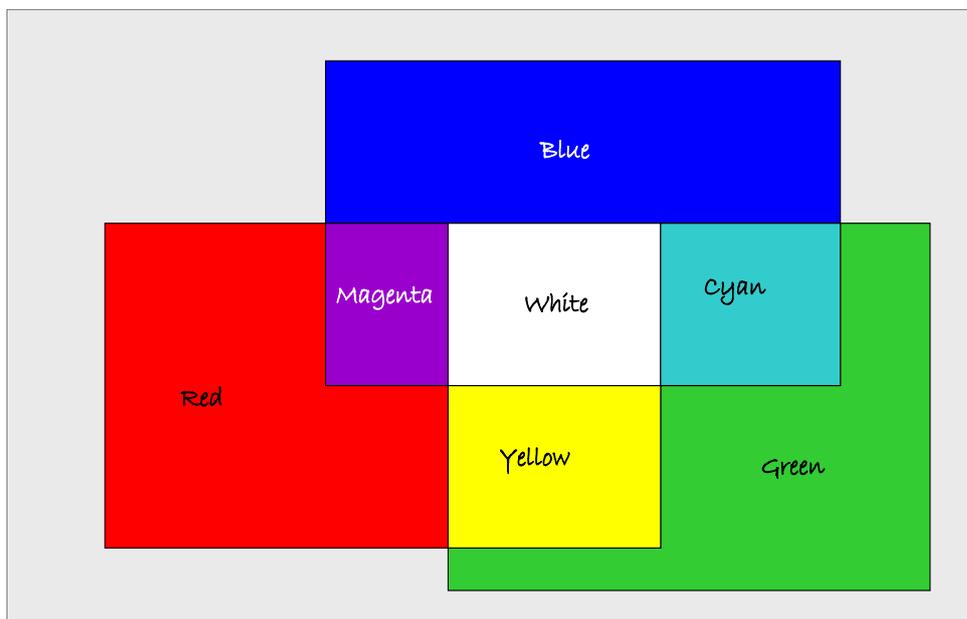
Zeuxis: In the art of painting, the additive colour process will take place in our eyes whenever colour strokes or colour dots on the canvas are small enough to give only one sensation of colour in the viewer. The effect changes with distance, and thus with the position of the viewer.

A viewer who stands at a greater distance from a painting will more readily see the additive process, as the colours of very small areas combine. When the viewer comes closer, he or she will perceive the colours of the individual areas separated again.

The Impressionist and Divisionist painters exploited this effect. These painters brought small brushstrokes or small dots of colour on their panels. Seen from a distance, colours of adjacent dots or stokes combine in the eye of the viewers in an additive process. The dots can be larger or smaller. With small dots, the distance for a viewer at which the additive process comes into effect may be less than half a meter. With larger dots, the viewer may have to take more distance.

Claude Monet (1840 – 1926) particularly used larger juxtaposed brushstrokes of different colours so that a viewer needed to go to look at the painting from farther away. Advancing towards the painting changes the patterns a viewer perceives. This is why in some of Claude Monet's paintings a viewer sees only abstract colour patterns from close by. From a distance of two meters the viewer will start to discern for instance a tree branch with blossoms.

Arte: That is not too difficult, Zeuxis. I thought colours were a more complex matter.

Zeuxis: Well colours are complex, Arte. We are only at the beginning of our theory. Now it gets more difficult. There is a second process of constructing colours, the subtractive process.

The subtractive process

Zeuxis: The way colours combine in our retina is by the additive process.
The process by which colours of paint, the colours of the dots or brushstrokes themselves, are formed, is by the subtractive process.
A wooden panel or a canvas has no inherent light source such as an electron gun behind it. It receives white light from the outside. Natural white light of the sun contains many wavelengths. The paint on canvas receives this light, lets it pass a little and then absorbs light and reflects some. An area covered with red paint thus absorbs all the wavelengths of the white light but red, and reflects the red towards the viewer. This process of absorption of photons is called a subtractive process. An area of red paint on paper or canvas absorbs all wavelengths but red, and reflects only the wavelengths of light that correspond in our eyes to red.
Therefore, the colours are formed by a subtractive process; but we see them in an additive process!
In the printing process one could, like on a television screen, print very small dots of green, red and blue colour printed very closely together. These dots would be seen from close by to be indeed red, green and blue, so reflect light of wavelengths corresponding to red, blue and green and absorb all other. Seen from a distance a viewer would see once more in an additive process the combinations of these colours, that is white. Printing in fact uses still another process, a process of transparent paints, but that is not the subject of this text. In the previous chapters I talked about the particular technique of the Divisionist painters.
I need to remind you, Arte, that indeed an additive process is the reason for the combination of colours in our eyes. But at the basis of the existence of the individual colours in the dots on the canvas, that is the colours seen at close distance, is the subtractive process.
Painters use large painted patches, and thus they use the process of subtractive colour mixing, which involves the absorption and the reflection of light.
Painters mix colorants, pigments or dyes. These pigments absorb colours and reflect other colours. A yellow pigment absorbs blue and violet light but it reflects green and red light and the green and red additively combine to produce yellow in our eyes.

Arte: You told me earlier that the additive process works on red, green and blue. So we may expect that the subtractive process would work on the absorption of red, green and blue.

Zeuxis: And indeed, it does, Arte. But now it gets really difficult and confusing!
The colour of an area of paint that absorbs red light but transmits all other is cyan. An area of paint that absorbs green will reflect blue and red light, which will combine in our eyes to magenta. A paint that absorbs the blue primary will reflect green and red; thus it's perceived colour will be yellow. Thus, the subtractive primaries are cyan, magenta and yellow.
The additive process and the subtractive process thus lead to different basic colours. The situation is rather confusing.

Zeuxis draws plate 74 to show the subtractive colours.

Plate 74
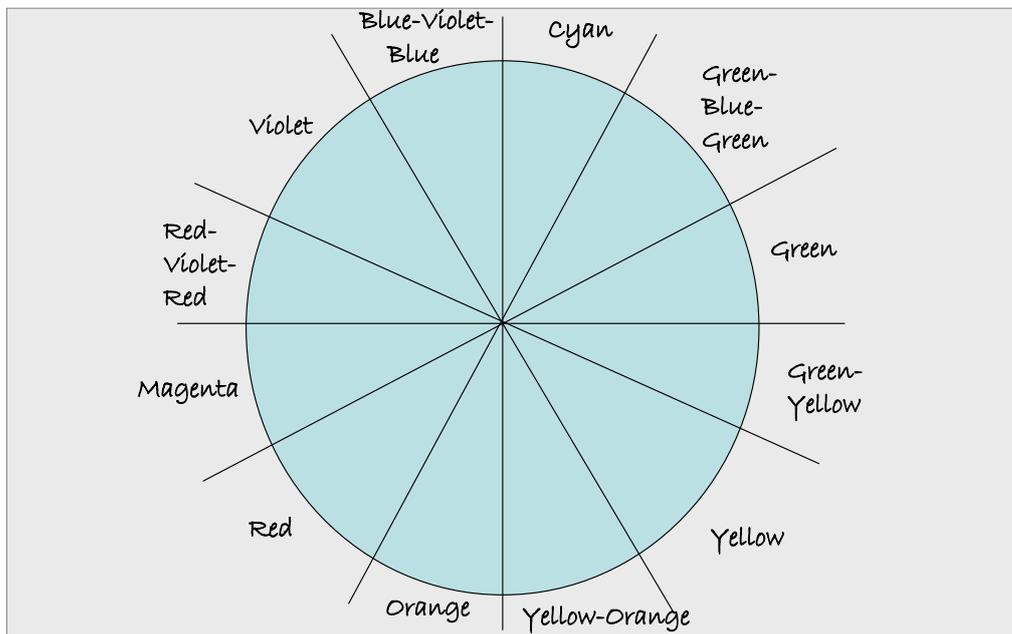
Arte: So, if I understand well, the various paints that I could use all absorb most of the light except the light of one particular wavelength, and reflect that light to us?

Zeuxis: Right! And since you mention paints, Arte, the paints that painters use come mostly from mineral pigments.

The paints used in oil painting, in tempera painting or in fresco painting, were made on the basis of mineral pigments. Nowadays painters can buy paints prepared in metallic or plastic tubes, and these paints can be as well organic as mineral compounds. For centuries, painters had to rely mainly on mineral pigments grounded to fine powders. They had to buy lumps of earth or rock, grind the minerals and mix the pigments with oils. Mineral pigments are insoluble, so the fine granules stay suspended in the medium or vehicle in which they are mixed.

For tempera painting, painters took the yellow core of chicken eggs. They gently squeezed out the egg yolk in a glass and mixed that with a little water. Then they mixed on the palette the yolk with the mineral powders, before applying the paint on a panel or canvas. This technique of tempera painting produces colours that are generally soft. Tempera painting is done in slight and short brushstrokes, because egg yolk does not flow so well and needs to be directed by the brush entirely. It also rapidly dries out, so that drawing long brushstrokes and slowly smoothing out paint over an area is very difficult.

In oil painting, painters first mixed the colour powders with linseed oil, which allowed smoothening the surfaces of paint more. Oils better preserve fluidity of the paint, so that areas could be covered more evenly. When painters used poppyseed oils, their brushstrokes could remain a little more visible, not unlike in tempera painting, and also a sense of texture was obtained, since the paint agglutinated more.

In fresco painting, the pigments were mixed with a white and almost translucent plaster, and then applied on a plastered wall. I am digressing, Arte … what were you saying?

Arte: Oh, you answered my question, Zeuxis. What are the pigments that produce the nicest colours?

Zeuxis: Mineral pigments have various origins. The word "mineral" means that the basis atom that interacts with light is a metal. Metals crystallise with other atoms and molecules, to absorb and reflect light selectively.
For instance, for yellow to red colours natural earths or ochres of different compositions exist. These can be simply earths, rocks or sands containing iron oxides. The reddest earths contain hematite. The yellow ochres contain goethites. The yellow ochres also become red when heated, whereas hematite ochres take on more violet hues when heated. Siennas are orange-brown such earths.
Painters bought the mineral pigments in shops and grinded those down themselves, then mixed them with egg yolk or oils. Yellow colours also come from lead oxides. Masticote is a compound of lead and tin oxides, litharge a pure lead oxide.
Yellow pigments also were the chromium minerals, which can tend to green too. Various cadmium compounds also produce bright yellow colours, to orange and red hues. Golden yellow comes from the pigment called orpiment, found near hot springs, which contains arsenic trisulfide. That was a highly toxic material, and it was abandoned except in a very fine-grained version called "King's yellow". The cadmium pigments replaced orpiment.

Arte: And the other hues?

Zeuxis: A red hue has also the mineral called realgar, which contains arsenic disulfide, and was often found together with orpiment. But realgar deteriorates in light. Red also is cinnabar, which is a mercury sulphide and the most common mineral of mercury. It was mined in Almadén in Spain
Green hues can be obtained from copper minerals. Malachite green is a copper carbonate. Copper chlorides and copper silicates were also used for green. There were green clays, glauconites and celadonites. Celadonites give a bluish green colour and much of that was for instance found near Verona in Italy, hence galled Veronese green. Glauconites and celadonites are mica minerals, iron-rich clays that contain aluminium.
Alexandrian blue was a mixture of other copper carbonates. It was a blue pigment, much used in ancient Egyptian and Roman paintings.
To obtain very fine blue hues, painters used a semi-precious stone mainly found in Afghanistan, called lapis-lazuli. Lapis lazuli contains sodalites, sodium aluminosilicates, also called feldspathoïds. This colour pigment was called ultramarine. It was an expensive colour, so painters also used the cheaper but not so beautiful azurite. Azurite was a basic copper carbonate, also called chessylite. Indigo was a material that yielded a nice purple-blue. This was not a mineral; it was extracted from a plant that mainly grew in India. So not all the pigments were found in nature as rocks or earths.
Mineral compounds can also be artificially prepared by chemists. Prussian blue, for instance, was discovered by a German chemist; it was a dark blue made from cyanides, potassium and iron. Lapis lazuli was made artificially in the beginning of

the nineteenth century from china clay, sulphur and sodium carbonate with small amounts of silica and pitch.

Blue and green pigments are now made from phthalocyanines, and these are organic pigments, although they are still copper compounds in pigments.

Black could come from simple lampblack or from manganese oxides.

The whitest white colours, Rembrandt's whites, come from oxidising lead, and also natural white clays could be used. Nowadays, titanium dioxides are used.

One could make brown hues by mixing the manganese oxides with yellow or orange to red ochres. But some ochres are naturally brown too, and then called umbers.

Many of the pigments that painters can find now pre-prepared in tubes, are artificially constituted mineral compounds or organic compounds. These organic compounds are the products of organic chemistry, the chemistry of hydrocarbon molecules.

From the 1960s on, acrylic paints were introduced. These are based on synthetic acrylic resins, in which the pigments are mixed. They dry rapidly and have a nice brilliant transparency, cover well, and are very resistant.

All kinds of artificial oils are also applied in the paints.

Mineral pigments are often toxic. They contain heavy metals, and some of those are dangerous to health. Arsenic, lead and mercury are very toxic to humans. Even in paints they may slowly poison a painter, especially when the painter uses his fingers and hands to apply the paint instead of the brush or other utensils like knives. These pigments are therefore as much as possible avoided nowadays.

Arte: So I should not eat paint.

Zeuxis shocked: By Zeus, no, girl! I have seen so many of my colleagues waste slowly away without knowing why. But the good painter keeps his or her hands clean! A good painter has no need to use fingers, and he or she doesn't drop paint on hands and arms. A good painter is a clean painter! And always first read the warning on paint tubes or paint boxes!

Zeuxis: The two processes, the additive and the subtractive process are the two basic processes of colour formation. The subtractive process produces individual colours in paints and when the painter places small dots of paints together, very small and very closely together, the colours interact in our eyes by an additive process. It is somewhat confusing, but that is how nature works!

Arte: Yes, Zeuxis. We did not really need two principles to complicate matters like this. But I understand the two different origins: one a mixing of sensations in our eyes, the other a mixing of pigments or paints giving rise to one sensation that reaches our eyes.

The painter's palette

Zeuxis: And it is even more confusing. Painters have changed the whole idea!

Arte: How can that be, Zeuxis? These are quite fundamental physical truths, it seems to me!

Zeuxis: Yes, Arte, but painters are humans, and humans tend to be stubborn and self-centre. They tend to individualise and to complicate matters ever. Painters had their own view on colour, which was based on their instinct and intuition of colours that went well together. So, unsatisfied with the additive process, which they did not really know and understood in early times, used to work with paint and therefore forced to admit the effects of mixing paints but yet also unsatisfied with the results and with the strange hues that were the basis of this process, they followed another road!

Arte: Why was that, Zeuxis?

Zeuxis: Because in painting artists talk of a third way of handling colour combinations, which although based on the subtractive process, has been so to say polluted by the principles of the additive process.
Painters use paints, and pigments produce colours by a subtractive process. The real primaries of subtractive colours as we have explained are cyan, magenta and yellow. But these are commonly called otherwise. Cyan, normally a blue-green, is usually taken as blue, whereas magenta is taken as red. Then the primary subtractive colours for painters become blue, red and yellow.
This third way of looking at colours deserves a name too. But its basis is not a physical process. It is more a choice made by painters of a basic set of primary colours that seem to go well together. We might call it a set of colours that painters believe to require each other in harmonious combinations: subjectively determined primary and complementary colours. These subjectively determined primary colours would be red, yellow and blue.
On the other hand then, we would have objectively determined primary and complementary colours, which would be the colours that are primary and complementary according to the additive process: red, blue and green.

Arte: So painters constituted their own palette of colours?

Zeuxis: Yes! What we have absolutely to understand well, is that these "painter's" colours are not based on any physical or physiological process (even not really the subtractive process though they might have been derived from this) but purely on matters of artists' taste.
Wassily Kandinsky for instance based his whole treatise on colours in "On the spiritual in art" on red, blue and yellow. And so have done most other painters until our days.
Today, we understand why Kandinsky used these three colours red, blue and yellow whereas in reality he might have better spoken of cyan, magenta and yellow.
The subtractive and additive processes of forming colours are very different, as are the effects of their processes. These processes were not known to be distinct processes before the middle of the nineteenth century, and even after that time scientists and artists often confused understanding of the two processes.
For the painter, this means that the laws of mixing paint and obtaining colours therefore are the laws of the subtractive process. Mixing paints means usually more absorption of light by the resulting paint, thus less brilliant hues. Mixing pigments or paint of the three primary colours of the subtractive process equally together does not give white as in the additive process. It will yield a dark, dull grey, or a muddy brown, and if the process of mixing were in perfect accordance with theory, it should give black. Painters have not mixed so many colour pigments or paints together in order to

obtain the hues of their paintings because of this difficulty. They usually prefer pure colours of one pigment only, maybe added with white or black. And when painters did mix paints, they preferred to mix bright coloured paints, so that not too much light be absorbed. Viewers can notice how certain pictures are dark in overall tone, while other may have a dark background but remain in very bright hues in the main subject. Pigments used by painters also vary in strength in mixing. Paints or pigments of high tinting strength will dominate mixtures on the painter's palette, whereas others will have less significant effects. This is an issue for painters. They will have to take care with which paints they mix to obtain a certain hue on the canvas. But this is less an issue for viewers.

When a viewer looks at very large areas of colour on a canvas, the colour perceived is the result of the subtractive process of the paint and the viewer will perceive that one colour. When a viewer stands very close to a picture on which many dots or strokes are juxtaposed, the viewer will perceive the individual colours of the dots in the same way and these colours are equally the result of the subtractive process of the paint or pigment.

When however, the colour areas are small and when the viewer looks from a distance, the additive process comes into play in a more pronounced way, to change what we see of the colours.

Zeuxis now also draws plate 75 to illustrate the painters' choices of primary and complementary colours:

Plate 75
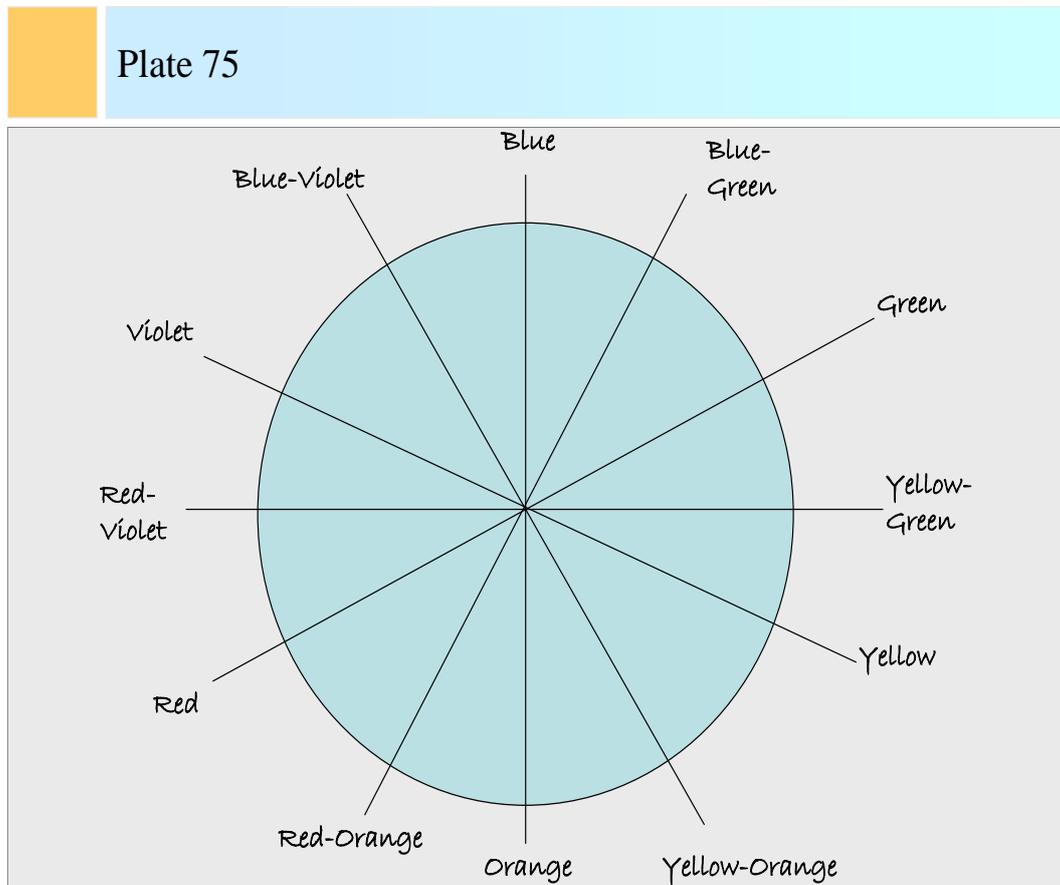
Arte: That was indeed complex, Zeuxis. It did teach me however that the ways painters can make colours are very many. There are slight but important differences between the colours as ordered according to the subtractive process, and as ordered according to painters.

But look at those blue flowers there. Some of them show the full colour blue, others have a fainter colour blue. How does theory explain these differences?

Zeuxis: In our colour theory we do not talk of "full" and "faint", Arte. We use other names, and define the properties of variation of one colour more strictly. Painters talk of hue, tone and intensity. These terms however, and their definitions, have changed in history. Different authors used, and still use, other definitions for these notions.

Hue

Zeuxis: The painters' basic (subtractive) hues are red, yellow and blue (we know it should be magenta, yellow and cyan but we grant the names red, yellow and blue). When these are mixed the secondary hues of painters are formed, which are orange, violet and green. The then tertiary colours are obtained when the amount of the primary hues is increased. Thus we obtain yellow-orange, orange-red, red-violet, violet-blue, blue-green and green-yellow. These colours can be represented in a circle or on a wheel, as I have shown. Families of colours, usually denoted as harmonious colours, lie closely together in that wheel. Colours on opposite sides are complementary colours.

Black, white and greys are said to have no hue. These colours will almost never be presented on colour wheels. They are also called achromatic colours.

Tone

Zeuxis: The tone is a colour's relative degree of lightness or darkness. A painting in dark colours is said to be in low tonal key. A painting in pale colours is said to have a high tonal key.

Painters have indicated shadows on draperies, for instance, by painting lower tonal colour hues (darker tones) in the parts of the cloth that should receive less light. These colours are then situated next to the paler hues (lighter tones) of the same colour in the parts lighted by the sun.

More complex perceptions are at play, for each hue has also a tonal value in relation to other hues. Pure hues do not all have the same tone. For instance, orange is lighter than red, and violet is darker than green. The tone of yellow is much brighter than the tone of purple. The sequence of the above colour circle is the most natural one. Changes in this order are often disturbing.

Differences in tone are very difficult to perceive and people have different impressions of this characteristic.

Here follows one possible ranking of pure hues according to tone: yellow, yellow-orange, orange, orange-red, green-yellow, red, green, red-violet, blue-green, blue, blue-violet, violet.

Thus, yellow is the brightest, most luminous pure hue. Adding white can brighten it further. By adding black, we darken the tone but also dull the hue, thus also change another property of colours called "intensity" (see next paragraph)
When one darkens a light-toned hue, for instance by adding black to yellow, one obtains other colours that are called discords. Discords are also called colours obtained from dark toned hues that are lightened by adding white, like for instance when adding white to blue.
Other names given to this notion are value, lightness and luminosity.

Intensity

Zeuxis: The intensity of a colour then is its degree of hue saturation. The colour vermilion of which Kandinsky often wrote, is orange-red at high intensity. The brown earth pigment called sienna has less orange-red saturation. Intense hues are called chromatic colours. Colours of less intensity are then hues in which either white or black is added. The resulting colours are called "tints". So tints are derivations of a pure hue.
Another word often used for intensity is "saturation".
Black and white, as well as greys, are the truly achromatic colours. By adding white, the colour fades, and this is loss in saturation. So, intensity is a degree for how bright or dull a colour is. All pure hues are also fully saturated, and thus have maximum intensity. But even among the pure hues, intensities seem to vary. Thus yellow is perceived as being more intense than violet. Similarly, red is more intense than green. So we also might think of a scale of intensity among the pure hues, with yellow most intense. A ranking is almost impossible here, but we do view orange as more intense than blue, red more intense than green, and yellow more intense than blue.

Primary colours

Zeuxis: I talked about primary and complementary colours earlier. This is an interesting and strange concept, worthy of some more information for you.
In all the theories of colour and colour contrasts, the concept of primary colours is central. A few scientists did not really rely on the concept, as they probably found it fragile and unproved, but most researchers and writers do depart from certain colours that they took as fundamental, basic colours, from which the others were derived. However, very little consensus has been reached in history over just which these primary colours could be and over just how many should be used as basis.
Red, green and blue were the primary colours for James Clerk Maxwell, Ogden Rood and more recently Frans Gerritsen. These were all physicists.
Also three primaries, but then red, yellow and blue, were chosen by Wilhelm Ostwald, Johannes Itten, Josef Albers, Faber Birren, Moses Harris, Johann Wolfgang von Goethe, Philip Otto Runge and Michel-Eugène Chevreul. Most of these, but not all, were painters.
Harald Küppers also privileges three primaries, but proposed to take orange, green and violet as basic primaries.
Ewald Hering and Leonardo da Vinci preferred four primaries: red, yellow, blue and green. These could be the colours we intuitively would name as the ones we can best distinguish and know in our normal lives.

Albert Munsell proposed to use five hues: red, yellow, blue, green and purple. We know that Newton thought or chose to think that the rainbow was constituted of seven colours.

And of course, we should add white and black to all these as fundamental colours. So, when it comes to primary colours, opinions have differed. Most writers accept three colours plus white and black as the primary colours. From this analysis, the most plausible and natural choice goes to only three colours, to red, green and blue or in more precise terms to agree with Harald Küppers on orange, green and violet as more scientific. But John Gage wrote, "'Basic' sets of 'simple' or 'primary' colours are a great gift to structuralists, but offer little comfort to those of us who are concerned to interpret the use of colour in concrete situations." [G97.]

The creation of colours by varying the colour qualities

Arte: That makes the comprehension of colours pretty complex, Zeuxis, because we can choose from a limitless variation of hues with tones and intensity.

Zeuxis: Yes, Arte! The combinations of colours are endless since green, blue and red can be combined in various proportions and each with varying tones.

Equal proportions of red and green yield yellow. But two proportions of red plus one proportion of green yield orange. Two proportions of green plus one red gives a colour called lime. A blue, a green and four proportions of red give brown. And so on.

The endless combinations of colour hues, tones and intensities of colours is also an endless source of variation for painters. Painters can alter the hues by choosing another colour. They can heighten the intensity by choosing a more saturated hue. They can add layers of the same paint to darken the tone. And they can dilute the saturation of their colours by adding white, or dulling the hue by adding black paint.

The visual system of humans can in theory distinguish between millions of different colours but we have names in daily language only for a few tens of colours.

We may talk of secondary colours as of colours obtained by mixing primary colours. Tertiary colours then would be colours obtained from mixing a secondary in unequal proportions with a primary. And we can continue, as quaternary colours would be a mixture of a tertiary colour and a primary, and so forth.

Primary colours are more readily recognised by viewers, so that they tend to dominate a picture. Areas of pure hues powerfully attract the attention of viewers. We can find these effects very strongly for instance in the paintings of the English artists of the Pre-Raphaelite Brotherhood, like in the pictures of William Holman Hunt. Secondary colours are more discreet, are often used for backgrounds or for pictures in which the dominance is granted to the content or the lines or the structure of the forms. Secondary colours support the mood of a painting.

Tertiary and quaternary colours seem artificial, rare, expressly chosen and thus less natural in a painting. They will create feelings of unease, and thus will contribute to feelings of tension in a picture.

Other qualities of colour

Arte: So now I know all there is to colours, don't I?

Zeuxis: I am afraid not, Arte. There are still quite other features of colour to charm you!
Colours can be objectively and physically characterised by hue, tone and intensity, as I explained. But two other features can be attributed to colour, which are not physical but psychological characteristics. These are the spatial value and the temperature value of colours. We will talk in later chapters more on these psychological values of colour. These features are for us, humans, as viewers, as important as the physical characteristics of colour.

The spatial value

Zeuxis: Colours like blue and white seem more distant to us than the colours orange or red. The spatial value of colours is correlated with hue. Blue or violet diluted colours, which are colours of less intensity (in which white is added), seem farther away than colours that are highly saturated. Dilution indicates distance. Let me show you.

Zeuxis looks around and since nobody is in sight at this hour, he makes his magic screen appear and projects a painting on it.

➔ Maria Elena Vieira da Silva (1908-1992). The Theatre of Gérard Philippe. Le Musée d'Unterlinden. Colmar. 1975.

Zeuxis: It is no wonder that pictures such as Maria Elena Vieira da Silva's "Theatre" were painted in black and blue lines that delineate the white surfaces. The blue lines induce feelings of space in viewers, as orange or red lines would not have been able to evoke.
Johannes Itten noted that yellow seemed close to viewers, blue kept a distant to the viewer. Itten argued that in the spatial value of colours, the colour orange is interposed between yellow and red, red between yellow and violet, green between yellow and blue, and so on.
Blue and violet always represent distance, the far. Such features of colours have of course to do with our perception of nature, and the psychological knowledge that we have of our world. The cosmos is blue or violet, far mountains are blue; these colours thus have become irrevocably related to the concept of distance in our mind. Even black, that most dead of all colours, has a spatial value of seeming to be more close to us than the blue colour, and this effect was exploited by Maria Elena Vieira da Silva, for the black lines, representing maybe the curtains of the scene, look closer to us than the blue background lines. Imagine this painting in other colours. Then you will understand why this painter used blue. No other colours could have better created feelings of space.
The blue colour definitely creates a distance between the viewer and the subject. This quality has not just been used to denote physical distances, but also to enhance – or diminish - effects of empathy between a viewer and the figures in the painting. When

a painter wants to create privacy, a distance of emotions between his figures and the viewer, he or she will return to blue or violet hues.

The temperature value

Zeuxis: The second other property of colours that I wanted to talk you about, Arte, has to do with feelings of warmth or coldness.
 Colours can be perceived as being cold or warm. Johannes Itten called red-orange the warmest and blue-green the coldest colours. Combinations and gradations of these yield paintings based on cold-warm antagonisms of colour.
Cool hues are blue, blue-violet, yellow-green and blue-green. Warm hues are for instance yellow, yellow-orange, orange, red-orange, red and even red-violet.
This perception has a very relative value. A red spot on a black background gives a warm feeling, and it will radiate its warmth. The same red spot on a white background will look darker and will less radiate warmth, as it seems to be dulled, subdued. Red used in conjunction with other hues creates different feelings of temperature.
The temperature feeling of a hue thus varies according to the ambient colours. A warm colour surrounded by a cooler one will appear warmer and vice versa.
We can sense some of these properties, as well of temperature as of spatial value, in old religious, Christian representations. Jesus was always a figure of love, as this was his main message. Therefore painters usually depicted him in warm colours, in a red robe or cloak. As a result, Christ was perceived as a figure close to the viewer, close in compassion and sympathy.
On the other hand, the mother of Christ, Mary, was the Immaculate Virgin and a highly respected Saint who had to represent purity. From the sixteenth century on, painters gradually dressed her in a white robe and in the blue cloak or maphorion. Her dress in early Byzantine picture was usually a dark red and her maphorion was dark red. In later centuries however, her maphorion was painted in ever-lighter blue, a colder colour that was a symbol of her distance to humans as a Virgin and Saint.

Arte: I am indeed going to call my tortoise after you, Zeuxis. I am becoming puzzled. There are so many things to learn about colours. You explained me all the physical effects and characteristics of colours. Is that then the whole theory?

Zeuxis, sighing: I am afraid not, Arte. We have not finished by a long way! Until now, we indeed mostly talked about the physical features of light to explain colours. As I said earlier however, we see by our eyes and the properties of our eyes also influence the way we perceive colours. Let me just explain a little about these effects. First, I have to explain how complex the eye is!

Zeuxis: Light strikes our eyes. The cornea and lens of our eye focus the image onto the retina, the light-sensitive part of the eye. The iris adjusts in width to partially regulate light levels. The fovea is the central focal point of the eye, the place where the images are cast. There is a filter in front of the fovea, called the macula, which serves to limit the damage that might be done to the fovea by the too intense light sources, such as when we look straight at the sun. The retina is linked to the primary visual cortex via a structure known as the Lateral Geniculate Nucleus. The retina produces wavelength-sensitive stimuli that are processed by different areas of the brain cortex. The optic nerve is the bundle of nerves, which carries the visual signals

to the brain. Thus the eye adapts to various levels of brightness, correcting for too high levels of lighting energy to a certain extent.
Scientists and artists gradually became aware of the importance of the physiological effects in colour perception. Modern neurobiology emphasises the physiological origin of colour.

Arte: Can you give me an example of such an influence, Zeuxis?

Zeuxis: Well, Arte, there is the Purkinje effect. I already showed you that before. Now I can explain the effect.
Johannes Evangelista Purkinje (1787-1869) was a Bohemian (Czech) physiologist and a Professor at Prague University. He described in 1825 a strange physiological effect on colours, which bears his name.
He proposed to look at two brightly lit colour surfaces, red and blue, so that one obtains the impression that both surfaces are equally bright. This last is already a very subjective feature so that for different persons the brightness or tone of the surfaces needs to be adjusted to obtain the same effect. But, suppose we have done that. Now, one diminishes strongly the light that falls on the surfaces, for instance to one-thousandth of the previous light. The result will be that a viewer, who before saw both surfaces equally light, now sees the blue much lighter than the red. As we said earlier, that is purely an effect of our eye.
The effect of Purkinje is important for the lighting of paintings in museums. We may perceive colours differently, according to the level of brightness in museum rooms. Especially aquarelle pictures, and also crayons drawings, and pictures in chalk, are often exhibited at low level of lighting in order to preserve the colours. In doing so, we may perceive the colours differently. And of course, if this light is not pure white, the effect on the rendering of colours is even more different, but that is due to still other effects.
Another example is that of the red tulip in the green grass. At sunset, when light is much diminished, the tulip that was so bright in daylight is now almost black amidst the green background. So the red colour is very dark, and its hue is almost not perceived. At dawn, the first hues that humans distinguish in the new light are the blue colours.
The reason for this effect of Purkinje is that there are in the retina two types of light-sensitive molecules: the rods and the cones. The rods only get activated at very low brightness levels; the cones work at high brightness. Seeing with cones and rods proceeds according to certain characteristics of sensitivity to wavelengths and wavelength differences. When one chooses two colours for which the cones have the same sensitivity, then this sensitivity does not remain the same at lower brightness – when the rods come in. The rods, sued in the dark, are only sensitive to brightness levels, so that in the dark we only see shades of grey.

Arte: That is really surprising. So we see in fact only in three colours? You must tell me more about the cones and the rods!

Zeuxis: It seems so, Arte. But remember, scientists are only at the beginning of really understanding human vision. They call their theories now trichromatic theories.
The theory of colour perception emphasises the physiological origin of light perception.

The first theory to explain successfully the effects of colour vision was proposed by Thomas Young around 1801-1802. Young thought that the retina could not have a different colour receptor for every wavelength of light. He proposed that colours were perceived by a three-colour code. This is called the trichromatic theory.

According to this theory, there are two different sets of photoreceptors in our eyes. One set operates during the day. This is constituted of the cones, so-called after the physical form of the molecules. The cones mediate colour vision. They are highly concentrated in the fovea, but the fovea is less sensitive to light than the surrounding retina.

Humans have three types of cones, which are differently sensitive to wavelengths of light. There are short-wavelength sensitive ones or S-cones, middle wavelength sensitive cones or M-cones and long-wavelength sensitive ones or L-cones. So we perceive colours through a code of three signals. Our colour vision is derived from comparisons between the amounts of light received by each type of cone. These comparisons occur in the retina, but continue to be processed in the cerebral cortex of the human brain.

The other set of photoreceptors operates in the dark, and this set comprises the rods. Rods mediate night vision, at very low levels of illumination, and then we only see shades of grey. The rods function only in dim lighting. During the night, we see shapes quite well, but we will discern no colours. Rods can be excited by a single photon, so they are very sensitive to low levels of light. They also outnumber the cones in a proportion of more than ten to one.

These cones and rods are chromophores, vitamin A derivatives, bound to a membrane protein called an opsin. Light triggers the isomerisation of the chromophores and the opsin. When light is absorbed by these photoreceptors, the light energy is converted into electrical and chemical signals that are processed by the neurones in our eye and brain process. Other theories but the trichromatic theory have been studied and proposed.

The German physicist Ewald Hering (1834-1918) proposed another approach in 1878. He proposed that colour vision indeed is based on three stimuli for the brain, but that these stimuli were each a pair of opponents, that is the opponents between dark and light, red and green and blue and yellow. Colour vision was an effect of excitation and inhibitory effects in various successive layers. Specialised red-green opponent cells in the second layer compare signals from the cones in the first layer. These opponent cells compare the proportion of red and green light coming from an area in our visual focus. Then, other opponent cells compare the signals from the blue cones with the combined second-layer signals of the red-and-green cones.

This theory is called the Opponents Theory, and several of the special effects of vision like contrasts and after-images can be better explained by this theory. For our observations and conclusions, the trichromatic theory will suffice however. Moreover it seems that the trichromatic and opponent theories are not necessary mutually exclusive.

It is currently believed that there are two levels of neurones in our mind and signals from the green and red cones in the first layer are compared by other "opponent" green-red neurones in the second layer. These opponent cells compute the proportion between red and green light coming from a particular part of our vision. The three cone types as described in the Young-Helmholtz theory send signals to the opponent cells of the Hering Theory. The S-cones (blue cones) send excitatory signals to the blue-yellow opponent cells. The L-cones (red-yellow) send inhibitory signals. If the strength of the excitatory signal is greater than that of the inhibitory signals, then

yellow is seen. The red-green opponent cells receive excitatory signals from the M-cones. Green is seen if the strength of the excitatory signals exceeds the strength of the inhibitory cells. And red is seen if the strengths are the contrary.

Several modern so-called 'Zonal' theories have been developed, encompassing both older theories.

Different animals have different numbers of receptors, and their colour vision is therefore very different from ours. Even the animals that have the same number of eye-receptor sets, which is four, have different vision because the wavelength sensibility of their vision receptors differs. Moreover, some animals are receptive to the polarisation of light, whereas humans are not. Nothing indicates that the composition of the colour perception is a linear function of the stimuli of the three kinds of cones of the retina. These functions may be non-linear, and differ among animals and humans. The colours that we see are thus not merely a property of the object we see, but much more a physiological property of living beings.

Current trichromatic vision theory says that sensors in the eye capture light. Light is captured on sensors by a spectral distribution of wavelengths of light. The spectral response of each sensor is a function of sensitivity for a particular wavelength and of the energy distribution over the various wavelengths, the energy of the illumination. A colour is then perceived through a combination of the responses of the three sensors of the human eye to external stimuli on the sensors. And our vision can adapt to a certain extent to various levels of brightness.

The modern "Zonal Theory" of vision assumes that there are several stages in colour vision. In the first stage, light is indeed captured and the stimuli are transformed into electrical signals. Here the trichromatic model works entirely. But then these signals are processed in a visual network of neurones to produce three new signals, one achromatic (bearing no colour information) and two antagonistic signals bearing information of colour. Judd developed a mathematical model for this process.

In this way, modern science came closer to explaining many of the effects and puzzles of vision.

We have seen that with the research into colour since the middle nineteenth century, the awareness grew that the original view of philosophers stating that colour was not an intrinsic quality of an object, was a true proposition. Colours changed under various circumstances that had nothing to do with the object itself. And scientists found that animals see the aspect of a surface of an object that we call of a certain colour very differently.

More than anything, colour as we see is a quality of humans. Colour as a concept exists because of humans. Colour exists because humans exist. The early scientific theories of colour as purely a physical phenomenon are not the right models of colour perception.

Zeuxis: That is why, Arte, I asked you to read Goethe's book! Goethe was right when he sensed that there was much more to colour than a physical phenomenon and on this notion I will continue to explain you more about colour, but that must be in next lessons. I am tired and we have to leave the exhibition now. Please read your book on colours of Goethe.

Arte: I will, Zeuxis, though I have the impression you have taught me all there is to know about colours by now.

Zeuxis: Oh no, Arte, there is still a lot more to come. Colour perception is among the very most difficult puzzles of mankind.

Arte on Goethe

Johann Wolfgang von Goethe, who lived from 1749 to 1832, was indeed one of the greatest and most unexpected writers on colour, Zeuxis!
Goethe's amazing book was written around 1806, when Napoleon Bonaparte's armies occupied Weimar after the Battle of Jena, but his book was printed only in 1810. Goethe's views must have certainly been precursor ideas of the physiological theories of colour perception. Goethe's English translator was the painter Charles Lock Eastlake, and I read that book. The English translation dates from 1840, and Eastlake added many notes proving his own erudition and knowledge of colour effects.

Goethe experimented with colour effects, maybe because he quickly observed that there was much more to light than a mere physical phenomenon. The effects puzzled his exquisite and poetic mind. He rejected Newton's theories that colour was a function of light alone, and he had more sympathy for the old Aristotelian views. He wrote that colours arose in the eyes. He discussed psychological effects of colours, thereby emphasising the role of the mind in colour perception.

He started his book by remarking the effects on the eye of light and darkness, of black and white objects. He experimented with effects of the grey scale. Then he discussed coloured objects, and showed the existence of after-images, which had the complementary colour of the original object. He knew also that colourless spaces placed adjacently to a coloured one produce the complementary colour.
I was surprised that he did not experiment much with several colours placed next to each other, to find out whether something happened then to both the colours. Yet, he noted that the colours of the "active side" (such as yellow) placed next to black gained in energy, those of the passive side (such as blue) lost in energy. The active joined with white and brightness lost in strength, the passive colours gained in cheerfulness. He wrote that red and green with black appeared dark and grave; with white they appeared grey. He dwelled on the colour of shadows and on effects of faint lighting. He even embarked briefly on pathological effects of the eye, as a doctor might have done.

Then Goethe began with his main theme: the interaction of light and matter. Goethe explained the change of colours when light passes through matter. He called these dioptrical colours. He experimented with light passing through very transparent mediums, and also through imperfectly transparent media. He experimented with light reflected on surfaces, his catoptrical colours. He looked at effects on the very surface such as in thin films or bubbles, and called these epoptical colours. He observed that when looking at bubbles of soap from various positions, other colours were seen. That was yet one more demonstration, Zeuxis, that indeed colours were not merely a property of the object itself. And he also discussed what happened when light passed on the edge of objects, what he called perioptical or paroptical colours.

After these long chapters of observation, Goethe talked about what he called "chemical colours", which he defined as the colours that can be produced in certain bodies and that have some duration, the colour proper to materials. He talked about

the colour of metals and earths; how they progress when chemical changes were made to them.

Goethe knew the additive and subtractive mix of colours that you talked off. He called additive colours "apparent inter mixture". He remarked that yellow and blue powders mixed together appear grey to the naked eye, but when he looked through a magnifying glass and could still see the yellow and blue grains distinct from each other. Isn't that a marvellous proof of the additive process? And then he said that when paints of all colours were mixed together they yielded black, which proves what we called the subtractive process!

Goethe observed the colours of minerals and of plants, even of worms, insects, birds and fishes. It struck me that he experimented to prove the warmth created by light. He let light shine through a yellow-red filter of glass so that it fell on a thermometer; this yielded a higher temperature than when he used a blue filter!

Other effects are puzzling to me, Zeuxis! Goethe told that he had seen that a dark object appears smaller than a light one of the same size. He said that was about a fifth part smaller.
Goethe did not really try to explain how colours were formed, even though he thought of colours like effects caused by differences in brightness and darkness, like Aristotle. He saw the effects and noted the results of his experiments. Goethe stressed the physiological phenomena and he also wrote a chapter on what he called the "Effect of colour with reference to moral associations", the psychological effects of colour perception. That is a surprising chapter, Zeuxis, and you will have to explain me more about that, because Goethe linked human emotions to colours.

Goethe's observations were very astute. He explained for instance the theory of coloured shadows. Shadows that are thrown on a coloured surface take on the complementary colour of the medium the shadows fall on. He wrote, "in all coloured shadows we must presuppose a colour excited or suggested by the hue of the surface on which the shadow is thrown". The shadow is in the complementary colour. You will have to explain later, Zeuxis, what is meant by "complementary" colour.

Goethe's primary colours were yellow, blue and red and his complementary colours were then respectively red-blue, red-yellow and green.

Goethe was very much interested also in the secrets of the harmony of colours. He wrote that there were three leading rubrics in colours: the powerful, the soft and the splendid.
Powerful colours were yellow, yellow-red and red. These were active colours. Violet and blue, and in a lesser way green, were not as powerful. Soft colours of the passive side were blue and violet. Green was for Goethe also a very passive colour.
Soft were equally moderate additions to these of yellow-red and red-yellow. In each of these two categories the complementary colours were to be excluded to a minimum. Goethe called these two scales of colours harmonious when they were placed together.
But the full harmonious effect he said was only created when all colours were exhibited together in due balance, and Goethe called this the splendid.

When all the basic hues were applied together in a picture, then these together only constituted harmony. Goethe thought probably of a circle of six colours only. Combinations of powerful and soft colours on their own and only were agreeable, but the splendid was all the chromatic scale of colours together in due balance.

Goethe also regarded complementary colours as harmonious combinations, but he thought that close colours were "without character". He saw "character" only in colours that were neither complementary ones, nor close in hue. He thus did not like so much colours that were not on opposite sides in the colour circle, or the colours that were contiguous in the circle. He did not much emphasise differences in tone or intensity.

Goethe also saw a spiritual meaning in the mixing of colours. He spoke of yellow and blue as basic colours. Mixing yellow and blue produced green first, the earthly. He wrote that it produced red in their intense state, the heavenly, generation of Elohim.

You have told me, Zeuxis, how colours have intrigued philosophers, scientists and artists since the first periods of European interrogation of nature. In the new scientific age, from the eighteenth century on, the natural phenomena were studied in a scientific, methodical way based on observation. Colour was in those periods neglected. There were so many more other, more easy subjects to study. It is remarkable how people like Johan Wolfgang von Goethe by a particular interest, stumbled into the fascinating domain of the study of colour, almost by chance. Goethe was an artist, but not an artist of the visual arts.

Johann Wolfgang von Goethe seems to me to have been a good example of a person who was very puzzled by the effects of colour and who wrote on almost all the qualities of the strange phenomena associated with colours. He proceeded from physical observation to psychological effects.

This is the range we are confronted with when we speak of colour and of course, in the long end I will be most interested in criteria that might define the harmony of colours. Harmony is what makes a painting instantly agreeable to viewers, I believe.

I believe that my ultimate goal, Zeuxis dear, should therefore obviously be to seek rules of harmony of colours – if they exist as universal rules. And then, we can ask ourselves, Zeuxis, whether harmony is the only effect that viewers demand of colour, just as we spoke of harmony of forms, and found that also the breaking of harmony may be pleasing.

Lesson Ten – The emotional Value of Colours

Zeuxis and Arte walk again among the stands of the flower exhibition of Épinal.

Zeuxis: Are you not exhilarated at the sight of these tapestries of colours, Arte? How do you feel when you see all this?

Arte: I do indeed feel wonderful, Zeuxis. We finally reached a place where my soul is uplifted. Why did we not start here in the first place and learn immediately about colours? Look how marvellous they are in so many combinations. Far more than the flowers, I like the effusion of colours. How I understand the English that love flowers in their often country, and how well I understand that they like contrasts of colours.

Zeuxis: So colours evoke feelings in you.

Arte: Of course. And you made me read Goethe, who talked about the emotions associated with individual colours. When I look at the flowers here, I recognise some of the emotions he mentioned. That knowledge has opened my mind.

Zeuxis: All right, then, if this is what you like, let's talk more the emotional values of colour. Please help me with what Goethe and Kandinsky wrote on this subject.

Zeuxis: Mankind has lived for tens of thousands of years in the environment of nature, as we know it. The colours we perceive have become associated in our mind, in a combination of physical and psychological stimuli, with certain feelings, and it is with those feelings that we are most concerned, since these affect us most deeply. Our psychological responses to colour influence our way of looking and experiencing paintings. That emotional perception of colours has been shaped very much by social and cultural factors. The feeling of colour varies from culture to culture and from century to century. The emotional values of colours also change with culture. Feelings for colour are not the same in Western Europe, North and South America, Japan, Arabia or China. In our lesson I will explain how western painters could have felt about colours, and how they used them, and still do so today, to call to mind certain emotions in viewers. Colours are symbolic in our societies, and colours have been used as a code value.

Arte: Then let's get on with it.

Zeuxis: I asked you to read two books, Arte, one written by Johann Wolfgang von Goethe and one by Wassily Kandinsky.
When we talk of the emotional value of colours, it is good to refer to how people with special sensibilities for colours thought of them. One of these painters, who wrote on colours, was indeed our Wassily Kandinsky. He discussed colours and feeling in a treatise entitled "Über das Geistige in der Kunst" or "On the Spiritual in Art", published at the end of 1911, and that is the book you read. Another artist who wrote with much feeling on the emotional values of colours was of course Johann Wolfgang van Goethe. Goethe wrote that experience taught particular colours excited particular states of feeling. Goethe told of colours in terms of force and weakness, warmth and

coldness, proximity and distance, repulsion and attraction, action and privation, light and shadow, brightness and darkness. He called these contrasts by the terms plus and minus.
You read the opinions of both these writers and I ask you to recall their comments to explain for some colours the psychological effects.

Arte: All right!

Zeuxis: The emotional value of colours has changed with time. Leon Battista Alberti wrote in 1436 that there were four true colours as there were four elements. Red was the colour of fire, blue the colour of the sky, green of the water, whereas grey was the colour of the earth.
We will go back to the Late Middle Ages, and follow Johan Huizinga's appreciation of colours of those times. Huizinga (1872 – 1945) was a Dutch historian who wrote an excellent book on the period with the title "Herfsttij der Middeleeuwen", or "The Autumn of the Middle Ages". Huizinga's perception of feelings for colours went much back to a chronicle of the Herald of Sicily called "Le Blason des Couleurs". The Herald of Sicily praised light yellow-blue, orange-white, orange-rose, rose-white, and black-and-white combinations. Blue-green and green-red were commonly used but not considered very beautiful. Our current preferences are blue and grey. This is an example of how tastes for colours have changed over the centuries.

Arte and Zeuxis walk on.

Zeuxis has a sudden idea: You pick the colours we will talk about, Arte!

Arte: All right, Zeuxis. Here is a large bed of blood-red tulips. Red is our first colour.

Red

Zeuxis: Red photons have the longest wavelength and the most energy. Red is a warm colour. Infrared rays burn our skin, and so the red photons bring us a sensation of warmth.
Red is the colour of burning fire. It is the colour of flowing blood and of life itself. But when a man bleeds he is hurt, so red is the colour of danger. When our traffic lights are red we cannot pass; again, we perceive red as the colour of danger, the colour of interdiction.
Red has a very stimulating effect on people. It has connotations of strength, of masculinity, of liveliness and of turbulence. Red is the colour of power, of triumph, of warmth and of joy. It is a colour of love. The robe of Jesus Christ was usually of red colour in paintings. With Jesus, red indicated love, masculinity and triumph, but also the blood that Jesus would pour at this death.
Red is the colour of red wine, of the juice of the full grapes and their skins ripened in the sun. Red is a sun colour. Red is the colour of determination, but it is also a colour that is close, intimate to the viewer.
Kandinsky told that red attracts the viewer, draws him closer and into the picture. Red is literally an attractive colour.
Red is the colour of fire, of passion. Irish girls with red hair are supposed to be passionate and energetic.

Red was the colour of revolution, the colour of the Communist flag and emblems.

Arte: Goethe found in red gravity and dignity, grace and attractiveness. His feelings on red were much the same as described by Kandinsky.

Zeuxis draws out his magic screen and projects a picture.

➜ Mark Rothko (1903-1970). Red on Maroon. The Tate Gallery. London. 1959.

Zeuxis: For an example of the effect of just one colour on a viewer, or of at most a few delicate shades of the same hue, we refer to an abstract painting. A group of painters in New York in the 1960s and 1970s emphasised large areas of a few colours. Their movement used colour to express emotions and one of their foremost representatives was Mark Rothko. He made a painting in 1959 called "Red on Maroon". This painting expresses well all the qualities of red. Which emotions go through you when you look at this painting?

Arte: I feel sad but warm. I would like to lose myself in these surfaces. They are the colours of autumn in the woods.

Zeuxis: In the Middle Ages, red could be the colour of love. Red was the most beautiful colour, and brown the ugliest. But red was then also the colour of crime and sin. The hair of Judas, the traitor who sold Christ, was painted red, and until our days in Western Europe men with red hair are looked at with suspicion, even though the feeling is much diminished. Red was the hair of the Vikings that attacked Western Europe in the Middle Ages. A connotation of being wild and weird is attached to red. Red is now also a colour of eroticism, of provocative underwear. It might be the colour of prostitutes.
Red seems to be associated with particular shapes, mostly with right-angled shapes, such as the square. The symbol of the Bauhaus school, whose teachers brought first to the general awareness such emotional relations between colour and form, could have been the red square, the yellow triangle and the blue circle.

Zeuxis: What will our next colour be?

Arte: Here we come to a rare kind of colour for flowers: look at those blue roses that grow to the ceiling!

Blue

Zeuxis: Blue photons have short wavelengths. They lie at the opposite side of red in the natural spectrum. Blue is the light of the sky, and we know that the higher we climb the colder it gets. So blue is associated with feelings of coldness.

Arte: Kandinsky also wrote that blue is a cold colour. It is the colour of heaven. Blue calls a viewer to the infinite. Blue is the aspiration to the mystic, to an existence of a higher order, to transcendence, to a super-natural existence. It is related to the circle, a closed and cool shape.

Zeuxis: Blue is a peaceful, tranquil colour, but leaves a somewhat sad impression. Blue does not attract the viewer, but keeps him at a distance. Blue lives for itself, does not commit to the viewer. It is a passive colour. Bright blue is resplendent and glorifying. But its coldness has a chilling effect on the viewer.
The cloak of the Virgin Mary, the maphorion, is traditionally of the blue colour. That tradition, however, dates from the beginning of fresco and oil painting. Before those times, before the thirteenth century, Mary was painted in warmer and more sombre tones. Blue and white was used when Roman Catholicism started to regard more and more Mary as the Immaculate Virgin, hardly approachable by humans. The Virgin is almost always depicted motionless, a symbol of peaceful but distant glory, compassionate but distant. She turned inwardly in the mystic of her Immaculate Conception. Hence painters used cold colours, the light blue and the white, in images of the Virgin. The Virgin's blue became thus brighter and lighter in hue over the centuries.

Arte: Goethe found blue also to be a powerful hue. For him, a blue surface seemed to retire from a viewer, and to draw the viewer after it. He found here coldness, emptiness. Blue was the colour of melancholy and of gloom.

Zeuxis: The French, very original artist Yves Klein made many monochrome half abstract, half figurative blue paintings. At a Sorbonne lecture in 1959 he spoke as follows on the colour blue: "Blue has no dimensions, it is beyond dimensions, whereas the other colours are not. They are pre-psychological expanses, red, for example, presupposing a site radiating heat. All colours arouse specific associative ideas, psychologically material or tangible, while blue suggests at most the sea and sky, and they, after all, are in actual, visible nature what is most abstract." [G86.]

Zeuxis: Blue is a non-committing colour. It is a discrete colour, and hence used in the flags of international associations such as the United Nations or the European Union. It is a non-aggressive colour.
When we feel down, we have "the blues". Just how blue moody the colour blue can be is shown in Barnett Newman's "Cathedra" of 1951. Barnett Newman was another painter of Mark Rothko's generation, who used colours to express emotions. Various shades of deep blue indicate the depths of the cosmos, the distant mystery of the universe. An equally cold white vertical line breaks the blue field to indicate another space behind the blue, or opens up the blue space.

Zeuxis shows a picture of Barnett Newman, all in blue and white.

➔ Barnett Newman (1905-1970). Cathedra. Stedelijk Museum. Amsterdam.1951.

Zeuxis: The Romans used little blue. [G85.] But blue paint has been discovered on the armour of a statue of Emperor Augustus. In the chariot races run in the Circus Maxima of Rome, four teams competed; one was dressed in red, the other in white; the third in green and the last in blue. So Romans did use blue. In the Middle Ages blue was a male colour, as opposed to red, which was the colour of women. Red was considered a very beautiful colour, the colour of robes to be worn at feasts. Blue in the Middle Ages was as warm and true a colour as red and green. Blue was consistently used in religious scenes for Saint Peter's tunic, whereas his cloak was usually yellow. [G97.] John Gage showed that Philipp Otto Runge (1777-1810), a German painter,

formulated a relationship among colours based on the Christian Trinity. Blue characterised the Father, red the Son and yellow the Holy Spirit. [G97.]

Zeuxis projects the Beate Angelico's painting.

➔ Fra Angelico (ca. 1400-1455). The Coronation of the Virgin. Musée du Louvre. Paris. Ca. 1430-1435.

Zeuxis: In the Renaissance, the primary colours were used in all brightness and splendour. Look at Fra Angelico's paintings. Fra Angelico used blue as a resplendent colour to the same extent as he applied green and red. And even combinations of dark blue and violet were not avoided in the Middle Ages. In Fra Angelico's "Coronation of the Virgin" the painter applied almost only the primary colours. Red, blue and green are situated next to each other, and are repeated in symmetry. There is no fear of stark contrast here, since Angelico made the colours so light that they are fine and delicate and in several places he separated the colours from each other by a clearer hue. On the right for instance he painted a Saint in a blue robe and a green cloak, but these two conflicting colours are light and separated by a golden lining.
In the Middle Ages, blue was the colour of faithfulness when used in circumstances pertaining to love or falling in love. Blue was the colour of willingness, of openness. A French saying goes "Bleu, je veux" or "Blue, I grant". But blue could be feigned, and hence later also appeared as the colour of unfaithful lovers and of transitoriness in love.

Zeuxis: We have used the words warm for red and cool for blue. This is called the temperature of a colour. All colours can thus be associated with a temperature, and appear warmer of cooler depending on the degree of red and blue they contain. When we will talk later of the juxtaposition of colours. We will also see that a colour can induce cooler feelings when it is juxtaposed with a warmer colour. The temperature quality is relative.

Zeuxis: Next?

Arte: Here are tapestries of anemones, and they are set in a green field!

Green

Zeuxis: Green lies between red and blue in the spectrum. Green is the colour of the endless meadows and of the peaceful foliage of vast forests in spring. Green induces feelings of restfulness. Green is the colour that expresses peacefulness. Green is the colour of spring. It is the colour of young life, and of self-satisfied peace. It is the colour of ecology. Green is immobile. It contains no overtones of joy or of passion. Green is motionless, untouched, unthreaded nature. It is tranquil.
Green is the colour of discretion. Green was the colour of the dresses of harlots in medieval England, hence the famous song "Greensleeves". But it was also in the Late Middle Ages the only colour allowed for the bedroom of the Queen of France, so that in many Northern fifteenth century pictures of the Annunciation to the Virgin Mary, the bed in Mary's room is in green. Johan Huizinga wrote that the greatest charm seemed to come from the colour green in the Middle Ages, from the colour of nature.

Green is also the colour of Islam, the colour of the prophet Mohammed. Green is the colour of many flags of Muslim countries, like Pakistan. Maybe this colour was chosen by the Arab people for its significance as a longing for luxurious nature, which was opposed to the dire realities of the desert.

Arte: Goethe wrote that green gave a graceful impression, as it was the colour of hope. He found the colour reposing for the eye and the mind.

Zeuxis: But green is also the colour of chance, the colour of fortune. Hence we perceive it in our culture as an unstable colour, one that changes quickly. Green is the colour of games, of the billiard table and of casino boards. Green is the colour of money since the colour of the Dollar note is green.

Zeuxis shows another picture to Arte.

➔ Josef Albers (1888-1978). Study for Homage to the Square; Beaming. The Tate Gallery. London. 1963.

Zeuxis: We look at a painting "Study for Homage to the Square; Beaming" of Josef Albers, a picture of 1963. Here we see an interaction of colours, centred on the green square in the middle. This square is a centre of peace, whereas the border is all blue. The attention of the viewer remains focused on the middle. Green and blue are not complementary colours, so when juxtaposed they would give a disagreeable impression (an effect we will discuss later in this text). Albers used the tension between the green and blue, but he painted a transitional colour between the two chromatic hues to alleviate the tension and to isolate the peace of the green in the middle. But there is more to this combination of colours than the qualities of each of the two colours separately. If you look long enough at the colours, the square starts moving in space towards you and back. Therefore, the green square is beaming through space. The other colours push the green forward, and reject it from them out of the canvas. The quality of distance of blue makes that the border recedes, whereas we are intuitively attracted to the green. These are special effects of the juxtaposition of colours.
In the Middle Ages green was the colour of fortune that comes and goes hence also the colour of hope. It was the colour of destiny. Wearing green could bring bad luck. In the Middle Ages it was the colour of the devil, and we still picture sometimes aliens as green. It is the colour of poison. It was also the colour of young, first and hopeful love and the colour of falling in love.
Besides the three constituting colours mostly used by painters, red, green and blue, two other colours can be considered as basic. Those are white and black.

Arte: You thought of white when you saw these white lilies, didn't you? But you made an error now: painters used red, blue and yellow most.

Zeuxis: Aha, just testing you, Arte. You were awake. I did think of white while seeing the lilies, yes.

White

Zeuxis: White is the absolute colour. It represents pure joy of the all-pervading very intense sun. It is the beginning of colours; it represents the light itself that lends its brightness to all other colours.
White is the sparkle of life. White is also purity. The robe that the Virgin Mary wore under the blue maphorion, was usually white. White is the colour of virginity. It is the colour of marital robes, but white cannot be worn in our culture at weddings if the bride has been married before or is no virgin anymore.
White is a constituted colour; it can be separated through a prism in other colours. The natural light of the sun is thus broken into the spectrum of the rainbow. But white can also be obtained by mixing only two colours in the additive process. Colours that when mixed yield white in our perception, are called complementary colours.
White is of course the colour of cleanliness, of pure things. White is the colour of bed sheets and underwear. It is the colour of hospitals and of medicines. It is the colour of innocence, of peace and of discretion. When a soldier surrenders in war he brings a white flag. White is the colour also of the divine, the colour of angels.
White is a bright but cold colour. It makes us think of snow and of ice.
In the Middle Ages and even centuries later, white was the royal colour of France. France's royal standard was of the white colour. But the standard that was taken to war when France was in peril, the Oriflamme, was red, with golden sunrays embroidered on it.
White and red were the colours of feasting.

Arte: After white we should talk about black, of course. I see no black flowers here, but there was a set of tulips we passed by a while ago, which approached black quite well.

Black

Zeuxis: Black is absence of light. Black is the nothingness, the extinct sun, the colour of night. It is the toneless colour. Black is the colour of death and of mourning. But we must remind that in China and India the colour of mourning is white. For Western-Europeans, black is the colour of funeral rites.
There is no potential in black. Life and joy disappear into this colour. In cosmology, the stars that are so dense that their gravitational force even retains light are appropriately called "Black Holes".
Black is the colour of authority. It is the colour of the cloaks of Judges, of referees. Black imposes respect. It is the colour of the suits of businessmen in functions that inspire confidence.

Arte: Black was also the colour of the fascist movements of the 1930s and the colour of some of the most un-human regiments of soldiers in the World Wars of the twentieth century. Therefore, the colour has become the colour of power, of ascendance of one man over another.

Zeuxis: Black is the colour of sadness, of solitude. It is the colour of austerity, the colour of religion, as preferred by the Protestant preachers. Black is the colour of the robes of Greek Orthodox priests and of Roman Catholic priests. It has also become

hence the colour of too much faith, of hypocrisy in faith, of bigotry. Black is the colour of robes of very old ladies.

Arte: How was black looked at in the Middle Ages?

Zeuxis: Black, grey and violet, thus sombre colours, were much in fashion in the Middle Ages. Black was the colour preferred by French princes like the Dukes of Burgundy in the fifteenth century. A Prince of England was called the "Black Prince". King René d'Anjou, a ruler of the Provence region of France preferred grey, black and brown for clothes. The art historian John Gage wrote that the taste for black clothing was a prerogative of wealth and nobility in the Renaissance; in succeeding centuries it spread in Europe to all levels of society. [G97.]

Black is the ultimate colour with which other colours can contrast favourably. Almost any colour confronted with black looks good and bright. We will come back on this effect later, Arte.

Arte: Then we should think about the colour that lies between white and black, about grey.

Grey

Zeuxis: Grey shades are simply combinations of white and black. Grey was toneless for Kandinsky, immobile, lacking in emotion. The deepening grey turns into a suffocating black. Grey tones induce sadness, depression and melancholy.
Grey is a nice colour, but it indicates absence of colour. It is often used to separate other colours. It is a weakened black, so that in our culture it is the ultimate colour of discretion. It is less pronounced than black, thus often more acceptable. It has come to be the colour of discreet elegance, of good taste.
In the Middle Ages grey was a general colour for sadness and gloom. It was considered elegant also in those times, and more elegant than brown.

Arte: Grey is a colour that is much in fashion in our current times. With black it has become the colour of business suits, of discreet business meeting rooms and of elegant, luxurious but discreet cars. It is also the colour of being non-committing, of being neutral in relations.

Arte: But enough of these non-committing hues. Here are daisies. It was a good enough idea to bring these simple flowers here in the exhibition. Let's talk of yellow, wonderful yellow.

Yellow

Zeuxis: Yellow is constituted of green and red in the additive process of colour mixing.

Arte: Yellow was one of the basic colours for Wassily Kandinsky. He wrote that yellow was also a warm colour. Yellow warmed to orange with the addition of red. Kandinsky said that yellow was disquieting, pricking, stimulating. Yellow was a

typical earthly colour. He further told that when very bright, yellow was of intensity unbearable to the eye and spirit.

Yellow represented movement towards the spectator, it was an eccentric colour, it radiated outwardly.

For Kandinsky, yellow with more green received a greenish hue that had a sickly, supernatural character that resembled madness. Blue affected yellow like a brake until it reached the tranquillity of green.

You may have understood, Zeuxis, that Kandinsky explained colours using yellow as a starting point. He used six basic colours: yellow, green, violet, blue, red and orange.

Zeuxis: Yellow is often associated with the triangle and with angular shapes in general. Energy, radiation seems to escape from sharp angles, just as the colour yellow is an outwardly radiating hue.

Arte: Goethe wrote that yellow was nearest to light. He found the colour lively and aspiring, severe, gay, with sometimes a magnificent and noble effect, as for instance on silk. It gave a warm and agreeable impression. Yellow gladdened the eye and expanded the heart.

Goethe warned however, like Kandinsky, that yellow was also extremely liable to contamination, and could thus produce a very disagreeable effect if sullied.

Zeuxis: Yellow in Western culture is also the colour of treachery, of felony and the colour of lies. A cowardly man is called "yellow".

But yellow is also a very brilliant colour, and a very cheerful hue, therefore often too bright for our culture. It is the most luminous of colours. It represents prosperity since it is the colour of gold. In China, as it was the most luminous colour, yellow was reserved for the Emperor and none other was allowed to wear a yellow garment.

The writer Harald Küppers used for the colour yellow terms like eccentric, directed towards the exterior, optimistic, joyful, dynamic, freedom seeking and expansionist. G99.

In the Middle Ages, yellow was the colour of madness. Judas the ultimate traitor of the Bible was usually painted in a yellow robe. Yellow was worn by soldiers and by servants. It was the colour of enmity. Ambassadors or envoys of princes who brought challenges to kings, could wear yellow clothes.

Arte: It was absolutely Kandinsky's favourite colour!

Zeuxis: I guess so, indeed, Arte. Yellow was probably his favourite colour. Let's look at one of his paintings of 1925 called "Gelb-Rot-Blau" or "Yellow – Red – Blue". Many of the opinions of Kandinsky on feelings for colour and line are present in this very intellectual, very formal painting.

Zeuxis projects Kandinsky's painting on his transparent screen.

➔ Wassily Kandinsky (1866-1944). Yellow – Red – Blue. Musée National d'Art Moderne, Centre Pompidou. Paris. 1925.

Zeuxis: On the right of the painting is a blue circle in different shades of blue. This blue is ascending, as if aspiring to the heights, to the sky. The blue circle ascends into light, into very bright and thin yellow, which gives here an impression of elation and

joy as combined with the blue. The blue colour gradually migrates to red, as if the ascending movement was born in pain. The red indicates warmth, living material, especially as it is combined with the even darker tones of black. There is blood here, and coagulated blood takes on a deeper hue, going on black. These feelings are tempered however by a few more joyful drawings of perspective grids in various colours, which remind of the ascending movement and the joyful brightness of the full spectrum of colours.
To the left is the yellow colour again, here resplendent and lively against a little brown. Here also we can discern the stylised form of a human face.

Arte: I know, Zeuxis! Kandinsky used basic forms and lines to illustrate his theories. The blue circle enhances feelings of coldness and distance (the colour blue) and of being closed (the circle), whereas the yellow on the left is placed in almost a figurative form of a human face and this made it recognisable, tangible, more sympathetic. Straight black, horizontal lines on the right accentuate living movement. A heavy black jagged line with angular black triangles indicates the ascending movement of the right. But to smooth the movement, a curved black line undulates over the blue circle and enchants all forms in an organic swirl. Such a warm undulating line was not necessary on the left, since the yellow colour and the form of the face already created an organic impression here.

Zeuxis: Remark, Arte, how Kandinsky introduced three small circles in this painting, almost like enlarged dots or points. Kandinsky dedicated many words to dots, with which he started his analysis of forms. Here these dark circles concentrate attention and create equilibrium. The small, dark circle on the left bears a halo. The inward movement of the circle is thus checked by the yellow halo that surrounds the circle. The circle functions as an eye. It attracts the view of the spectator in a very decisive way, proving the attractive quality of circles even more.
Kandinsky inserted some of the traditional perspective impressions in the form of three grids, which resemble the tile patterns that were often painted in the fifteenth century in Gothic and early Renaissance pictures.

Arte: We have here all kinds of anemones again, in various shades of orange.

Red-yellow and yellow-red

Arte: Goethe wrote that red-yellow was more powerful and splendid than yellow. This colour had warmth and procured gladness of spirit. It had the hue of an intense glow of fire and of the milder radiance of the setting sun.
Yellow-red was also agreeable and gave a cheerful sensation. This was the colour of robustness, of impetuosity, but also the colour of uneducated men. When extremely excited, intense, this colour could be disturbing.

Orange

Arte: Wassily Kandinsky told of orange that it was red combined with yellow. He told this colour possessed the inward movement of red, transformed in the outward streaming movement characteristic of yellow. Orange was yellow with an undertone

of seriousness, coming from the red. Red, orange and yellow induce feelings of excitement, of cheerfulness. Orange is an active colour, and a competitive hue that agrees well in combination with green.

Zeuxis: Good, Arte, teach me! True orange is not so much present in nature. Hence it is often avoided, also in paintings, as being too offensive.

Arte: Here is a strange orchid, Zeuxis, brought by my mother. How would you call that hue?

Zeuxis: Well, maybe by a name Kandinsky used also: vermillion!

Vermillion

Arte: Vermillion inspired Kandinsky powerful emotions of a steadily burned passion and self-confident power. This colour, intense orange-red, glowed within itself but could be extinguished by adding more blue. It lacked the maniacal character of yellow.

Zeuxis: Let's then talk about opposite hues to the orange-like hues.

Arte: That could be violet, like the little violets there, appropriately named!

Violet

Arte: Kandinsky wrote the colour violet was a mixture of red and blue (magenta). It was cooled-down red. Violet was a sad, extinguished colour used for mourning in China, and suitable for clothes of old women.
Kandinsky spoke of inner sounds associated with colours. Music indeed appeals immediately to our mind and evokes feelings. Orange sounded for Kandinsky like a church bell, violet like a "cor anglais" or a bassoon, green like the middle register of a violin. He wrote that light blue sounded like a flute, dark blue like a cello, darker blue still like a double bass, and deep blue like an organ. Bright red sounded like a fanfare and vermilion like a tuba.

Zeuxis: But violet is often considered to be a disagreeable colour, lying somewhere between dark blue and black. It is often used as a diminished black such as in Roman Catholic liturgy where it replaces black in half-mourning.
The painter and lifelong teacher of colour Johannes Itten (1888-1967) was particularly verbose about violet. He said of violet that it was, "the colour of the unconscious – mysterious, impressive, and sometimes oppressive, now menacing, now encouraging, according to contrast". He even said that, "when violet is present in large areas it can be distinctly terrifying, particularly towards the purple". And he continued, "violet is the hue of piety, and, when darkened and dulled, of dark superstition. Lurking catastrophe bursts forth form dark violet. Once it is lightened, when light and understanding illuminate dark piety, delicate and lovely tints enchant us." He found, "chaos, death and exaltation in violet, solitude and dedication in blue-violet, divine love and spiritual dominion in red-violet." [G95.]

Red-blue and blue-red

Arte: Goethe described these colours. Red-blue was disturbing rather than enlivening, and it showed liveliness without gladness. Blue-red also gave unquiet feelings. Goethe found a perfect blue-red intolerable.

Arte: here are flowers in another strange hue.

Zeuxis: That is a colour called cyan.

Cyan or blue-green

Zeuxis: Harald Küppers called cyan a passive, concentric, stable, concrete colour. [G99.] Cyan is a neutral, non-committing colour, a non-conspicuous hue. The colour is seldom used in your culture.

Arte: Many of the flower stands are built in wood, and wood has the colour brown. But there are many shades of brown everywhere.

Brown

Arte: Kandinsky described brown as red and black. It was for Kandinsky a blunt colour, hard, capable of little movement, but with a strong and powerful inner tone. It had the beauty of restraint. Browns as reds and orange colours are often considered warm hues.

Zeuxis: For an example of a painting in these tones we go again to Mark Rothko.

Zeuxis shows a painting of Mark Rothko.

➔ Mark Rothko (1903-1970). Dark over Brown Nr. 14. Musée National d'Art Moderne. Paris. 1963.

Zeuxis: Compare the "Dark over Brown" to his "Red on Maroon", and explore the differences in feelings you experience when looking at these two pictures. Rothko was a master in creating moods with just a few chosen colours.
Küppers described brown as sensual, restrained, without problems, simple, neutral, accepting, a broken and realistic colour. [G99.]

Arte: A colour that I do not like much and that seems to me to be somewhat associated with brown, is kaki.

Kaki

Zeuxis: Kaki is a colour that lies somewhere between yellow, green and brown.

Arte: Kaki is the colour of the military, since it is thought to be the colour that blends most with all landscapes of nature as well as with urban landscapes.

Zeuxis: Kaki was always looked at as an ugly, non-conspicuous colour. But recently it has surfaced also in fashion, and become more popular.

The Splendid

Arte: We have come at the end of the exhibition, Zeuxis. You made me so happy! We have seen so many colours, Zeuxis. I would like to see all the colours together around me and walk like the girl of the Wizard of Oz happily singing in her marvellous garden. She sang of the rainbow by the way!

Arte whirls around with open arms. She dances in front of Zeuxis. Then, she stops, gives a kiss on Zeuxis' cheek, grabs his arm and continues to walk next to him.

Arte: For Johann Wolfgang von Goethe the "splendid" was all the colours gathered together in a marvellous harmony.

Zeuxis: Mmm. That girl in the rainbow was Judy Garland, I presume. Let me show you another splendid picture then.

Zeuxis projects Gerhard Richter's combination of all colours.

➜ Gerhard Richter (b.1932). 1024 Colours Nr 350/3. Musée National d'Art Moderne, Centre Pompidou. Paris. 1973.

Zeuxis: An idea of this beauty is well realised in Gerhard Richter's "1024 Colours Nr 350/3" of 1973. This picture epitomises the enormous number of possible shades of hues and tones and their endless combinations.

Arte: When I look at all those colours, I wonder what their names are! When you pronounce names such as "vermillion", or "cyan", or even "red", I have some idea about what you mean. I have one or other fine colour in hue and tone and intensity before my eyes, in my mind, and I can see that, as if projected on a magic screen. But I am pretty sure, after all I have heard on the subject of colours, you have another perception of that colour and its name, and somebody else would have yet another one. Your mind-picture is certainly different from mine. Is there really no way to ensure that we might be talking about exactly the same image? How can we make sure that if I project my notion of the colour associated to a name, you would project exactly the same colour – in hue, tone and intensity?

Zeuxis: The answer to that question is probably no. No, we cannot be sure we would project the same thing. Yet, there are ways to get as close to the answer "yes" as

possible. The solution is to publish colours in a certain hue, tone and intensity, and to give names to these colours, and have everybody agree to that one publication. So, we would need a published reference list of colours.

However, the problem is already in the medium of publishing. One can publish a colour of a certain hue, tone and intensity on paper and call that "red" – for instance. But if one publishes that red on a television screen or on a personal computer's screen, depending on the characteristics of that screen (your screen may be different from mine and your screen may be tuned with another luminosity, contrast and so on, than mine) the colour that is shown will be different from the one printed on paper. Even when the colours of such a reference list are published exclusively on paper, the colour may depend upon the characteristics of the paper on which the colours are printed. If the printing is not on perfectly white paper but on a matte sheet (and we should define what exactly "perfectly white paper" is), the colour may be different from what you have on a brilliantly white sheet! Nevertheless, such a reference list exists! The problem is that there is not one such list, but many.

Arte: Could you describe me these reference lists?

Zeuxis: The first one to mention is the Pantone system. This system is a North American system, much used in printing and in the textile industry. Pantone publishes (you have to pay for it) a set of rectangular sheets on flexible metal or paper, organised as a fan, and each sheet represents and is printed in a certain colour. Each sheet and colour is identified by the letter P plus a number. Certain, but not all of the sheets/colours also bear a name in English. The Pantone Matching System exists for coated, uncoated and matte coated paper. Pantone offers several products, also for calibrating electronic screens.
You have a personal computer and an Internet connection. Have a look at www.pantone.com.
So, what we could do is walk around with a few of the Pantone fans and when we talk of a colour, we could open a fan and agree on what we mean by the name we talked of. That is the closest we can get to a common understanding of a colour.

Arte: All right. I see. Or rather: I do not see me walking around with a Pantone fan in the woods. But let's keep that for later. Are there other such systems?

Zeuxis: The European rival to the system of Pantone, equally backed by a company, equally a fan and sheets system, is the RAL system. This system originated in Germany. The name dates from 1925, when in the former Weimar Republic of Germany an institution was founded that was then called the "Reichs-Ausschuss für Lieferbedingungen" or RAL. The name stuck. The system survived World War II. The current company or institution is called the "Deutsches Institut für Gütesicherung und Kennzeichnung E.V." The system has a colour code in four digits (the so-called RAL Classic) or in seven digits (the RAL Digital). The system distinguishes in total 1898 colours.
Their Internet website is at www.ral.de.

Arte: Do you know of more systems still?

Zeuxis: I am not going to explain all the existing systems to you. But yes, there are several more. One is the Munsell system and books of colours are published

according to this system equally. It was invented by the American Albert H. Munsell in 1909. The "Inter Society Color Council", or ISCC, a professional society in the United States, and also researchers of the National Bureau of Standards (NBS) worked further on standardising the Munsell system, and it publishes colours and names. The colours are defined in a code of their constituents of red, green and blue. The NBS-ISCC publishes a list of 5411 colour names.

Arte: Is there a European counter-part?

Zeuxis: Another, interesting system, is the NCS system, which stands for "Natural Colour System". This is defined and published by the Scandinavian Colour Institute AB. It was devised in Sweden, but it is used in many other countries. The Colour Institute was founded in 1946 and was given its present name in 1978.
The system is based on six "primary" colours: red, green, blue, yellow, white and black. The NCS calls red, green, yellow, and blue the four chromatic elementary colours. All other colours can be described in terms of their resemblance to these. The hue of a colour is determined from a mix of two primary colours among the four. The tone is determined by a degree of black, and the intensity is defined by a number; the higher the number, the stronger the hue.
The NCS publishes a Colour Triangle and a Colour Circle. The NCS Colour Circle provides the hues of colours. Grey colours have no hue. A Colour Triangle exists for each hue. Each triangle provides the nuance of the colour, which shows the visual amount of whiteness, blackness and chromaticity.
Like the pantone and RAL systems, the NCS system is copyrighted. The NCS publishes colour collections and also software to use on personal computers.
See the NCS website: www.ncscolour.com.

Arte: So, the NCS system and the Pantone and RAL are the three most important ones?

Zeuxis: Yes, I think so. There is one more we should mention however, and that is the one you might not expect. There is a large information technology business nowadays. Everybody has used the Internet. What you see on your screen when you access the Internet is described in the HTML language, the Hypertext Markup Language. This language has been specified by the W3C, the World Wide Web Consortium. The W2C develops specifications and technologies to promote usage of the Internet. It is a forum where industry and institutions meet and agree on how to further the Internet. The W2C produces recommendations, and one of these is for the HTML language. The HTML defines a colour attribute – a colour code -in six digits, which represent colours in the red, green and blue space. Information technology developers all through the world use this colour code, so it is widely known and understood. Of course, this code and system was devised by the information technology industry.

Arte: Knowing you, and having had a glimpse of colours so far, I suppose it can get more complex.

Zeuxis: Yes, it can, I'm afraid. As I said, we would like a certain colour to be reproducible on a variety of devices and media with the same results, even though different devices reproduce colour differently. What we would have needed is a way

to take the codes that represent a certain colour on one device, and produce corresponding codes that reproduce the same colour on another device. That would mean a lot of transformations from one set of codes into another. The job would be simplified if we could all agree on one standardised colour space, a standardised code. The International Color Consortium (ICC) has standardized the colour space definitions. It calls them "profiles". Almost all the major operating system and colour system vendors have agreed to use that format. The transforms are then realised in a colour matching method (CMM). A word that is much used in that aspect is "gamut". The "gamut" of a colour space is the total set of colours that can be represented within that colour space. The two standard sets of colour spaces that the ICC accepts are the CIE-XYZ and CIE-LAB.

Arte: Now we are sending rockets to the moon! What in heaven's name is CIE-XYZ and CIELAB?

Zeuxis: The CIE-XYZ was one of the first defined colour spaces or colour models. Colour spaces are defined by colour models. Colour models are mathematical descriptions of the way colours can be represented as sets of numbers, typically as three or four colour codes or values, such as the RGB (red, green and blue for the additive process) and CMYK (cyan, magenta and yellow with the K for black in subtractive processes) colour models or colour spaces.
The CIE-XYZ is also known as the CIE 1931 colour space. It was created by the International Commission on Illumination (CIE, because in fact called the "Commission Internationale d'Eclairage") in 1931. Our eyes have red, blue and green receptors and these three can be used as parameters to define colours by; each colour is a combination of these three. In the CIE-XYZ code the X stands for red, the Y for green and the Z for blue. The CIE publishes its own chromaticity diagram based on values for X, Y and Z. It looks like a coloured triangle in a space of two axes, the X and Y axis. The CIE does not publish names for the colours however, and it is not easy to talk in digits to denote a colour, of course.
The work on the CIE-XYZ was continued by researchers, and the system evolved into the CIE-LAB colour space definitions. The problem with the CIE-XYZ was that it was impossible to measure the difference between two colours in an objective way. The CIE-LAB is now the most accurate model to describe all the colours that are visible to the human eye. The first of the three parameters in this model represent the lightness of the colour (L). L zero yields black and L of 100 indicates white. The A or "a" parameter indicates the position of a colour between magenta and green. Negative values for A indicate green, while positive values indicate magenta. The B or "b" parameter indicates the position of the colour between yellow and blue. Negative values for B indicate blue and positive values indicate yellow. So, it is truly a three-dimensional model, which cannot be represented in a plane graph.

Arte: Where do the mathematical models lead us? We cannot talk three-digit numbers when we talk of colours, can we? What would that mean?

Zeuxis: No, we really cannot and should not. I suppose that when I say the word "red", you have some notion of what that would mean. The notion suffices for our understanding. For talking on the art of painting, that is only what we need. If we need more names, we can use the names provided by Pantone or RAL and I even propose that we be modern, and use the names as provided in the HTML language.

Has not almost everybody a personal computer at home? Does not everybody access the Internet web? At least, those are published on the Internet and for free. There are quite enough names proposed in that list for our purposes. Moreover, the art of painting is the art of looking at pictures. So, we will usually if not always be standing or sitting before a painting. It suffices to point to a colour on the canvas and we will have exactly a particular colour in our mind.

Arte: Great! And that was heavy stuff enough for today!

Zeuxis: On that picture of Richter and on the names of its colours, Arte, I will leave you. It becomes late. Sleep well with Richter's colours in your dreams.

Zeuxis disappears and leaves Arte dreamy and happy in the exhibition hall, where suddenly the brightest lights dim so that Arte has to run to leave the hall before it closes.

Romanticism

Romantic art was a trend that started at the end of the eighteenth century and continued far into the nineteenth century. It was created mainly in Germany and by painters of Scandinavian countries. It is generally counted as a period going from 1790 to 1840. A German phrase that is often associated to Romanticism is "Sturm und Drang" for storm and striving. The word "Romanticism" itself came from "Roman". It was word first used in the seventeenth century by the English Thomas Baily, in 1650. Romanticism is however very difficult to define, and elements of Romanticism can be found also in other art styles. There existed many trends and schools in Romanticism. Hereafter we discuss briefly some of the movements.

Romantic landscape painting

Many German and Scandinavian painters sought inspiration in nature. Especially Norwegian landscapes were spectacular, intimate in their valleys bordered by high mountains.
Nature was looked at with an almost religious inspiration, so that views of nature had the spiritual qualities of earlier devotional scenes and replaced these to some extent. The Norwegian painter Johann Christian Dahl was one of the foremost landscape painters of the Romantic Movement. Scandinavian and German painters found symbiosis between their own inner sentimental feelings and certain forms and shapes of natural landscapes such as waterfalls, wild mountain scenes or marine scenes. Norwegian and German landscape painting is well known in Europe. Less well known there, but equally formidable and interesting is North-American landscape painting.

The Hudson River School

Thomas Cole was an Englishman who had immigrated to the British colonies. He lived in New York, but after a voyage along the Hudson River he founded a movement of North-American Romantic landscape painters called the Hudson River School. Members of this group were Cole himself, Fitz Hugh Lane, Frederick Edwin Church, John Frederick Kenseth, Asher B. Durand and Jasper Francis Cropney, with others.
In the 1860's the work of some of these painters evolved to **Luminism**. This was more a style than a school. Luminist painters were Romantic landscape painters devoted to river scenes or to coastal scenes, in which they showed spectacular but often gloomy effects of light on the peaceful landscape.

Historical painting

Romantic painters often painted historical themes, until this kind could become a trend in its own right. The artists lauded the rich historical and heroic past of their countries in vast scenes on large to very large panels. This kind of subject was applauded by the new bourgeoisie of the nineteenth century, sometimes of the newly independent countries like Belgium and Hungary. The new rulers sought an epic representation to mirror their own accomplishments in trade and industry.

Orientalism

Mainly French painters discovered North-African territories and painted the exoticism of the life in these countries. They also painted scenes of oriental history in the same trend of escape from the bleak reality of their own country and cities.

Nazarenes

The Nazarenes were a group of Austrian and German Romantic painters. They worked together in the secularised convent of San Isidore in Rome. The school was formed in 1809 in Austria as the "Confraternity of Saint Lucas". But in 1810 already, the painters left Vienna for Rome. The artists wore long hair separated in the middle. Hence the Romans called them Nazarenes.

The movement lasted until about 1830. The Nazarenes wanted to build art on medieval basis. Hence they emphasised fresco painting again. Their representation was sentimental and nostalgic. They favoured Christian religious themes, and they had an outspoken patriotic tendency.

Few frescoes remain of the Nazarenes and they also produced few. Some of their rare works are in the Palazzo Zuccara in Rome, where the German Ambassador of Rome lived, the Prussian General Bartholdy. Painters were Johann Friedrich Overbeck, Franz Pforr, Peter von Cornelius, Wilhelm von Schadow, Johann and Philipp Veit, Julius Schnorr von Carolsfeld, Friedrich Olivier and Ferdinand Olivier.

Biedermeier

Biedermeier was a German evolution of its late Romantic period. It lasted from around 1815 to 1850.

The style was characterised by very bourgeois, homely, sentimental, moralising genre scenes and by idyllic pictures of bucolic landscapes. It showed ordinary middle-class life, with a touch of sentimentality, sly touches of humour, but without political afterthoughts, and it was always unpretentious and unheroic. Biedermeier artists also returned to themes of medieval history.

Painters of this style were Carl Spitzweg, Ludwig Richter, Moritz von Schwind, and Ferdinand Georg Waldmüller.

The name "Biedermeier" may come from a character called Gottfried Biedermeier, invented by the writer Adolf Kussmaul in 1853. Kussmaul and Ludwig Eichrodt wrote poems from 1855 to 1857 called "Biedermeier Poems", which were published regularly in the Munich satirical magazine "Münchner Fliegende Blätter" (Munich Loose Pages). Biedermeier was the quintessential gentle, simple-minded German bourgeois of the first half of the nineteenth century.

Although Romanticism was a reaction against Classicism, this trend retained strong and clear lines in drawing. Jagged lines appeared in landscapes.

Romanticism was very free in the use of forms and compositions, but many painters also used strong underlying structure in their paintings. All sorts of compositions were used. Ernst H. Gombrich (1909-2001) wrote, 'Romanticism has taught us to talk of art in terms of inspiration and creativity. It was only interested in what was new and original'.

Romantic painters used a very broad scale of colours and colours, in as well high as low tones.

Originally, Romanticism mainly communicated the divine inspiration of nature. It underscored the solitude of the soul. It was a very sentimental art. Romantic pictures showed melancholia, longing, and silent suffering of the soul, interiorism and solitude. Emotions primed. Romanticism had an aspiration for the far and the unreachable, which led sometimes into fantasy and the bizarre. The experience of nature could be compared to spiritual and almost religious feelings, and in this way, by contemplating nature, man could elevate himself to transcendence just as he or she could do by religion. Certain forms of Romanticism also proposed a return to Christian religious values.

 Imagination was projected into the cosmos to find harmony between man and nature. Romanticism aspired therefore to an elevated sense of reality, to the mysterious and to the unbounded. Individual expression of the artist was emphasised.

Romanticism was inspired by subjects such as nature, the Middle Ages, the Renaissance (Dante often, Shakespeare also), religion, and the Christian traditions of Europe. Especially Norwegian landscapes were admired, and often painted by northern painters.

Romanticism was opposed to the academic rigour of form that was the basis of Classicism. Late Romanticism evolved to an escape of the world. The economic realities of the industrial revolution and the poverty of many people in the cities broke its early ideals. Painters escaped completely into a non-fertile interiority, and refusal to confront the social realities of the period.

The Romantic art form in fact continued in many manifestations way into the twentieth century such as in the dream images of Marc Chagall.

The Romantic landscape painters dramatically exploited volume and space.

Romantic painters of this period were William Blake, Edwin Church, Thomas Cole, John Constable, William Turner, Théodore Géricault, Francisco de Goya, David Martin, Eugène Delacroix, Ernst Ferdinand Oehme, Johan Christian Dahl and Caspar David Friedrich.

Romanticism was a reaction against the formality and rules of Classicism. It was a reaction of artists against academic rules and ruling. It was a reaction mostly against dominant bourgeois values, and it was directed towards individual freedom. It was a longing for the spirituality that seemed somehow lost since the Enlightenment. Hence, Romanticism was a movement of society, in which artists led the movement. It was a reaction towards a change in content, and not so much in form or composition.

View from Stalheim on Naerdalen.

Johann Christian Dahl (1788-1857). The National Gallery – Oslo. 1842.

View of Fortundalen. Johann Christian Dahl (1788-1857). The National Gallery – Oslo. 1836.

Stetind in Fog. Peder Balke (1804-1887). The National Gallery – Oslo. 1864.

We are on a journey in Norway. We have been travelling over the fjords, where the sea, the sky and the barren, harsh rocks have impressed us finally with feelings of gloom and loneliness. Here we found awe of nature as in no other country. We have travelled from the long Sogne fjord inland to Stalheim. We arrived in that valley on a warm morning. The fog and rain of the night have just disappeared, and the young sun is rising behind us. The sun has not yet reached the more orange warmth of Late Summer. Now, the light is bright, and still low behind the mountains. The view from Stalheim over Naerdalen shows us the hidden peaceful landscape and a small village in a valley that opens before us.

We are seeing a valley caught between naked mountains. The mountains are eroded to soft contours by the gletschers of thousands of years of ice ages long past. The mountains are now high round masses, hilltops that are the solidity in between which the valley is imprisoned. A small river flows from the mountains with its cold, fresh, clean, rapid waters. The small turbulent river has conquered the mountains however. It created the green life of meadows, allowing the harvests on which a village can survive. Life and death are very close in this picture, but life seems protected. Life was protected for the Norwegian country that remained poor and forgotten, but also without wars, for a long time in history.

The rainbow contains the round forms of the massive hills. The rainbow is a symbol of hope and catharsis, a link between heaven and earth, the sign of the covenant that land would not be destroyed again. So, the rainbow protects and is firmly based on the valley flanks, on the hills, connecting the mighty slopes. The rainbow closes the valley from the outside. So does the central spire that blocks the path of the river in the background, where one suspects the valley would continue and be opened to intrusion. No one will disturb the peace here. The closed valley thus can correspond to the inner self into which romanticists found refuge, even though it was not always a too secure haven.

There are people in this painting, but they are so small. A shepherd girl in the traditional colourful dress of the Sogne Fjord herds her goats in the foreground right. On the left are two travellers, which might be the viewers, approaching on a small earthen path. One traveller is on a horse. The small paths wind through the valley and connect two parts of the village. The village consists of a few low, wooden log houses. People are walking around, there is some activity, and blue smoke slowly rises out of the chimneys. The wind does not disturb the peaceful life of this hidden village. This is a time when life has fully resumed after the hard winter. All people have come out of their homes, to revisit the village. The result is a very pastoral image of simple rural life. The painting inspires feelings of rest, protection, and peace, far

from the rapid life of towns. It is good to live here, even though death is not far. Nature is wild and menacing and at the same time gentle, the soft hills are cuddling the village.

In the picture "View from Stalheim", all elements of nature are painted to full and accurate detail. This is true even for the furthest mountaintops, which normally should be less clear because of the distance. These details so far off cannot be discerned in a real view of nature. The obtained effect enhances the overwhelming nearness of the barren mountains. It brings them closer to the people. The effects of light in the painting are dramatic, adding to the contrasts. The pastures are opposed to the boulders, the rocks are opposed to the flowing water, the river disappears behind the trees, the trees are cut to serve for the building of the log-houses and for heating by fire. A lonely birch in the middle has become a dead bright brown trunk. But behind the dead tree are new green bushes, full of the life of new green leaves.

The 'View from Stalheim' is an eminent Romantic painting. Romanticists sought escape from the daily dreary life in dreams, in untouched nature, in loneliness and in the heroic, chivalric times of history when purity, love and innocence were still the main motives for action. Although romantic ideas such as these had been implied in pictures of any century, this Romantic nostalgia became the main pervading drive for artists in the beginning of the nineteenth century. Romanticism was a reaction to the rational period of Enlightenment. Painters and writers revived Roman Catholicism in this period. Romanticism was especially the way of visual representation applied by northern painters like the Norwegians Dahl, Fearnley and many others, and by the German landscape painters. Scandinavians and Germans found romantic escape in landscapes. Of course the finest, lost and wild, uncorrupted scenes of unbridled nature could be found in Norway. Here, all the elements of nature clashed: sea, land, mountains, and sky. The Norwegian landscapes could therefore generate the most magnificent pictures of romantic landscape. Landscape was so obvious, that the Norwegian painters did not need to express exuberant emotions or exoticism. They had all the escape from urbanism and industry and politics close to home.

Romanticism and unbridled emotions do not mean absence of structure or lack of intellectual sophistication of the painters. The composition in Johann Christian Dahl's picture of Naerdalen is very strong. The solids of the mountains to right and left are balanced; a fertile middle ground is shown in the full light of the sun. A dark band of trees, in a small wood, is painted in the foreground. The shadows on these trees can indicate danger. We know the many folklore tales of trolls or angry, hideous monsters living in the forests of Norway. Protection can only be gained in the sunlight, against mountains with uncovered slopes, or in the low of the valleys where the meadows are.

In the National Gallery of Oslo, in its main hall, hangs on one side the "View from Stalheim" and on the other side the "View from Fortundalen". These are the pride of Norway. In the same room hangs the "Labro Falls" of Fearnley, and many other great landscape paintings of Johann Christian Dahl and Thomas Fearnley.

The "View of Fortundalen" is a fine picture, although less impressive than the "View of Stalheim". It is again a view of a village in the middle of Norway's mountain region. A larger river shows its white foams on the left of the picture. The right lower part is in shadows, because here lays a dead tree. But just as in the "View from

Stalheim", a full-leafed green tree is nearby, in fact occupies most of the foreground in the middle. On the two sides of the green but dark tree, are two patches of light, which show the openings in forest and mountains where the people dwell. In the left patch stand the few houses of a small wooden village. It is a High Summer view, the haystacks stand proudly in the full sun to dry. In the right patch are cows and farmers. A shepherd sits with his dog on the rocks. Again, this is a Romantic landscape, but J. C. Dahl was a master in his art, and knew how to use delicate symmetries and symbols in his work. He also plays here on the feelings of the viewer: quietness, rest, peace are inspired by the protecting mountains in the background and the lightened patches of the pastures and the fields. The dark forests in the foreground are to be avoided lest security in wild nature be endangered.

The paintings we have admired until now are of very Romantic subjects: wild, untamed but idyllic landscapes, isolated and hidden in the Norwegian fjords. But the pictures still represent nature very realistically, and mostly refer back to real nature as seen by the painters.
Peder Balke was a student of Johann Christian Dahl, but for the largest part of his art an autodidact with an own, very individual vision. He mainly painted marine sights instead of landscapes from 1840 on. The painting "Stetind in Fog" drives Romanticism and landscape entirely into a new mysterious, mystic realm.

"Stetind in Fog" is a view of the coast of Norway. The mountains have no soft contours anymore. The knife of an uneroded peak rises abruptly out of the fog. It is a fantastic, alien menace suddenly created by the Gods, risen out of earth to crush a miserably small sailing ship in the storm. Balke experimented with paints, using different utensils to put white paint in layers on the canvas, sometimes using his bare fingers. The thick uneven layers of white and white-grey paint in the foreground of the picture, in the waves and on the mountain slopes, add a dramatic palpable effect. In this picture, nature is menacing, and we feel the breadth of the revenging Gods all too near. Stormy are our feelings. Our emotions are carried to the mystical skies by the mountain peak.

Johann Christian Dahl was born in the town of Bergen on the West Coast of Norway, in 1788. Norway belonged to the Kingdom of Denmark at that time. Its capital was Copenhagen, on the other side of the Sund. Norway's main town was still called Christiania instead of Oslo, named after a Danish King Christian. Around the towns of the nineteenth century, the country was very poor, almost devoid of industry. The Danish Kings hardly bothered about their northern possessions. But Norway is an enormous country. If you turn the land around the fixed point of Oslo, so that the most northern place tips South, then Hammerfest reaches Rome in Italy. There are enormous distances and space in this country, yet its population currently is only 4.4 million people of which almost 450.000 live in Oslo. In 1811, when Dahl started to learn painting, there was no Academy in Norway. It had to wait till 1919 until a true academy would be founded. 1811 was the year in which the country had for the first time a university, which was then organised in Oslo. Norway had no Royalty, no Court and few nobles on its territory. Serfdom had luckily not developed; it was a country of small, independent farmers.

Denmark had sided with France in the Napoleonic wars of the beginning of the century. So, Denmark had to be punished. At the Treaty of Kiel of 1814, Norway was

taken away from Denmark and handed over to Sweden. Norway retained an own parliament, the "Storten", and nationalistic feelings started to grow. An economic crisis on timber and iron, about the only possible exports for the country, drove away the last merchants and money. The country only came out of recession after the 1830's. The number of inhabitants of Christiania illustrates this: Oslo had only 8.900 inhabitants in 1801, and 18.300 in 1818. In 1860 however, 47.000 were living in the town. The National Gallery of Christiania/Oslo was founded in 1836, and Dahl's works were of course among the first to be brought to the new Museum. Norway's nationalism grew. In 1905 Sweden granted Norway independence. Christiania was called by the old name of Oslo again in 1924.

There were in Norway no maecenasses rich enough for Johann Christian Dahl to be able to make a living by painting in his home country. So, Dahl immigrated to the continent, as did all important subsequent Norwegian painters of the century: Thomas Fearnley, Peder Balke, Hans Gude, Tidemand and many others. Dahl first studied in Copenhagen, which was then still the capital of Denmark-Norway. He went to Italy, then stayed in Dresden and married there. He remained in Dresden, and became a Professor at the Academy of Arts there until his death in 1857. When Dahl arrived in Dresden, in 1818, he met there Caspar David Friedrich. Friedrich, was the most well known Romantic landscape painter then. Friedrich had the greatest influence on Dahl, who had all the magnificent landscapes of his home country fresh in mind. Friedrich's tastes rapidly matched Dahl's, so it was no wonder that Dahl continued the Romantic style of landscape painting.

Friedrich's landscapes however are mostly imaginary, whereas Johann Christian Dahl returned several times to Norway to study and sketch the natural views of the fjords and northern valleys. Dahl was also a marine painter. He painted the views of Larvik and Bergen, of Frederiksborg Castle and he painted the occasional shipwreck, which in romantic symbolism represented the end of life.

The "View from Stalheim" was painted in Dresden. Dresden was the meeting place for other painters of Norway. Thomas Fearnley, born in Frederikshald, also travelled to Dresden in 1828, and met Friedrich and Dahl there. Fearnley travelled all through his life, working in various European cities: Munich, Rome, Paris, London, and Dresden. He died rather young from typhus in Munich in 1842. Peder Balke, born in Helgoya, also began his schooling in Copenhagen. But in 1836, he became a pupil of J. C. Dahl in Dresden. He too met Caspar David Friedrich, and turned to Romantic landscape painting. Balke travelled a lot, but also stayed in Norway for long periods. His style is very personal; he experimented with ways of using paint on the canvases that were quite remarkable for his days.

Dresden lost some of its influence to Düsseldorf, and it was there that Adolph Tidemand, born in Mandal and likewise schooled in Copenhagen, arrived in 1837. He stayed the rest of his life in Düsseldorf, but also travelled in Norway. He made some of the few historical pictures of Norway, that other genre based in the nostalgia of past centuries. Tidemand was a painter of figures, of people, so it was quite natural for him to be the one who painted the figures in one of the most famous pictures of Norway, the "Bridal Voyage".
In Düsseldorf, Hans Gude, also born in Christiania or Oslo, joined Tidemand. Gude became a student in Düsseldorf of other prominent German landscape painters and

that was the style he continued. Hans Gude remained abroad, first in Düsseldorf and then in Karlsruhe where he became a Professor. But Gude also painted Norwegian landscapes.

As we have shown, Norway prided in important painters in the nineteenth century, who studied with each other. Christian Krohg studied with Hans Gude in Karlsruhe. The great expressionist Edvard Munch studied with Krohg. So did Nikolai Astrup. Eilif Petersen equally studied with Gude in Karlsruhe, as did Frits Thaulow and Kitty Kielland. Kielland also studied with Petersen in Munich. Harald Sohlberg worked with Petersen, as did Harriet Backer. In this way, the tradition and style of Norwegian landscape painting continued throughout the remarkable Norwegian nineteenth century.

The Recapture of Buda Castle in 1686.

Gyula Benczúr (1844-1920).The Hungarian National Gallery, Magyar Nemzeti Galéria– Budapest. 1885-1896.

This painting is monumental. Gyula Benczúr's picture measures 3.56 meter by 7.05 meter. What is its economic selling value? The picture might be offered for sale at Sotheby's, but which private collector would acquire such huge painting? Many historical paintings of the nineteenth century were such massive works. Their subjects were epic, showing important scenes of the national history of the countries of the artist. They were not idyllic, and not of nature. The scenes called for grandeur, for energy, for deeds larger than man. They showed proud men, conquerors, Emperors, Kings. The men were shown fighting, sometimes losing a battle, sometimes winning, but always fighting. This was the new virtue of society: fight always, and even in losing be always proud and always surpass yourself. Then you can achieve anything you want, conquer new territories, master new ideas, be independent, and be your own man. The paintings inspired an enormous dash and spirit. Dare and we'll succeed.

This of course, was the spirit of the times. The second half of the nineteenth century saw the beginning of man really bringing nature's enormous hidden powers to the surface and used: coal, oil, fire and water. Ores were smelted, poured in forms and beaten to huge beams that were turned into bridges and railroads. The power of steam was harnessed and directed: huge locomotives could be made to run on rails at more than fifty kilometres per hour. People started to fly in the airs in machines of wood and iron. The old art of the alchemists yielded stupendous transforming results and new compounds like Bakelite, the first plastic, were produced. Adolf von Bayer and Ernest Solvay founded chemical factories and invented new chemical processes. The structure of matter was investigated, the effects of its inner forces applied. Werner von Siemens built the first electric tram in 1879.

The triumphs of industry and science were displayed in world exhibitions. The first one was held in 1851 in London, then followed almost every five years by Paris,

London, Paris, Vienna, Philadelphia, Paris, Sidney, Brussels, Amsterdam, Antwerp, Barcelona, Paris, Chicago and so on. Distances were conquered too: industry, money, science were world phenomena for the first time. It had all been done before, but never on such a scale, at such speeds, with so much power. Man began to apprehend that there were no limits to what he and she could do with these powers. Brunel dug canals of hundreds of kilometres long in England. Alexandre Eiffel built a slender iron tower of more than 300 meters high for the world exhibition of Paris of 1889. He also worked a lot in Hungary: he built the bridge of Szegedin and the West Railway Station of Budapest, which is a masterpiece of iron and glass. And some like Jules Verne dreamed far out of what might be achieved by science: voyages in balloons around the world, to the interior of the earth, living in the seas. "Twenty miles under the Seas" dates from 1869.

Heroic times for Titans were to be matched by pictures of monumental dimensions. But the new industrialist men were simple, humble of character, modest. They were no aristocrats, no Dukes, Earls, and Kings. They did not yet think of having themselves painted leading their workmen. Some portraits were made, and certainly the first photographs, but no heroic paintings of them. Examples of heroism and grandeur could be found in history. To match the times, the new industrial rich and the political powerful that supported the arts commissioned large works of painters who were naturally inclined to look to the themes of their own education. Which was history. Since the commissioners were mostly politicians wanting to decorate the new large public halls, parliaments, exhibition halls, the first theme to be found was national history.

Gyula Benczúr's painting tells the history of Hungary. We have to go back to the beginning of the sixteenth century, to 1520. Mary of Hungary, sister to Emperor Charles V, was married to Louis II, King of Hungary. In those years, the Turks had advanced far into Western Europe. Sultan Soliman had first taken Belgrade, which was Hungarian then, and came to a great clash with King Louis II at the battle of Mohacs in Hungary. The Turks won the battle, fiercely killed twelve thousand prisoners. Louis II was just over twenty at that battle. The husband of Mary of Hungary was killed at Mohacs. Mohacs meant the end of independent Hungary, and the end of a dynasty of proud Jagiellon Kings.

In 1521 Ferdinand received Austria from his brother, Charles V, so Ferdinand who was already King of Bohemia (now Czechia) became Archduke of Austria. Mary of Hungary had no children with Louis. Louis' sister Anna however, was married to Ferdinand. Ferdinand became now by inheritance also King of Hungary. From then on till in the twentieth century, Hungary and Austria's fate would be linked.

The largest parts of Hungary were occupied however, and in 1526 after the battle of Mohacs, the Turks occupied Buda castle. The Turks even attacked Vienna with 300.000 men, but Ferdinand could hold the city. In 1532 they came back again, but now Emperor Charles V lent help, so that the Turks were driven back once more. Budapest and more than half of Hungary would however remain over a hundred and fifty years under Turkish reign.

Many Hungarian painters take their themes of the heroic struggle of the Magyar people against the Turks. Hungary suffered incredibly under the Turks; tens of

thousands of people were killed when the Turkish Sultans ran their armies against Western Europe. Yet, in times of peace, the Turks were tolerant in the countries they occupied. Catholic cathedrals were spared, some like the sacred Matthias Church of Budapest where Hungarian kings were crowned, were turned into mosques, but religious tolerance was better than in Germany or the rest of Europe.

Hungary has fathered many excellent historical painters which are far too less known. One reason of course, is that their paintings are either frescoes or too large to travel much and far. So these painters are not represented in the major museums of the world. One has to visit the Hungarian National Gallery in Budapest to discover them. Amongst these painters, Victor Madarasz is one of the best. He won a gold medal on the Paris exhibition or Salon of 1859 with a picture of the Mourning of Laszló Hunyadi, a scene of 1457 telling of the killing of Hunyadi who fought the Turks. Other painters of historic scenes are Sandor Liezen-Mayer, Mor Than and Bertalan Székely. Bertalan Székely for instance made a painting of the "Discovery of the Body of King Louis II at the battle of Mohacs".

Gyula Benczúr continued the typically Hungarian historical tradition. He became the favourite painter of the rulers of Hungary and of the Hungarian aristocracy in the last years of the nineteenth century.

"The Recapture of Buda Castle" dates from 1896, but Benczúr started to paint it as early as 1885. It was completed for the Millennium Celebrations in Hungary[H2]. These festivities celebrated the thousandth birthday of the Hungarian nation, since the first Magyar King Arpad had then entered the land that was later to be called Hungary. From May to June 1896, the festivities amazed Hungarians and the world. In one regal procession, the Royal Crown of Hungary was placed in a crystal carriage, escorted by military guards and by the Keepers of the Crown with halberds, and in this fashion brought to Matthias Church and the Royal Palace of Buda.
In another procession, mounted escorts of officials of the 89 municipalities and of the National Assembly rode in full regalia of panther skins, shakos, plumes, and swords, preceded by heralds holding silver trumpets. The procession saluted the King and Queen in the Royal Palace, lowered the colours, and then marched back to the Matthias Church to escort the Crown back to Parliament. A National Exhibition was held in the City Park. There were pavilions of Budapest history, ethnographic exhibitions, military displays, pavilions of commerce, monetary business. The festivities hosted an agricultural exhibition and a pavilion of public education. Most astounding was the Hall of Industry, in which stood huge cast iron columns, leading to an iron-supported all-glass roof, and wide glass windows. Gyula Benczúr's "Recapture of Buda Castle", displayed at the exhibition, proved the capital's patronage of the arts.

The Hungarians are a proud and old people. The Magyar tribes came in the tenth century from central Russia, pushed to the West by other Slav tribes. They were called in as mercenaries by a German Emperor to help fight other Slav tribes. They stayed on the Danube, because their home territories had been occupied while they came to the Carpathian Basin. Together with the Fins, they were of a different breed than the other people of Europe. And they longed for independence since very old. Benczúr worked for the Imperial civil servants of Budapest. So, this painting

emphasises the necessity of strong links with Austria that had freed Hungary from the Turks.

"The Recapture of Buda Castle" tells a heroic story of Hungary's past.
In 1663, the Turkish Empire had been so strengthened by the Grand-Viziers Mohammed and Ahmed Köprili, that the Sultan decided again to attack the West by Vienna. But the Italian general Montecucculi could hold them. A peace was made at Vasvar, well against the hopes of the Hungarian noblemen. These were partly Protestants, so that a religious war broke out in Hungary between the Protestant Hungarian and the Austrian Catholics. Hungary was divided; the rebel nobles were supported by the Sultan, considered his vassals.
In 1683, a new Turkish army of more than 200.000 men, led by Grand-Vizier Cara Mustafa and the Hungarian insurgent king Imre Tököly appeared before Vienna. The Viennese defenders had only 15.000 men, led by Count Ernst Rüdiger von Stahremberg. But when the first battles started, another army appeared before Vienna. Duke Charles of Lorraine, who held command of the Imperial army for Leopold I, led the relieve army. It consisted of 21.000 Austrians, 10.500 Germans of Bavaria, 9.000 from Saxony, 7.000 from Franconia. And especially 15.000 Poles arrived, mostly splendidly clad Hussars, under Johan Sobieski, King of Poland.

Sobieski defeated the Turks before Vienna. Western Europe and Christianity was saved once more. The Turks were now attacked from all sides. The Venetians, under their general Morosini, recaptured island after island; town after town. From all over Europe men were sent to join the army that would continue to fight in the East. It was the last crusade.

In 1686 an enormous European army thus tried to recapture the city of Buda, which was now the most western stronghold of the Sultan. Buda Castle, or Osen as the Austrians called it then, was built on a steep hill close to the Danube, a real promontory as it still is today, dominating Budapest. The castle was attacked four times and on September 2nd of 1686 it fell. Many knights distinguished themselves, among them was Eugene of Savoy, who would later continue to lead the Austrian and allied armies to new victories until the whole of Hungary was relieved. Eugene of Savoy's huge monument stands now in front of the entrance of Buda Castle. This same Eugene of Savoy would be the general who fought against the armies of Louis XIV with the Duke of Marlborough. Eugene was one of the greatest generals ever.

The Hungarians reconciled themselves with the Austrians, so that the Hungarian parliament declared the Hungarian throne to be hereditary in the house of Habsburg. Nationalism continued however. In 1711 Franz Rakoczi led another revolt against the Habsburgs, lost, and went into exile. He became a national hero and the Rakoczi march composed in his honour became the anthem of Hungary. At the end of the nineteenth century, Hungary still formed a part of the Austro-Hungarian Empire. But nationalism grew steadily. Habsburg armies had suppressed an uprising in 1848. A sixteen-year-old Francis-Joseph I became Emperor, and subdued the Hungarians with the help of Russian. A compromise was made, after which the Austrian-Hungarian dualist state was formed. Francis-Joseph and his wife Elisabeth were crowned Hungarian King and Queen in the Matthias Church in 1867.

Gyula Benczúr's painting shows the moment when Duke Charles of Lorraine and Prince Eugene of Savoy enter the captured Buda castle[H2]. A Hungarian herald who trumpets the liberation of the capital of Hungary precedes them. Turkish soldiers lie dead all around, the Turkish colours are taken from the last defender, and prisoners are led out. Charles and Eugene are accompanied by their staff, among which also Hungarians. Their white horses are central in the painting, and they attract the viewer immediately. Thus one cannot miss Charles of Lorraine in the middle, the conqueror of the Turks and the liberator of Hungary, acclaimed by all soldiers. The Duke looks haughty, maybe the only feature by which Benczúr marks the difference between the Austrians and the jovial Hungarians, accentuated by the Hungarian wounded soldier on foot next to Charles. He looks down at Abdurrahman Pasha, the defender of the castle, who is just now uncovered from under the Turkish main colours. To the left from Charles, hidden behind a Hungarian hussar is a Catholic priest holding up the cross: Hungary would be Christian again. The costumes, flags, armoury, are all meticulously painted to seventeenth century historical verity. The painting is intelligently set up. The open arch on the left forms a natural line over Charles' generals to the herald. Two other bands are painted on the right and the lower left, where the defeated Turks are led away.

This is a grand, marvellous painting, hanging proudly in the first floor of the prominent entry hall of the Hungarian National Gallery in the Royal Palace of Buda. Benczúr could not but paint for the reigning class of Hungary a scene that emphasised the historical necessity of Austrian reign over Hungary. While Hungarians revolted and fought each other, the Austrian army had liberated Buda from a worse fate. The Hungarians would have to wait until the twentieth century to become an independent state again.

Historicism is a genre of painting that emerged in all its splendour out of Neo-classicism and Romanticism of the nineteenth century. Famous battles had been painted long before: Paolo Uccello painted the San Romano battle, Albrecht Altdorfer the battles of Alexander the Great. Classical scenes of Roman and Greek antiquity were common since the beginning of the art of painting. Schools of historical painters existed in all the centuries before, and historical scenes were quite popular already in the eighteenth century. In the second half of the nineteenth century however, emerged the painting of scenes of more recent history, of medieval times and later.

The motives behind the paintings were various. Bertalan Székely used the historic motive of the death on the battlefield of King Louis the Second as a romantic theme: escape to earlier ages, loneliness, sadness, and expression of gloom. Gyula Benczúr was an honoured Court painter, although the Court was formed by the powerful dignitaries and rich industrialists who commissioned their large epic canvases to glorify the deeds of the country.
Thus, Louis Gallait painted for the Belgian Senate, Daniel Maclise for the English Parliament, Jean-Paul Laurens for the French Légion d'Honneur, and Gyula Benczúr for the anniversary of the Hungarian State.

These painters were no flatterers. They did not directly paint to please alone, but what they did and how they did it indeed was acclaimed by the wealthy among whom they lived, and in whose circles they moved. Daniel Maclise combined both: he painted for the eminent politician establishment and yet applied Romantic expression to the

historical scenes. Jean-Paul Laurens could find in history examples to illustrate his anti-clericalism. The motives were different, the results also different in how they appeal to our senses: we can truly love Székely's paintings, feel intimately involved in it. We can like Maclise's scenes and the skilled Romantic expression of pathos. We admire the skill and are impressed by Gallait and Benczúr's paintings. We look in awe at the coldness by which such powerful emotions are expressed in Laurens' "Robert the Pious".

Historicism of the nineteenth century was an all-European phenomenon, not limited to one country. Historical paintings are found first and foremost in Hungary. These paintings are too less known in the other European countries and the New World. Székely, Benczúr, Than, Liesen-Mayor and Madarasz made wonderful paintings that are waiting to be more acclaimed. The movement existed almost independently in Belgium, where it was most used by the Walloon, French speaking Belgians like Gallait but also Barthélémy Vieillevoye, Auguste Chauvin and others. Pietro Benvenuti, Giuseppe Bezzuoli, Gaspero Martellini, Enrico Fanfani, Stefano Ussi and others, very well represent Italian historicism. These Italian painters have also been somewhat forgotten by our times, they deserve better recognition. Austria had Hans Makart. France was first still in the ban of the imposing Neo-classicists David and Ingres, but Delacroix in the more rash Romantic way and Laurens in a Neo-classical style especially applied the genre. The nineteenth century remains too much the century of the French impressionists and of the Romantic English Victorian painters, the Pre-Raphaelites. We tend to forget that this century was rich in many styles.

The historical paintings are marvellous, although less to our taste of the moment. We ought to learn to love them more because they were the expression of powerful feelings of pride, magnificence, recognition of heroic deeds of the fathers, and a new faith in man's accomplishments

The Virgin ascends the mountain.

Joseph Führich (1800-1876). Österreichische Galerie Belvedere – Vienna. 1841.

"The Virgin Mary ascends the Mountain" of Joseph Führich is a picture of the theme of the road to holiness of the Virgin. Other images of this kind are Mary ascending the stairs of the temple and of course her proper Ascension and Coronation in the heavens. The theme also symbolised the road to spirituality in a life of love of the pious. The symbolic value of Führich's painting is heavy, and the artist brought full Romantic sentimentality in his scene.

Mary is on the path that leads to the mountains. She will visit there Elisabeth, who is also pregnant. Mary could not be more traditionally dressed. She wears the red robe for love, her blue cloak for the heavenly, and a white headdress for purity. She wears a staff to keep her steady, and she supports the child in her. The staff helps her on the road, but it is also a symbol of the sceptre of her dignity and place in the church. A group of angels precedes her. They are singing from a large, open book of musical

notes. One of the small angels looks upwards, and brings our eyes to three hovering, elder angels. These angels too are three, like the Trinity. They are flying in the air and they let roses and rose petals fall gently over Mary. The roses fall on the path, and Joseph behind Mary picks up one of the roses. Here also we find obvious symbolism. Joseph picks Mary's rose, since he is her husband. Behind the whole scene is a beautiful soft mountainous landscape.

Mary is entering the woods; she walks into a protective environment and a more closed world. This is a frequent theme and symbol associated with the Virgin. Mary and Joseph are leaving the open, dangerous world into an intimate mystic land. Right behind Mary in the background is an enormous tree, and Mary is shown walking just in front of its large trunk and plain, green foliage that reaches upwards. Bringing such mass behind the main figure of a scene was an image used by many painters to indicate the importance of the figure.

The tree divides the picture exactly in two halves, in the open world and in the closed world. Führich painted symmetrically the group of children-angels to the left and the stooping Joseph on the right. Now we understand why Joseph had to pick up a rose. The stooping Joseph also seems to kneel to Mary, but by this gesture Joseph's figure remains of the same height and mass as the singing angels. The effect brings balance of surfaces on the figures and also a solid grounding to the mass of the tree. The angels flying in the air fill the surface of the tree foliage above Mary, so that Führich tried here also in a natural way to build his composition to nice harmony.

The whole picture is in soft tones, in which the browns and soft reds dominate. These colours hardly contrast the indefinite green of the slopes of the hilly landscape. Führich thus made a picture of sweet composition and colours. But of course, we are only barely touched by the sweet feelings of tenderness and immediate sentimentality that pervades this painting. We perceive no force of spirit, no power of representation. Führich's picture comes to us as a tender image of feelings that do not go deep. We see his painting as an exercise in sensibility.

Joseph Führich was a Romantic artist. He was born in Bohemia, Czechia, in the town of Kratzau in 1800. He studied in Prague and Vienna. Bohemia was then part of the Austrian Empire and Führich received a grant from Prince Metternich to study in Rome. He stayed there with the Nazarene community of artists.

The Nazarenes were a group of German and Austrian artists of the romantic generation. Led by Johann Friedrich Overbeck (1789-1869), this group had left Vienna, where they had already founded a Guild of Saint Lucas in the old tradition of painters' guilds. In Rome they lived in a secularised abbey, the abbey of San Isidore. They wore their hair long and plaited in the middle, so that the more pragmatic Romans soon called them "Nazarenes", the name by which they became known in the history of art. Overbeck wanted to revive fresco painting, and Führich worked in Rome also with other Nazarenes at a project of decoration of a Roman villa, in this case the Villa Massimo. Führich did not stay long in Rome, however. He returned to Prague in 1832, and then back to Vienna in 1834 so that his picture of "Mary ascends the Mountains" was a painting of his later Vienna period. Führich taught at the Academy of Vienna. He was also the conservator of a gallery of paintings in the Austrian capital. Emperor Franz-Joseph even knighted him in 1861.

Führich's painting "The Virgin Mary ascends the Mountain" shows one of the reasons why the Nazarenes returned to Rome. These Romantic artists were not in search for classical Rome, its ruins, its sculptures and imperial past. The Nazarenes returned to the spiritual values of the Christian Middle Ages and of the Renaissance, and they thought to impregnate themselves with spirituality in the core of Roman Catholicism. They sought to renew a mystical contact with a past in which society was built on Christianity, in which Christianity was the basic framework of European civilisation. The Enlightenment had broken this framework, so the Nazarenes reaffirmed the values and images of old.

Many of the Nazarenes like Overbeck, Peter von Cornelius and Julius Schnorr von Carolsfeld painted clear messages in which the old Florentine "design" was emphasised. Führich also drew before he coloured. His picture is crisp in lines like a neo-classicist painting. But he obviously accentuated the sentiment. In that he either linked to past German traditions of rococo decoration, or he was a precursor of the later Biedermeier style. Because of this, Joseph Führich holds a separate position among the Nazarenes with whom he was connected in Rome for a few years, from 1827 to 1829.

Lesson Eleven – Special Effects of Colours

Zeuxis and Arte are again at Arte's home. It is raining and they are sitting in the kitchen. Arte is sipping from a Coca-Cola while she browses through the newspaper. Zeuxis is sitting in front of her. He plays impatiently with his fingers on the kitchen table.

Zeuxis: Arte, since it is raining, we might maybe go into some heavy stuff of theory.

Arte, looking up and putting her newspaper aside: OK, Zeuxis. I am in a studying mood anyhow, and very alert. I am all ears.

Zeuxis: Well then let's start. I have to talk about superimposed colours and about juxtaposed colours.
In painting on a canvas, a large area consisting of one particular colour absorbs all wavelengths of light but the wavelength of the colour of that area. It reflects the wavelength of that colour only. Painters have to take care with the processes of colours that combine in the viewers' eyes.
Painters use emulsions of pigments in oils or, as in the earliest times, in egg yolk (tempera process). That meant they use small powders, small grains surrounded by oil. Painters bring this film on the canvas. When they do this in light brushstrokes and when using much oil and few pigment, special effects happen. If they use for instance blue, then all wavelengths but blue are absorbed by the pigments and blue colour is reflected. But since the emulsion is brought lightly on the canvas, some light can get through to the underlying layer. If this layer is also of an emulsion with for instance green pigments, some of the green may be reflected back and passes through the blue emulsion on top. The result will be a combination of green and blue to our eyes, and that is the colour cyan. The painter may be astonished to have blue on his brush but cyan on the canvas. If he brings the blue over green and over a juxtaposed white area, he would see the same brushstroke be blue over the white and cyan over the green.

Arte: I would avoid doing that if I were a painter.

Zeuxis: Painters can either avoid such superimposed colours, or exploit these effects, which is a very difficult feat indeed. In order to avoid the effect they can use very dense emulsions, as most modern paints are, or put thick brushstrokes. All paints used by painters are to some degree relatively transparent or opaque.
Layers of superimposed transparent paints mix colours in the eye of the viewer. Moreover, the viewer receives then also a sense of depth. This technique is called "glazing". The best and more sensible genius painters exploit the effects to obtain a very broad palette of colours. This was for instance the case of some of the Flemish Primitive painters of the fifteenth century, who experimented with the new medium of oil painting, and discovered its various effects, including the effects of various granularities of the emulsions. But only the painters, who had a very sensible eye for such effects and wanted to experiment, only these used this very difficult process. Generally it was too difficult to imagine the thousands of various possible combinations of two or more superposed layers.

Zeuxis: One effect that was frequently applied however was to paint on ground layers of uniform white or black paint.
The English Victorian Pre-Raphaelite painters like William Holman Hunt coated their canvas first with white very bright paint, and then they worked on that substrate in pure colours without repents (over-painting) to obtain very vibrant colours. The white underlying layer reflected light instead of absorbing it.
Some painters preferred dark undertones. Lodovico Carracci used dark grounds and so did Tiziano. Boschini published a treatise in Venice in 1674 with the title "Riche Minere della Pittura Veneziano" in which he noted that Tiziano used to say that a painter should be acquainted with three colours only; white, black and red[G76]. And indeed, especially in his later years Tiziano's paintings received the lower, darker and subdued tones of great sadness for the tragedies he painted like his "Pietà", the "Flagellation of Christ" or the "Death of Actaeon". It may be that these paintings are merely unfinished ones, as Titian painted at one picture over long periods. His Pietà in the Galleria dell'Accademia of Venice was indeed finished, only slightly, by Palma Giovane. But as we know them now they are powerful and sufficient. Why Titian used black backgrounds, is a story that we can only fully explain in the next chapters.

Arte: Johann Wolfgang von Goethe spoke in his "Theory of Colours" of the importance of the grounding of pigments and of the effects due to the fineness of layers of paint. He explicitly spoke of Jan van Eyck's light brushstrokes and the associated effects. Leonardo da Vinci recognised already the effects of several layers of paint. He noted that white surfaces as a ground for colours have the effect of making the colour pigments appear more vibrant.

Zeuxis: Good, Arte. You have not forgotten Goethe at all. Now on to what happens when we put colours next to each other.

Arte: Zeuxis, you are strange now. Whatever would happen when we put colours next to each other?

Zeuxis: Some patience, Arte! Very strange effects occur simply by putting colours next to each other!

Zeuxis: Objects have areas of a certain colour. We only perceive these colour hues due to the constitution of our eyes and mind. Gradually, scientists and artists became aware of ever more complicated phenomena of vision. They learned that our perception of colours altered when one colour was set next to another.
Any awareness and understanding of such phenomena would only start to be accepted when it dawned in the common consciousness that not merely physical but also physiological processes participated in vision. The effects of adjacent colour areas then could be comprehended as effects that were not totally absurd, but in the realm of possibilities. In the following chapters we will try to explain what happens when different colours are seen in adjacent areas, and what these effects could mean for painters and for viewers of paintings.
Leonardo da Vinci had already remarked that adjacent colours influence each other. And again, Johan Wolfgang von Goethe was the first to draw attention by his experiments on the contrasts of colours. Take a sheet of red paper and place it on a yellow background. Take that same red sheet and place it upon a magenta background. The colour of the sheet will be perceived as having changed. Yet the

object, the sheet of red paper has not physically changed. Our mind has changed the perception.

The honour of having fully noticed, then accepted and passionately studied the effect of juxtaposed colours fell to a French chemist who had been appointed to a position of director of colouring at a tapestry manufactory.

Michel-Eugène Chevreul (1786 – 1889) had become interested in colours by necessity. He was a French chemist, a Professor of Chemistry working at the Museum of Natural History of Paris, but King Louis XVIII appointed him as Director of Dyeing at the Gobelin Manufactories of Paris. He wrote several treaties on the chemical characteristics of animal fats, and these were also at the origin of some paints. A chemist before had held the directorship of dyeing at the Royal Manufactories, so the choice of Chevreul was not so strange.

Chevreul was called in at the Gobelin Manufactories in 1824 because customers complained about the colours of the tapestries. The Manufactories were a national French pride, so a famous French chemist was necessary to rectify the errors. Chevreul noticed that some of the colours were indeed not stable. But in other cases, the products used in colouring were of good quality. He was puzzled, so he started to experiment with colours. He noticed that the perception of colours changed when two different colours were set next to each other. He was a scientist, so such an effect must have been hard to accept, but Chevreul had confidence in his sight, and yielded to the evidence. He used a sound scientific method of experimentation, and he was thorough and very meticulous.

He studied, and then published a paper in 1839 on colour theory that became quite influential. He called his treatise "'On the Law of the Simultaneous Contrast of Colours". In this, he explained the effects of juxtaposing various colour areas.

 In a first principle, Michel Eugène Chevreul wrote, "When the eye perceives at the same time two colours that are similar in hue, these hues appear as dissimilar as possible, both from a view of their optical composition, as from their tonal value". Chevreul had found that there were two ways by which simultaneous contrast can operate: in intensity and in optical composition. We know now that three parameters can modify, and these are the three constituting features of a colour: its intensity, its hue and tone. Thus, a red colour will be perceived as being brighter against a dark background and less bright against a bright background. A red will appear more powerfully red on a yellow background and more orange-like on a reddish background. The red will look more coloured in hue on a grey background than on a background of bright pure colours.

In this way, scientists and artists discovered that one does not just have to see assemblies of small dots, the impression of which is added in the eye, to see changing colour tones in an additive physical process that works by distance alone. When larger zones of colour are juxtaposed, changes in colour impressions also are perceived. A large area of blue completely surrounded by a large white area will give a more brilliant hue to the blue. When we see that same middle area of blue surrounded by a large dark area of brown, the blue will have an entirely other hue. In the latter case the blue may take on some of the red and darker tones of brown, and the whole will give a more subdued, sad, solemn impression.

Arte: That is indeed strange, Zeuxis. Now my mouth drops open! Colours change just by setting one next to the other. Your magic is nothing compared to that!

Zeuxis: Let me repeat, Arte, and explain somewhat differently, and emphasise the three effects at play when juxtaposing large colour areas.

First, an achromatic colour (hues reduced in intensity of primary hue by adding white or black) will look more intense (have more of the primary hue) when surrounded by its complementary colour. By complementary colours we mean here the colour on opposite sides of the colour wheel.

Secondly, complementary pairs that are juxtaposed intensify each other. For instance, when red and green are painted next to each other, the red will become more fiercely red and the green more fiercely green.

Goethe remarked in his "Theory of Colours"' that "to satisfy itself the eye seeks a colourless space next to every hue in order to produce the complementary hue upon it". He said that in this resided the fundamental law of all harmony of colours. In other words, next to a colour should be expected its complementary colour, for that is the natural physiological effect.

Chevreul wrote, "In the harmony of contrasts, the complementary combination is superior to any other".

Thirdly, when we view for some time an intense hue, then a complementary colour halo appears to surround the hue. This complementary glow will combine with the surrounding colours, especially when they are weak. Thus an intense red colour surrounded by a grey will have the effect that the grey becomes greenish since the green halo that is complementary to the red will interfere with the grey.

Arte: I would like to know more about this guy, Chevreul. This is extraordinary! How could he see so clearly what centuries before nobody had remarked?

Zeuxis: All right, Arte.

Michel-Eugène Chevreul's theory of juxtaposed colours

Zeuxis: Before I explain Chevreul's findings in further depth, we have to look at some of his definitions.

Chevreul argued that red, yellow and blue were the primary colours. Thus he used as a basis the traditional primaries of the subtractive process, but interpreted like painters did. He recognised also the orange, green and violet secondary or compound colours.

He used the word "hues" – or nuances – of a colour the modifications that this colour receives by the addition of a small quantity of another colour.

Chevreul called "tone" of a colour the modification, which that colour takes when black or white is added. We called this "saturation" in our theory.

He used the word "scale" for the collection of all tones of the same colour. So scale indicates the various gradations that one hue undergoes when adding white or black. When white was added to a colour he used the word "weakening" of tone. Adding black "deepened" a tone. He also used the words pure, broken, reduced, grey and dull. Pure colours were the primary colours red, yellow and blue, as well as those colours, which result from their binary combinations in equal quantities, such as the pure secondary colours orange, green and violet. The broken colours were these pure colours mixed with black.

Arte: When painters mix paint, colours are subtracted. So some blue added to red and yellow produces some black and thus "reduces" or "breaks" an orange colour.

Zeuxis: Yes. Chevreul called "luminous" the colours yellow, orange, red, and light green. Sombre colours were blue and violet.
Chevreul explained in his book many phenomena of optical effects of adjacent colour areas. He formulated a law stating that in looking at two contiguous colours a viewer perceives what he called "simultaneous contrast of colour and simultaneous contrast of tone". He wrote that when the eye saw two adjacent colours, these would appear as dissimilar as possible in optical composition and in the height of the tone.
Chevreul did not discover why his law was valid, but he thought he also had discovered the process by which his law worked. He wrote that for two adjacent colours to be as dissimilar as possible, the complementary of one colour had to be added to the other. He knew that this was a physiological reaction of our eyes and brain, because the physical nature of the contiguous surfaces did not alter by placing them next to each other.

Zeuxis suddenly throws pieces of paper on the table and startles Arte at the brusqueness of the movement, but she is all ears again.

Zeuxis: Here is a green piece of paper and a yellow piece of paper.
By Chevreul's process if we put for example this green and yellow area contiguously, red, the complementary of green, added to the yellow, will make it incline to orange. The complementary of yellow is indigo. This colour added to the green will make it bluer. As a result we will see orange next to a green blue. The greater the difference between a colour and the complementary of the other added to it, the more striking would be the resulting modification in hue.
Colours can also be strengthened in intensity by this effect. Take red and green surfaces juxtaposed. The complementary of green, that is red, will be added to the red and the complementary of red, green, will be added to the green. In this example both colours are strengthened. The effect worked best when strips of coloured paper of about ten centimetres wide were placed next to each other.

Arte: Indeed! Wonderful! But how do painters then know what colour they put on a canvas, when colours change immediately?

Zeuxis: The effects described by Chevreul are of course extremely important for painters!
On the one side, painters are annoyed by the effect because when they juxtapose colours on the canvas – which is all what painting is about – they will perceive other colours than the hues of their preparations of paint on the palette. Preparing paint on the palette while the palette is already full of colours from earlier patches of dry paint, may give an impression that is different from the hue of the pigment in other circumstances. Painters have to think carefully therefore before laying down paint on the canvas, taking into account the law of Chevreul and the surprising resulting effects of colour that will be obtained. Often they have to correct their colouring to obtain their desired effect.
On the other hand, if painters work with complementary colours next to each other the colours will not only remain as prepared but will also be strengthened. This last effect occurs of course only for exactly complementary colours. It is not easy to correct colours in a painting. It is possible with oil painting, but may deepen the colours when

successive layers are brought on the canvas. Corrections are impossible in fresco painting; with this technique the colours have to be right immediately.

Zeuxis: The pioneering Impressionist painter Camille Pisarro (1831-1903) wrote in 1887 in a letter to his son Lucien, "It is clear that we could not pursue our studies of light with much assurance if we did not have as a guide the discoveries of Chevreul and other scientists. I would not have distinguished between local colour and light if science had not given us the hint; the same holds true for complementary colours, contrasting colours, etc." [G87.]

Arte: Is this law really always valid, in all circumstances, even with white and black?

Zeuxis: Chevreul investigated also the effects of white and black in combination with other colours. He found his law was always valid.
White next to any colour will make that colour brighter and deeper, whereas the white will take on the complementary colour of the other.
Black or grey next to any colour will make that colour more brilliant, and usually lighter. The black takes on a delicate hue, as the complementary of the other colour is added to it. But it will not only remain dark, but also even deepen by the law of contrast of tone.
Especially with these last observations, Chevreul explained a concept of painting that artists had discovered since many centuries in an intuitive way, and had applied as a painter's technique. Painters have used black next to colours often, because, as Chevreul remarked, this improved the hue and brilliance of the colours. Black between colours also much annihilated the combinatory effects of the simultaneous contrast between the colours so that these colours kept their own hue. This method is sometimes called "outlining". Such effects are not reached by separating the colours with white. The white subdues the colours by its brightness, which is enforced by the law of simultaneous contract of tone, and this breaks the hues. Thus, black or dark tones in the background are the hallmarks of the greatest painters like Rembrandt, Titian and van Dyck. And so we understand also why ladies prefer their husbands to wear a dark suit to accompany them when they themselves wear brightly coloured robes!
Painters became gradually aware of these effects. It is remarkable to see for instance the evolution from Robert Campin to Rogier van der Weyden. Robert Campin, a Walloon painter of the fifteenth century, made a portrait of Robert de Mammines in which the face of the model was painted against a light background. But Rogier van der Weyden, his student, painted his portraits against a dark, even black, background, to enliven the colours of the face.

Zeuxis projects a painting made by Titian.

Zeuxis: Let me show you an example now, Arte. We have seen this picture before.

➔ Tiziano Vecellio (1488/1490-1576). Pietà. Galleria dell' Academia - Venice. 1576.

Zeuxis: One of the most magnificent examples of this knowledge of colour and tone is Titian's Pietà.

In Titian's last years, his palette grew more sombre, and he used spare colours. But in doing this, his pictures gained in force and his few colours like the red cloak of Nicodemus, obtained a quality of their own, which are admirable in their isolation. It has been argued that this effect was merely a physiological effect of ageing, that the discrimination of colours is less acute with age, so that the palette of the very old painter becomes more limited as with Titian, or more strident as with Claude Monet. We find that hard to accept for a great painter like Titian, especially as there are other painters, like Michelangelo, who reached a very old age and yet whose palette did not darken or become more extreme. It has been argued also that these pictures are unfinished ones, as Titian worked over long periods. Titian would have painted only the rough composition and just placed a colour here and there. But these patches of colour are so diligently placed in the picture, and the other tones already so balanced, full and complete, that also this conjecture is difficult to hold. In Nicodemus, Titian probably painted a self-portrait.

Arte: I did not know that painters had such a hard time with colours.

Zeuxis: You see, learning to paint is not that easy! The effects of Chevreul's law of simultaneous contrast make it also difficult for painters to predict what the coloured result would be when they used very many colours juxtaposed. Most painters have therefore restricted their palette to a few colours only for a particular painting. Many of the greatest painters stated in their later years that in order to make 'beautiful' paintings, only a few colours were necessary.

Arte: Did Michel-Eugène Chevreul discover other things on colours?

Zeuxis: Besides the law of simultaneous contrast, Chevreul described other colour effects.
He called successive contrast the effect when the eye, having looked for some time at one coloured surface, turns away and then sees that same surface still for some time in its complementary colour.
Chevreul called mixed contrasts when one looks with this complementary colour in the eye and mind to another coloured surface. The two colours will combine. Thus, when we look first at a red surface of a painting for a certain time, turn away and have the successive contrast of green virtually in our eyes (red's complementary), this green will combine with a yellow surface at which we might look in another part of the painting to a mixture of yellow and green. And this is not such a nice effect on the yellow.
Painters cannot do much to control these last effects, except making their coloured surfaces not too large and separate them by neutral hues such as white or preferably black. Therefore, viewers will find on many canvases really pure colours separated by darker zones, often the chiaroscuro dark shadows between the pure hues. The darker shadows diminish and isolate the colours, so that Chevreul's effects are less remarked. The juxtaposition of colours does not just change the colour hue itself. When the contiguous colours are not of the same intensity, the colour that is deep in tone appears deeper and that which is light will appear lighter. This happens always in order for the colours to become as dissimilar as possible. This explains also all the more, why the most sensitive painters preferred darker backgrounds for their pictures. With for instance a clear, very bright blue background, colour surfaces of red, yellow and green will look duller, and the bright blue even lighter. On a dark background of

black, grey or dark brown, the background will look darker and the colour surfaces lighter.

Zeuxis brings his magic, transparent screen out again and he shows a painting by Rembrandt.

➔ Harmensz Rembrandt van Rijn (1606-1669). The Man with the Golden Helmet. Staatliche Museen Preussischer Kulturbesitz, Gemäldegalerie. Berlin. Around 1650-1655.

Zeuxis: Rembrandt, as no other master, had these marvellous effects of hues contrasting with black in his mind. This was how Rembrandt saw colours, and the only way he could represent them. He was apparently so sensitive to colours, that he was obliged to surround his beautiful hues by black so that they were resplendent. A good example is the painting "The Man with the Golden Helmet". When one arrives before this picture, the impression of the gold in the helmet and the bright face of the soldier strikes like lightning. In any hall where paintings are hung and accompany Rembrandt's picture, no such marvellous hues are seen.

Zeuxis makes the man with the golden helmet disappear.

Zeuxis: Michel-Eugène Chevreul's theory is merely a process of combining colours to obtain the observed effects. Chevreul formulated a law, but he never tried to explain the phenomenon, and science in his times was not advanced enough to offer an exact explanation. Moreover, Chevreul was not a physiologist. He was therefore primarily interested in the reality of the effect and since he worked in a factory of tapestries, in the practical implications of the combinations for the colouring department of which he was the director.
Chevreul designed a colour circle with the three basic colours red, yellow and blue plus their complementary colours opposite them and the compound colours in between. He explained how colourists at the tapestry factory could use this circle but also of course painters.
Take any two colours A and B and place them contiguously. Look where the colours are on the circumference of the colour circle. Take the complementary of A on the opposite side of the centre and let that be AA. Then look where AA lies between two primary colours. Thus one finds the primary colours of which AA is a compound. While looking at colour B on the circle, one knows also where its complementary BB can be found, that is on the other side of the centre point. One finds then also the primary colours that combine to make BB. Consequently one has to mix A with the two primary colours that make up BB and the result will be the hue of the new A. One does the same with B, adding the two primary colours that make out AA.
Furthermore, one knows from Chevreul's law that the deeper colour of A and B is deepened and the brighter colour brightened.
This process is not so easy for many colours, simple almost only for combinations of primary colours. Painters will have it easier to experiment and put the colours next to each other to see for themselves what the effect on the canvas could be. Thus painting a small example, experimenting by trial and error is more rapid and surer than reasoning with the colour circle.

Arte: If I understand well, Zeuxis, Chevreul did not really know why colours changed when he set them next to each other, just as we here put these pieces of paper together and notice the changes. But with your wisdom, you must at least have an idea? And since the nineteenth century many scientists must have studied the effect.

Zeuxis: Not really so many, Arte. But there is a theory indeed, that I believe is right and that could give a plausible explanation. We go to photography now!

The Retinex Theory of Colour Vision of Edwin H. Land

Zeuxis: Michel-Eugène Chevreul's theory was formulated as a law, but Chevreul gave no explanation for the effects. An answer was only found, and that partly by accident, in the 1960s. A new theory was then formulated, the results of which are still being examined currently. This theory may not be so relevant to the art of painting, since Chevreul's rules offer a construction of perceived results of juxtaposing colour surfaces and a good understanding of that is all what painters actually need. Yet, this modern theory does explain conclusively the reasons for the effects that Chevreul studied, and thus this newer theory is more than relevant for a book on painting like this.

Arte: Who found it then?

Zeuxis: A guy called Edwin Land.
Edwin H. Land (1909-1991) was the inventor of the Polaroid – Land photographic camera process of dry-fixing colours on photographic film. I saw you use such a camera too, Arte.
Land made many experiments with photographs taken of coloured pictures of rectangular colour patterns, which he called "Mondrians". During his experiments he was particularly intrigued by an arrangement of superimposed pictures made with filtered light.
Land had made two black-and-white photographs of a Mondrian. Then he projected these on a screen, but one projected through a red filter and the other through a green filter. The two superimposed images showed astonishingly all the colours of the original Mondrian. Land tried to understand how the information of the colour blue for instance could have remained in black-and-white photographs. This was completely in contradiction with all previous traditional theories of vision.
The traditional colour theory would have predicted merely a superimposition of red and green images with zones in various shades of black. The result would have been images in shades of black and yellow. But Edwin Land saw a true colour image with blue colours and red and green.
Land proposed that it is not the wavelength of the reflected light itself and only that, that is processed in our brain. He mused that our colour perception is somehow decoded using the ratio of the longer and shorter wavelengths reflected by the object. Land proved that there was not a one-to-one correspondence between colour perception and wavelength, and thus he proved Newton wrong and Goethe right.
Edwin Land devised a theory from his experiments that he called the 'Retinex' theory, a name derived from retina and cortex. This theory proposed that colour perception depended only on the neural structure of the human visual system. According to the Retinex theory, the perception of colour depends more in particular upon the relative

reflectance of a coloured area. This relative reflectance is determined by the mean reflectance of random paths leading to that area. So, Land proposed that a parameter "lightness" is associated with every colour surface. This lightness can be a measure of the brightness of a surface compared to the surrounding surfaces. It has been possible to describe this effect in mathematical formulas and thus to model our subjective colour perception.

Arte: So, Land's theory proposed an explanation for the phenomena of colour illusions as described by Michel-Eugène Chevreul and by Johann Wolfgang von Goethe?

Zeuxis: I believe so, Arte. Illusions indeed arise from the contrast between the object and its surroundings, as observed by humans. The contrast is the relative reflectance of an area, relative as compared to the surrounding areas.
Land and his collaborator McCann proved that Mondrians produced a perception of colour that does not depend upon the spectral flux, the colour spectrum of old, reflected by the Mondrian patterns. Human perception is independent of the spectral distribution of the reflectivity of the light energy perceived by the eyes. It depends on the relative reflectance of adjacent areas. We do not determine the colour of a surface in isolation. We derive the colour from a comparison of the wavelengths reflected from the surface and from all the areas around it. When we change the setting of juxtaposed colours, our colour perception changes.
The Retinex model also explains the effect of colour constancy. Colour constancy is the fact that our perception of colour is usually, within certain boundaries, independent of the characteristics of the light source. This is also sometimes called chromatic adaptation, the ability of the human visual system to adjust to varying lighting conditions. Our visual system adapts to the intensity of light to preserve the colour of objects. This colour constancy is the tendency for an object to be perceived in the same colour under different lighting conditions. Experiments of Edwin Land proved that familiarity, whereby our mind would substitute colours because we have memories of an object and its colours, were not at play in colour constancy effects.

Arte: Could you explain some more about this colour constancy issue, Zeuxis? It seems we are on to something important here.

Zeuxis gets his magic screen out and he shows Arte a bird's view of mountains covered with snow. A marvellous sun shines over the mountains.

Zeuxis: To illustrate the colour constancy phenomenon, we take the effects of sunlight on snow. A late sun makes snow yellow on a photographic film. Yet we automatically account for the orange-tinted light and see the snow as white!
This was probably an evolution to perceive the colours of nature the same way in varying lighting conditions, through morning, day and evening. Otherwise, the environment might have been too confusing for humans. Therefore, a tree looks green in the various periods of the day. Yet, our vision system corrects not because we know from memory that snow is white. Land's Retinex theory clearly explained that the relative brightness of a surface, on which depends according to Land's theory our colour vision, is unaffected by the conditions of lighting. This explains colour constancy. Memory and familiarity do not need to intervene. We decide on the colour of an area by comparing its ability to reflect short, medium and long wavelengths

against that of adjacent surfaces. That relative reflectance does not change much when lighting is modified over all the surfaces together. When lighting conditions change, the relative comparisons between adjacent colour areas remain the same, and so the colour of the area remains the same. But colour constancy disappears when the comparison with adjacent surfaces cannot be made.

Arte: That is it then Zeuxis, the final theory!

Zeuxis: Land's theory decisively proved that colours are not really attributes of nature, characteristics of a surface, but merely a feature of human vision. Colours are the result of an interaction between the world and humans, the result of neurological processes in the retina, and the subsequent handling of the information of relative reflectance in the brain. Colours exist only because there are living beings and they exist only in the eye and mind of living beings. The human vision complex changes perception, corrects for effects of lighting to some extent. Land's theory proved Goethe right, as opposed to Newton's concepts that colour was a physical quality. There is a lot more to colour than a purely physical phenomenon!

Zeuxis stays in thoughts for a while, then he continues: The great Victorian critic John Ruskin (1819-1900) must have felt some of what Edwin Land proved when he wrote what Ernst H. Gombrich quoted in "Art and Illusion". "While form is absolute, so that you can say at the moment you draw any line that it is either right or wrong, colour is wholly *relative*. Every hue throughout your work is altered by every touch that you add in other places; so that what was warm a minute ago, become cold when you put a hotter colour in another place, and what was in harmony when you left it, becomes discordant as you set other colours beside it; so that every touch must be laid, not with a views to its effect at the time, but with a view to its effect in futurity, the result upon it of all that is afterwards to be done being previously considered. You may easily understand that, this being so, nothing but the devotion of life, and great genius besides, can make a colourist." [G106.]

The effect of simultaneous contrast

Arte: Tell me more about the effect of simultaneous contrast, Zeuxis. What would Land's theory mean for Chevreul's findings?

Zeuxis: I have already explained somewhat what Chevreul's effect meant to painters. Land's Retinex theory complicates matters more than a simple application of Chevreul's law.
Chevreul made experiments with two colours, three at most. He described these combinations at length. He explained less combinations of more colours. He worked with rectangular pieces of paper or of cloth, with pieces of certain dimensions and he described the effects when he juxtaposed these after having seen them in isolation. He also worked in sunlight, which is of high intensity of illumination, but we see paintings in museums often with harsh white light thrown focused on the pictures. These experiments, however sophisticated and admirable, are far from situations of reality. In reality zones of many colours and of various sizes and forms are seen adjacently and in combination. Chevreul experimented with bands of paper of particular dimensions and he wrote that with these the effect was most visible. He did

not state that he had experimented with other dimensions of coloured areas. We know that the effect diminishes from the border between the two colours and the effect diminishes with higher intensities of incident light. Michel-Eugène Chevreul did not experiment with bands of paper under various lighting conditions, under differing intensities of incident light.

The Retinex theory encompasses effects of all the areas surrounding a particular colour area. It states that the colour of that area is determined by our mind by comparing the reflections of the short, medium and large wavelengths as captured by the S, M and L cones, relative to those of all adjacent zones. We now know that there are neurones in our mind that react to the differences in the wavelengths of light, reflected from adjacent areas. The result of such a process is difficult if not impossible to predict by painters, as by any human, and they are more complex than Chevreul could have imagined. And it seems that the Retinex theory does not explain al effects. Further theories and mathematical models are being built.

Arte: But, Zeuxis, let's get back to earth now! When I look at a painting, I see what I see. I couldn't care less for the difficulties a painter had while putting his colours on the canvas. Well … sort of. Poor painters! Should a viewer be concerned at all with these theories?

Zeuxis: The answer on this very pertinent question, Arte, is yes and no. Chevreul proved that adjacent colours altered simply by being viewed together. But he worked on particular settings. Reality is more complicated and less predictable. For painters the effects of simultaneous contrast are very real and quite a challenge. They can never really be sure what colour they will obtain in a very coloured painting when they add a paint. The colour of their paint on a white palette will look quite differently between other colours on the canvas. Of course, they can step back, look and correct. At least, painters can do that, not aquarellists, and not the fresco painters! Luckily, and maybe this is a paradox, for viewers the situation is in fact very simple.

Arte: like I said. Viewers see what they see. What they see is what they get.

Zeuxis: They see the result of what painters have realised in colour. Painters have corrected for adverse effects. Painters have at their disposal many techniques for their corrections. They can work directly on the hues. They can separate the hues by grey or darker zones. Hues seem to remain individual and unmodified by nearby colours when separated by black, white or grey thick lines or zones. This is the technique of outlining. They can use complementary colours that enhance instead of modify each other. Broken hues, secondary, tertiary and even more quaternary hues will create less perception of afterimages, and thus of modification of hues when juxtaposed, because they contain in them many hues already.

Zeuxis: Great painters use all these techniques so that a viewer sees the same colours as the painters did in their finished work. A viewer might see adverse effects, of dulled and modified colours, but how can a viewer judge whether this was not a desired effect? We know moreover that the processes at play in a real picture that includes many adjacent coloured areas are more complex, with various mutual influences. Sometimes, some observers but not all seem to perceive vibration effects at the boundary between two colours. When many colours are present in a picture two juxtaposed colours change only very locally, at their boundaries alone, but these

colour changes will then interfere with colours somewhat further from the boundary and combine to yet other hues. So the effects are complex. More influences work than the simple explanations of Michel Eugène Chevreul. Various influences cancel out each other in the relative reflectances. The Chevreul effect remain often limited to small areas along the edges of coloured areas, where we find often colour transitions and corrections brought in by the painters, and often also naturally the chiaroscuro shadowing to separate colours. So, the issues noticed by Chevreul are more of a problem for the painters than for the viewers.
Chevreul's work was important, and so is the report I gave you, Arte, because it enhanced much our respect for colouring. Chevreul taught generations to look at colours with deeper interest, whereas before, drawing had received more attention. Scientists and artists now studied effects on humans of combinations of colour. Chevreul's writing on harmonies of colours, which we will consider further in our lessons, is interesting and this was based on his understanding of the law of simultaneous contrast.

Arte: These theories which explain real effects of colours are interesting and the effects surprising, Zeuxis. Have they been applied in painting? I mean, have painters, once the theories were known tried to use them, and made paintings that used these theories as their basis?

Zeuxis: Yes and no. The painters of Chevreul's time knew his theories, but remember that the various processes of producing hues were not well understood then. Of course: we are still far from understanding everything, Arte, but knowledge was beginning only to grow by then. I can however talk to you about two styles in this domain: divisionism and camaieu.

Arte: Then please do so, Zeuxis.

Divisionism

Zeuxis: A French art critic Charles Blanc (1813-1882) used Chevreul's work to propose the optical mixing of colours in paintings, in which dots of juxtaposed pure colours constitute at a distance in our eyes more luminous hues than those that can be obtained by mixing pigments on the painter's palette.
Artists also eagerly read the works of Ogden Rood (1859-1926), a Professor of Physics at Columbia University. Rood published a popularising book in 1881 called "Modern Chromatics", which was read by the Impressionist painters whose whole art was based on colours. He confirmed the previous findings that the optical mixing of colours was superior to the material mixing of the paints on the palette. Rood also insisted on using small contrasting patches of colour to obtain effects of high luminosity of the hues.
Under the influence of these theories, and of course in an evolution to further experiments in colour, Impressionism evolved to Divisionism and Pointillism.

Zeuxis: Painters can exploit the combinatorial effects of small, closely placed dots or of small juxtaposed strokes of paint on the canvas to form in the viewers' mind a very broad scale of colour tones. This technique is called Divisionism, and it was based on the described scientific investigations into colour of the second half of the nineteenth

century. True Divisionists stated that their art of colouring had nothing to do with the stipples and small brushstrokes of Impressionism. They wrote that Impressionists had also worked with dots, but Divisionism really wanted to divide colours and areas as well as other elements of painting. Paul Signac wrote that placing small dots did not guarantee luminosity, as small dots of complementary colours created more a shade of grey than of luminous white. At the same time they exploited the "optical mixing" of colours by dividing the colours on canvas in very small adjacent areas, either dots or small strokes. By "optical mixing" they referred to the additive process of colour formation.

Seurat and Signac, the two best-known Divisionists, had read the treatises of Michel-Eugène Chevreul and of the art critic Charles Blanc. Seurat knew Chevreul, and he also introduced Signac to the now very old Chevreul. Chevreul died indeed at an age of over a hundred years old. He had become famous for his work on colours. He has a monument in the Jardin des Plantes in Paris, and even a street in Paris was named after him. The names of streets called after Goethe in Germany are of course uncountable.

 The Divisionist way of painting is very difficult, the effects not easy to predict. Experimenting with the effects beforehand was necessary. Even the best Divisionist painters like Seurat and Signac used in a certain area at most only two or three combinations of colours in their small dots or small brushstrokes. They did not limit them to red, blue and green. They used dots of other colours, but at least Paul Signac proposed to paint only in dots of the pure rainbow's spectrum colours.

Zeuxis places his magic screen on the white wall of Arte's kitchen and shows a painting of Georges Seurat.

➔ Georges Seurat (1859-1891). Bathers at Asnières. National Gallery. London 1883-1884.

Zeuxis: As an illustration of the theories of the effects of adjacent coloured surfaces I propose to look at Georges Seurat's painting "Baignade à Asnières". In this picture, the flesh of the bathers is entirely painted in white, and so is the shirt of a man lying in the grass. Seurat obtained for the white patches to contrast sharply with the green of the grass, the blue of the water and the sky and with the orange of the bathing suits. In the man lying in the grass, Seurat contrasted black and white with the orange colour of a dog. He was applying colour theories, which as we stated above, ascertain that the colours, here green and orange, are seen even more bright when contrasted with bright surfaces. Furthermore he used green and orange, and also orange and blue, each time two subdued but almost complementary colours, to obtain agreeable impressions and to impressions whereby the hues of these colours are enhanced. Green and blue are together the "fool's colours", since they do not match well, but Seurat used a more magenta hue for the water.

Arte: I like Seurat's picture, Zeuxis, but it looks so static and solemn despite its wealth of colours. You said something about camaieu?

Camaieu

Zeuxis: Yes, Arte, finally, there exist painting techniques by which pictures are entirely made in the shades of one single colour. The best-known process in which shades of grey are used is called grisaille.
Grisaille was often used to simulate bas-relief sculptures in pictures. When only the colour yellow is used, one speaks of "cirage". These painting techniques are all denoted by the word camaieu. The word comes from old ways of imitating cameo colours in miniature painting.
Grisaille paintings have been used to imitate sculpture. Grisaille creates so-called "trompe - l'oeil" pictures, which at first glance give an illusion of sculpture. Grisaille paintings use dramatic shadowing and very detailed drawing, which is emphasis on lines, to obtain their illusion. Grisaille paintings were particularly popular with fifteenth century Flemish painters of altarpieces.

These altarpieces originally consisted of wooden boxes that contained many polychrome sculptures. Paintings of pictures were made on the panels of the box that closed upon the sculptures, and pictures were also made on the predella beneath the box. Originally, the paintings were not the most desired representations of the Bible scenes, but the sculptures were. So the painters had the habit not only to paint scenes in colour on the panels, but also to imitate marble statues on the panels of the altarpieces, especially when statues were no longer placed in the boxes of the altarpieces.

Arte: I once went with my mother to Flanders. We went to the town of Ghent there and saw Hubert and Jan van Eyck's famous altarpiece of the "Holy Lamb" in the Saint Bavo Cathedral. This polyptych contains such grisaille paintings.

Zeuxis: Italian painters took up the grisaille technique as an independent means of imitating sculpture in the art of painting. One of the painters who excelled in grisaille was the Renaissance artist Andrea Mantegna (1435 – 1506). Mantegna always was in search for a static, tactile monumentality and volume in his figures. It was almost natural for this great artist to grope to grisaille.

Arte, getting from out of her chair: We have to stop here, Zeuxis. My mother will be here soon and I have to prepare dinner … See you a next time.

Zeuxis: That is a pity, Arte, because I was just getting to the crux of all our colour teaching: the subject of harmony. But it will have to wait until a next time.

The Pre-Raphaelite Brotherhood

The Pre-Raphaelite Brotherhood or PRB was founded in 1848 in London by a group of young British artists among whom principally Dante Gabriel Rossetti, William Holman Hunt and John Everett Millais. These artists wanted to return to the ways of representation and to the spiritual values of the early Italian painters who worked before Raphael, such as the great masters of the Italian Renaissance Sandro Botticelli and Filippo Lippi. They wanted again to draw the actual facts of a scene, as they could imagine the real scene might have happened. They did not respect the conventional, academic rules of the art of their period. The PRB was essentially a Romantic Movement and a precursor movement of Symbolism. It lasted in its latest forms until the beginning of the twentieth century. Since it was so characteristic of many English painters, we consider the PRB here separately.

The PRB painters proposed a return to pre-Raphael times, which meant often Gothic. Thus strong vertical and sometimes even horizontal lines were preferred in frozen, static scenes.

Pre-Raphaelite painters used strong structure in their pictures. They made many portraits, and then applied mostly the traditional pyramidal form.

Pre-Raphaelites painted in pure, sometimes harsh colours on top of layers of wet white paint, in the manner of the early fresco painters. Thus their pictures glow with very bright colours. This technique however was very tedious, so that many artists soon abandoned it, except William Holman Hunt who was also the most religious artist of the group.

Pre-Raphaelitic pictures often represent scenes of classical antiquity or historical scenes, scenes from the plays of Shakespeare, illustrations of Tennyson's poems or scenes of Dante's works and life. The pictures have an obvious moral content, and that not just in their religious representations. Certain artists such as Millais were socially engaged.
The pictures are very detailed, as was common in Gothic and Renaissance, and thus very realistic as representations of real objects and figures. Yet, the Pre-Raphaelite artists communicated with strong underlying symbolism. Flowers and plants were often emphasised in the complex scenes.

The pictures remained mostly intimate, so that no far and wide landscapes were depicted. Scenes in forests, between mountains in valleys were preferred. But the PRB painters knew all the techniques of perspective and foreshortening, and they applied them whenever that was appropriate.

Painters of the Pre-Raphaelite Brotherhood and style were among others: Dante Gabriel Rossetti, William Holman Hunt, Edward Burne-Jones, John Everett Millais, Arthur Hughes, John William Waterhouse, and William Morris.

For comments on the transition from other styles to the Pre-Raphaelite style, the same remarks can be made here as those given for the transition to Romanticism in the

previous chapter. The PRB was the foremost Romantic Movement in the United Kingdom. In its later period and in particular manifestations, it was a precursor movement to Symbolism.

The Blind Girl

John Everett Millais (1829 -1896). The Birmingham City Museum and Art Gallery – Birmingham. 1856.

The painting of Millais is all in soft tomes, bright, but not hurting in contrasts. We see a scene of two poor girls, the younger one coming out of hiding from under the hood of the elder one. The two girls are beggar-girls and poorly clad. The moment is after a rainstorm, and a rainbow glows over a nicely developing landscape of the countryside. The younger girl is curious. She looks at the promise of the rainbow that marks the end of the showers. The elder girl hears that the rain has stopped, and she smells the new, fresh scent. So she lifts her head expectantly, but she is blind.

Even at a short glance, no viewer with some heart can remain impassive at the picture and not be charmed by its silent attraction. The viewer pities the girls and he or she admires the painter's skill in joining nice, pastoral colours to a scene that moves all viewers to the desire to help the girls.

Millais used the pyramidal structure for his picture. The two girls form the pyramid, and so does the hood that protected both. This brown form however has been kept rather low, which was an innovation, for usually the pyramid structure is more prominent and covers most of the canvas. Millais placed the form lower, so that about one third space was left on the top to show the landscape.

The painting shows the scene in much detail. Millais did not work in strong or rapid brushstrokes but in the smooth, slow, painstaking work of the patient artisan. He painted the details of the girls and of the landscape quite meticulously. The lines or directions of the girls contrast with the horizontality of the landscape.

The girls are set low, so that the countryside could be well shown in full view. We recognise here the interest of the Pre-Raphaelites for nature. The large dimension of the landscape suggests the loneliness of the girls in this nature. The far rainbow enhances the depth of space. But the sky is still very dark and menacing, and this element breaks the sense of depth to some extent, so that the scene also remains closed and intimate between the girls and this part of the land. Millais painted nice, small details to be discovered. A few blue flowers grow on the left and to the right is a little blue of water too. The overall brown-yellow-orange hues are surprised by a little red and a little green. But the joy of the fields in the background, the soft green and orange dominate and agree well with the brown of the hood.

The picture invites the viewer to look for eyes. Where are the eyes in the painting? The younger girl turns away from the viewer. The elder girl holds her head high and her eyes are closed. The girl looks inwardly. The title says the girl is blind. She

stretches her head forward to the viewer, upward from her lower position to reach out to the spectator. But she only smells and senses, she doesn't see, and the viewer finally finds no eyes. The elder girl is blind, helpless and lonely, and that feeling is also transferred to the viewer for the viewer finds no eyes in the picture, nothing to draw him or her into the painting. The viewer remains lonely, too. A strange symbiosis therefore sets in between the viewer and the girls. A symbiosis based on the empathy between the viewer and the girls develops, based on a simple sentiment of pity that always touches. Because no eyes look at the viewer, the viewer feels isolated too, just like the girl does. This is a very Romantic image that also bears a touch of social concern, a feeling that would be present in some of the painters of the school of which Millais was a member.

Millais painted the landscape very nicely, and he did not shy away from using many plainly picturesque details. The grasses are orange-green; the grass hangs from a clot of earth on the left; delicate flowers blossom there; birds are looking for insects that come out eagerly after the rain in the meadows, and cows and sheep wander around. In the far is a village, hidden by bushes and trees and the foliage near the horizon shows a nice variety of hues. Remark the double rainbow in the picture. Double rainbows are rarely seen, but they do exist. The colours of the two rainbows are inverted, proving Millais observed well, even if his friends may have told him this true colour scheme!
Our view is always drawn back to the intense face of the blind girl, to the face that emerges from under the dark brown hood. This hood reminds us of the colour of the maphorion of the Virgin Mary. The colour is brown, and the clothes of the girl are torn in places. Millais placed a black and violet hue in the cloak and robe of the younger girl, colours that well match the brown of the shirt of the elder girl.
Millais' painting thus is sentimental, picturesque, and intimate. Millais returned to simple countryside themes of common people, to the pastoral landscapes of England. The girl is a symbol of helplessness, poverty and loneliness. Such themes were very different from the scenes of grand classical antiquity, which showed Greek heroes in scenes of battles or palaces amidst the white marble statues of Greek architecture. This kind of art flourished at the same time as Millais' paintings. He had a large audience, and became very popular later with his endearing scenes.

John Everett Millais was one of three founding members of the Pre-Raphaelite Brotherhood or PRB. The other members were Dante Gabriel Rossetti and William Holman Hunt. The PRB was founded in 1848; all members were very young. The movement grew to more members, but did not last past 1855. Millais, with time, became one of the best known and most generally admired painters of England. For that he had in part to leave the historical or religious themes of the PRB and continue fully with scenes like the "Blind Girl". Millais was knighted, became a member and later even president of the Royal Academy and had to be called Sir John. He was only nineteen years old when he came to the Pre-Raphaelitic Brotherhood, but he would not remain the painter that continued to vow to the style of picturing in all smallest detail and take the PRB style the furthest. He abandoned the tedious way of painting on wet white substrates, and he reverted to a quicker way in using a more natural, rapid way. He married John Ruskin's wife after her divorce from Ruskin and after a Romantic affair with her during a stay in Scotland with the Ruskins. Millais soon had a large family and after 1855 he had to paint faster and more. He grew rich, and lived the wealthy life of an English baronet. He also painted historical scenes and

sentimental pictures of children, which became enormously popular. He made scenes from plays of Shakespeare, such as the unforgettable image of the dead Ophelia floating in the water amidst bright flowers in pure colours. Some of the emphasis on religion, as wanted also by somewhat later Symbolist movements, can be remarked in the appeal to charity in the picture of the "Blind Girl". But the keen observation of nature, the use of bright colours, of realistic detail and of the Romantic mood that pervades the painting, as well as the innovative composition make of Millais an individual that renewed art as did his PRB friends. Millais did paint medieval scenes, but his choice of subjects after 1860 differed from those of other members of the PRB. He made themes that were less intellectual, more easily accessible, less loaded with symbols and mystic, and thus more popular, which assured him a wealthy income. But Millais remained the excellent painter of great talent.

The 'Blind Girl' appeals instantaneously. Maybe the theme is a little too easy for our over-sophisticated and modern unsentimental tastes, but the appeal has remained immediate. Millais painted with great skill of feeling for his theme and for the natural landscape. His composition is original, and so is the choice of his colours to a harmonious palette. Yet the composition is merely a new variation of a traditional structure. Millais belonged to the founders of a new movement in art that determined for a large part English painting of the second half of the nineteenth century. The PRB painters gave England its own particular style of painting. Some viewers will like and admire the 'Blind Girl' in all aspects of art, in first Impression, Discovery and Recognition.

Lesson Twelve – Harmony of Colours

Arte and Zeuxis are sitting in the garden of Arte's home. They are not sitting in chairs. They sit on the grass behind the house. Arte reclines in expectation of Zeuxis telling her about harmony of colours. But she is in a nervous and combative mood.

Zeuxis: In the previous lessons I mentioned the effects of the interference of adjacent colours on each other. We argued that these effects were more of a nuisance for the painter than for the viewer, and we explained that painters exploited the effects for their better goals.

Arte, impatiently: Yes, Zeuxis, but to where lead us all these explanations on effects of colours and all the theories you explained so far? The important question on colour seems to me not to be how and where colour impressions arise, and also not the difficulties of the painter in using paints on a canvas. The important question is the question of "beauty". What do viewers experience as sublime, as agreeable, as shocking or as simply ugly in colours? In this lies the secret of pleasure in colours for the viewer, and for the painter as a viewer and as an artist.

Zeuxis: So right, Arte. "Beauty" of colours has been called "harmony" of colours, even if there is a lot more to that subject than harmony. Many researchers, psychologists and of course also painters, have sought to determine the rules that determine harmony of colours. This quest for harmony has been going on since the conception of the art of painting.

Arte: How then would you define harmony?

Zeuxis: Harmony is the agreeable balance of parts in a whole. Harmony of colours is when the combination of coloured surfaces is agreeable to humans. Then we have an aesthetic experience of pleasure.
Why we experience agreeable feelings at certain combinations of colour and disagreeable ones at other combinations remains elusive. Definite and final rules of harmony have not yet been scientifically and conclusively tested. Many individual opinions have been proposed, but the concept of harmony is really hard to define in unequivocal terms.

Arte: How did the concept evolve in history then?

Zeuxis: Scientists, art critics, and artists were not just after trying to explain the unexpected colour effects of juxtaposed coloured surfaces, which could not be easily explained by any physical theory of light alone. They were also trying to understand which colour combinations were agreeable to humans, in other words which combinations were "harmonious" and which were not.
Pablo Picasso (1881-1973) expressed the notion in 1935 in simple and direct words, "Actually, you work with few colours. But they seem like a lot more when each one is in the right place". [G86.]
This puzzle interested painters since always. Leon Battista Alberti (1404 – 1472) was one of the first Renaissance artists to write on the art of painting. He stated in his book

"Della Pittura" of 1436, that great variety of colours added to the pleasure and the fame of a painting. The subject of what was pleasing in colour and what was not, fascinated and continues to fascinate theorists of art. The question is difficult, and we may be certain that taste, that is the appreciation of harmony, has evolved with history. We believe the answer to what is harmonious in colours can only be described in very relative, subjective and inconclusive terms.

The German physiologist Ernst Wilhelm von Brücke (1819-1892) wrote in 1865 on colours in terms of small and larger intervals, in a book on the contrasts of colours. He wrote that colours of small intervals are the colours that lie next to each other in the natural spectrum. The physical transitions and also the colour transitions between these two are small, and their transitions were generally perceived as agreeable. Colours of larger interval are further away from each other in the natural spectrum, like red and yellow, green and blue. For these colours in general, Brücke thought the complementary colours were agreeable in adjacent combinations.

Later on, German and Austrian scientists at the end of the nineteenth century made explicit experiments on the perception of colour harmonies, as perceived by humans and reported on these. They discovered and confirmed two rules.

The first rule was that a combination of two colours is the more agreeable as the components differ from each other. The second rule was that when a colour is combined with brightness without colour (white grey, black), or when one combines two colours of different brightness, then always the larger difference in brightness is preferred.

So these two rules, one on the complementary colours and the other on the contrast, seem to work in our perception of colours.

Agreeable colours seem to seek a maximum of difference between each other!

Arte: That explanation does not help me much, Zeuxis!

Zeuxis: One might explain the effects of hard contrasting colours, and the affinity for complementary colours lies in the fact that our eyes and mind need to process more information on colours that do not differ much, which takes more effort. Seeing contrasting colours would need less information and thus less effort.

A coloured area excites on the retina a colour perception, but that colour seems to excite by an effect of overshoot the complementary colours in neighbouring zones. Our eye and mind, in an effort to perceive most clearly the differences existing in nature, here colours, seem to prefer the largest differences in hues and tones of colours. That is the easiest and thus the preferred.

Leon Battista Alberti already wrote that there was grace when one colour was greatly different from the others near it.

Arte: Johann Wolfgang von Goethe also well described such effects in his experiments.

Zeuxis: And so did Michel-Eugène Chevreul. The Retinex theory explains that contrasts in reflectances are actually at work in our colour vision system, so we should not be surprised by the fact that this system works best on strongest contrasts, and seeks these in the first place.

Such rules seem to work on just a few colours. When however many colours are combined, very contrasting combinations do not remain agreeable. That is probably

why the greatest painters combined mostly less contrasting hues and more subdued hues.

The effect of combinations of colours on humans depends not only on the colour itself, but often also on our expectancy of colour as linked to an object. For instance, normal tasty food may cause aversion and even sickness when the colour of it is unnatural. Displays of unusual colour combinations in special illumination make people uncomfortable and appear repulsive. Certain colour combinations, as connected to objects, are viewed as pleasant, other as unpleasant, not harmonious. Leon Battista Alberti wrote about colours in 1436, and he found that rose near green or near sky-blue was agreeable. White placed near almost any other colour gave gladness. Dark colours stood with dignity among various light colours. Yet, Alberti told to use white and gold sparingly. He particularly liked the contrast of colours and he wrote in "Della Pittura" that different colours always had to be used near each other, and also that clear colours needed to be adjacent to darker hues.

Lodovico Dolci in his "Dialogue on Colours" wrote in 1565 that certain colour combinations were agreeable. Grey next to dark orange, yellow-green next to pink, blue next to orange, dark purple next to dark green, and white to black or white to flesh-colour were agreeable.

Arte: I remember now that Johann Wolfgang von Goethe was also very much interested in the secrets of the harmony of colours. He wrote that there were three leading categories in colours: the powerful, the soft and the splendid.

Powerful colours were yellow, yellow-red and red. These were active colours. Violet and blue, still less green, were less powerful.

Soft colours of the passive side were blue, violet, and much green. Soft were moderate additions to these colours of yellow-red and red-yellow. In each of these two categories the complementary colours were to be excluded to a minimum. Goethe called these two divisions harmonious each in their own right. But the full harmonious effect he said, was only created when all colours were exhibited together in due balance.

Combinations of powerful and soft colours on their own and only were agreeable, but the splendid was all the chromatic scale of colours together in due balance. And as stated already, Goethe found that the eye expected next to any colour surface a surface in the complementary colour. This was one of the basic rules of colour harmony, then, Zeuxis.

Goethe furthermore also defined agreeable combinations and wrong combinations. The transitions from yellow over yellow-red to red were pleasant, as well as the transition from blue over blue-red to red. Yellow and green was agreeable, but blue and green together were called the "fool's colours". Red and green plus black were dark and grave, whereas red and green plus white were a happy combination.

Charles Loch Eastlake, Goethe's translator to English, remarked that the colours of the great master painters were in their ultimate effect more or less subdued or broken.

Zeuxis: What then is harmony in colours, is very difficult to determine and to fix in rules. Colour harmony is what we perceive as agreeable, successful colour combinations. The combinations may please the eye in various ways that are not easily explained. Moreover, harmony is very subjective. We know that among the myriad of combinations of colours many combinations are pleasant. We also know that other factors, such as the natural colours of objects (that is the influence of the content of a picture), and the balance in the composition of coloured shapes play a

role. Moreover the breaking of harmony may add to the expression of the artist. The painter may have used more dissonant colour combinations, and broken the structural balance of colours to create tension in a picture, or to draw the attention of the viewer to particular places elements or scenes.

Zeuxis draws out his magic screen and presents to Arte three paintings in various windows of the screen, paintings he showed before.

➜ Josef Albers (1888-1978). Study for Homage to the Square; Beaming. The Tate Gallery. London. 1963.

➜ Mark Rothko (1903-1970). Dark over Brown Nr. 14. Musée National d'Art Moderne. Paris. 1963.

➜ Fra Angelico (ca. 1400-1455). The Coronation of the Virgin. Musée du Louvre. Paris. Ca. 1430-1435.

Zeuxis: Look again at Josef Albers' "Homage to the Square" and to Mark Rothko's "Dark over Brown". Here, colours are used that do not obey any intuitive "rule" of harmony as we have stated above. Yet these pictures have a strong and strange attraction.
Quite the contrary of such pictures is Fra Angelico's "Coronation of the Virgin". Here, we find all the chromatic colours in very pure and light hues assembled in symmetry, and added with the spiritual content, this painting is really a splendid picture. We like intuitively and without restraint a Fra Angelico. But are we not fascinated at least as much by the Rothko and Albers painting, which were deliberately made in tension of disharmony?

Arte: Yes, Zeuxis. Those paintings are really marvellous. They weaken my mood, and when I see these pictures I grow warm inside, yet I get chilly in my spine and I feel so restful. Time flies by and I couldn't care less. These paintings are eternal. They are paintings of spirituality!

Zeuxis waves his hand in front of Arte and says: Come back on earth, girl. Here comes a piece of heavy theory, Chevreul's theory of harmony!

Arte, dreamily: Fine, Zeuxis, I am with you again.

Zeuxis: Michel-Eugène Chevreul also gave his opinion on agreeable combinations of colours. He experimented for months combining colours, studying the effects and with his collaborators, he tried to form an opinion on the quality of the combinations. This was very important for the Royal Manufactories of the Gobelins where Chevreul was director of dyes. Chevreul decided to study when colour combinations were agreeable to viewers and when not. He described his personal preferences, and was aware of that subjectivity, but he still thought his preferences to be universal in all humans.

Arte: Which colours did Chevreul like?

Zeuxis: As single colours, Chevreul liked light blue, pink, deep yellow, light green, and violet.

The combinations red and green, blue and orange, yellow and violet, yellow and green, yellow and blue he found agreeable. These were of course mostly examples of the simultaneous view of complementary colours, as he had defined them. Passable combinations were red and yellow, red and blue, orange and yellow, orange and green, orange and violet, and green and violet. He liked the series of tones of the same scale, which begins with white and terminates with black.

Chevreul wrote that the simultaneous view of different colours belonging to scales more or less near each other could be agreeable, but an agreeable effect was difficult to obtain, because the colours often injured each other. He proposed then to sacrifice one of the colours and lower its tone to make the other more vibrant.

For Chevreul, passable contiguous colours were red and yellow, red and blue, orange and yellow, orange and green, orange and violet and green and violet.

He found particularly bad the juxtaposition of red and orange, red and violet, green and blue, and blue and violet. These were a combination of one of the primary colours with a secondary colour obtained from this primary. But that combination was still better than using as adjacent colours a primary with a complementary not derived from that primary. Chevreul decided that combinations of blue and violet were worse than red and violet, and yellow with orange was better than blue and green together.

When two non-complementary colours were placed adjacently, they could in some cases improve each other (when they were dissimilar enough such as yellow and blue), mutually injure each other (when they were both similar such a violet and blue) or one might get improved and the other injured

Light blue, pink, deep yellow, bright green, violet and orange gained from being assorted with white. But juxtaposing dark blue and dark red with white, or dark green and violet with white, gave bad effects, because these formed too strong a contrast of tone. Orange and white, two brilliant hues combined, was too bright a contrast, and for yellow to be agreeable with white Chevreul, proposed to take the highest tone of pure yellow to produce a good effect.

Arte: So these were Chevreul's preferences on colours and their combinations. What were his proposals for harmony then?

Zeuxis: Chevreul decided on six harmonies of colours, comprised in two kinds, which he called the harmony of analogous colours and the harmonies of contrast.

The Harmony of Analogous Colours

Zeuxis: In the harmonies of analogous colours, Chevreul first cited the harmony of scale. This was produced by the simultaneous view of various tones of one scale of the same hue, whereby the tones were more or less approximating.

Secondly he cited the harmony of hues produced by the simultaneous view of tones of more or less the same height, belonging to hues that were more or less approximating.

Thirdly he wrote of the harmony of a dominant coloured light, whereby different colours are viewed, assorted comfortably to the law of contrast, but one of them predominating.

Michel-Eugène Chevreul preferred this harmony of analogue colours to harmony of contrasting colours. Chevreul did not well define what he meant by analogue colours, but we may assume that he meant colours of almost the same hue and, or almost of the same tone.
So, Chevreul preferred paintings and Gobelins tapestries made entirely in colours that differed not too much from each other. That was a personal preference however, and a preference of a dignified French professor of the middle of the nineteenth century. We can very well suppose that taste has evolved, and also that taste differs among people. So, when one class of people prefers analogous colours, should a person who prefers vividly contrasting colours be considered vulgar? In these lessons we will propose the dominance of the particular taste of the individual viewer and we will not impose any particular definite, final opinion. It remains for every viewer to decide what he or she prefers, and that opinion is to be respected!

Arte: Could you somewhat better illustrate the various harmonies of analogue colours of Chevreul with a few examples of paintings or drawings, Zeuxis? It is not very clear to me what Chevreul meant.

The Harmony of Scale

Zeuxis: Chevreul told that a picture in all the same colour hue, but wherein the various tones of that same hue all appear is harmonious.
Examples of such pictures are all drawings, engravings or etchings, which deliver black and grey images on white paper. Here, the artist uses all tones of grey. Equally under this category fall grisaille and camaieu paintings, especially when they are made with chalk on paper. But also oil paintings can be made thus in all the tones of one hue, or in one dominant colour tint with varying tones of this hue or very similar ones. Chevreul stated that the tones should be approximate, without abrupt contrasting combinations.

Zeuxis puts his magic screen back in place and shows a drawing of Michelangelo.

➔ Michelangelo Buonarroti (1465-1564). The Dream of Human Life. The Courtauld Institute Galleries. London. Around 1533.

Zeuxis: We look at "The Dream of Human Life", a drawing made in black chalk on paper by Michelangelo Buonarroti. The picture represents the dream of a human. A heroic youth sits on a box, holding a globe, representing earth. The angel blows on a trumpet, close to the head of the youth, to blow away sinful images, and to bring the youth to virtue. Michelangelo depicted the Seven Deadly Sins behind the young man, whereas beneath we see masks in a box, representing illusions.
The entire picture comes to us now as soft shades of black. We admire especially the way Michelangelo sculpted the body in delicate changes of grey zones.

The Harmony of approximate Hues

Zeuxis: Chevreul wrote on the harmony of approximate hues. This is the harmony of hues that are similar to each other and that also are of the same tone and the same intensity.

Zeuxis shows another picture on his screen.

➜ Juan Manuel Díaz Caneja (1905-1988). Landscape. Museo Nacional Centro de Arte Reina Sofia. Madrid. 1962.

Zeuxis: We look at a picture of Juan Manuel Díaz Caneja, a Spanish figurative painter who became known after World War II. Caneja's painting "Landscape" of 1962 shows a view of nature with a high horizon, as seen from an airplane.
All the hues of the ground are soft and more or less approximating. They are clear in light, and all the tones of the various colours are similar. We see faint yellow and faint brown, with here and there a very light pastel blue. The colours of the sky are in various tones of the same scale. Caneja's picture is an example of what Chevreul called the harmony of analogous colours. Since the hues in Caneja's painting are so harmonious, a feeling of quietness and repose radiates from his view. Chevreul did not define what he meant by analogous colours, but these colours of the same tone in Caneja's picture would surely have merited his term.

The Harmony of a dominant colour

Zeuxis: Chevreul wrote on the harmony of one dominant hue. In this colour harmony, the viewer sees various colours combined according to the law of contrasts, so that the colours do not destroy each other but mutually enhance, but in which also one colour dominates the picture.
The most immediate example is nature herself. Our image of nature is of the vast green pastures or woods in spring or early summer. Here the colour green dominates, yet we can find flowers of all colours. The green dominates all these colours.
In winter, snow covers nature with a white blanket, and this colour dominates any shade that may appear. In autumn, grey and brown shades dominate.

Zeuxis projects a picture of Gustav Klimt.

➜ Gustav Klimt (1862-1918). The Pear Tree. The Bush-Reisinger Museum. Harvard University. Cambridge (MA). 1903.

Zeuxis: Gustav Klimt made marvellous paintings of themes of nature. His picture "Birnbaum" or the "Pear Tree" shows a dominant green colour of the tree. But in the tree are numerous yellow and orange stipples. These colours are not the complementary colours of green, and thus could hurt any juxtaposed green colour. But the green dominates so much, that the yellow becomes more orange by the influence of the green's complementary colour, red, so that the whole is very peaceful and harmonious.

Zeuxis changes pictures again on his magic screen.

➔ Henri-Edmond Cross (1836- 1910). Ambiance of Evening. Musée d'Orsay. Paris. 1893-1894.

Zeuxis: To illustrate this further, we also look at a painting of Henri-Edmond Cross, a Pointillist painter of the eighteenth century. His painting "L'air du Soir", the ambiance of evening, is all in soft brown hues. Yet various contrasting colours can also be remarked. We see blue, orange, yellow, red and green. One colour dominates all other and transforms them to its overall tone. This is what Chevreul meant by using contrasting colours but one of them dominating.

The Harmony of Contrasting Colours

Zeuxis: In the harmonies of contrasts, Chevreul cited first the harmony of contrast of scale when two tones of the same colour scale, very distant from each other, are viewed.
Secondly for Chevreul, harmony was manifested in the harmony of contrast of hues produced by viewing tones of different height, each belonging to contiguous scales of hues contiguous on the colour wheel.
Thirdly, Chevreul cited the harmony of contrast of colours produced by viewing simultaneously colours of very distant scales, assorted according to the law of contrast. These then should preferably be complementary colours.
These rules refer to contrasts of one colour with very different tones, to contiguous colours but of very different tones, and to contrasts of very different colours, also at different tones and then arranged according to the complementary tints.
When colours do not accord well, and yet have to be used together, Chevreul proposed to separate them by white, grey or black. Painters had already come to the same conclusion I nearly times. But then, one had to take into consideration the tone of the hues and the proportion of sombre versus luminous colours.

The Harmony of Contrast of Scale

Zeuxis: One has harmony of contrast of scale when one finds in a picture the same colour hue, but represented in very different tone. For instance this happens in a picture when one sees areas of bright yellow and of dark yellow together. Or bright red and dark red, light blue and dark blue.

Zeuxis projects a painting by Titian.

➔ Tiziano Vecellio (ca. 1488-1576). Flora. The Louvre. Paris.

Zeuxis: Titian painted his "Flora" all in soft yellow-brown hues. We see only a few gradations of these yellow-brown colours, which are not exactly of the same hue but are contiguous on the hair of Flora, as well as the cloak she wears, in hues that are of

very different tone. Her hair is auburn, but still a brown hue, even though of delicate red-brown hues. The night robe of Flora is white, but Titian painted it in a creamy, very light yellowish-brown, which is almost the same colour as the colour of her flesh and of her face. Furthermore, Titian positioned Flora before a background of a very dark brown that is not exactly black, but bears some of the same hue as the whole picture.

The Harmony of more or less contiguous Hues at very different Tones

Zeuxis: In this contrast, almost the same colours, so colours of more or less contiguous scale on the chromatic circle, contrast in different tones.
Chevreul told that it was very difficult to create harmony in this way, because the similar tints could hurt each other, always applying his principle of simultaneous contrast and the modifications of tints it could induce.

Zeuxis shows once more a painting of Seurat on his transparent screen.

➔ Georges Seurat (1859-1891). "Un Dimanche après-midi à l'Ile de la Grande Jatte ". The Art Institute of Chicago. Helen Birch Bartlett Memorial Collection. Chicago. 1884-1886.

Zeuxis: We look at one of the most famous paintings of Divisionist art, a painting of Georges Seurat called "A Sunday on La Grande Jatte". We see here many hues in adjacent areas, but those hues do not obey the major rule of contrasts, which is the use of complementary hues. Yet the hues are almost of the same tone.
For instance, the lake is blue, but the trees above very green. Green and blue are not complementary colours, so might hurt each other. But Seurat painted them as not so vibrant hues, and in almost the same tone and intensity, so that the colours do not seem to hurt each other.
In the centre of the picture, a woman holds an umbrella to protect her from the sunrays. Seurat used an orange-brown in her shirt, but a variation of pink in the robe. These colours are of tints that do not differ very much, so might destroy each other, but Seurat found exactly those hues that seem to be symbiotic.
The people are situated on a green lawn, and the green lit by the sun is very bright, and altogether in a very different tint from the grass that is in the forefront in shadows. Yet, the hues form a harmonious combination. In the dark green are a man and woman on the right side, and Seurat painted the dress of the lady in dark blue-purple tints. The two dark colours being both equally dark and not complementary colours, might have hurt each other, but Seurat brought a slightly brighter border of green around the dress. That hue differs much in tone from the dress, re-establishing harmony as harmony of contrasts.

The Harmony of Contrasts

Zeuxis: In the total harmony of contrasts, very differing and preferably complementary colours of very different tones and intensities can be used. For

harmony to occur, the colours have to strengthen each other, so be complementary colours.
Chevreul wrote that among all the harmonies of contrast this harmony of complementary hues was the most desirable, the most agreeable.

Zeuxis projects Gino Severini's landscape.

➔ Gino Severini (1883-1966). Landscape in Civray. Private Collection Rau. Germany. 1909.

Zeuxis: We look again at Gino Severini's "Landscape in Civray". Severini used only a few hues in this picture, mostly red, orange and green. These colours are bright, but all soft. Although red and green are contrasting colours, they are so mixed in small brushstrokes as to be almost of the same feeling, and they seem to enhance each other. Severini brought the colours to tones of the same intensity. The shadows are green, and so are the bushes and trees in the background.

Arte: Zeuxis, can you show me again Fra Angelico's "Coronation of the Virgin"?

Zeuxis, bringing the picture up on his screen: Sure, Arte. What is on your mind?

➔ Fra Angelico (ca. 1400-1455). The Coronation of the Virgin. Musée du Louvre. Paris. Ca. 1430-1435.

Arte: Fra Angelico's picture of the "Coronation of the Virgin" showed many contrasting primary colours juxtaposed too, Zeuxis. Angelico, however, combined mostly bright blue with yellow-gold in this picture. These two colours form the overall hues and colour feeling of the painting. Yellow and blue are complementary colours, so they contrast very much, and this contrast dominates the picture. Within the overall hues, he placed a few red and green colours, but these remained overall quite limited in surface. These colours remained soft, and far in scale from the other hues. Moreover, Fra Angelico often if not always separated blue and red, blue and green by thin whitish or yellow and gold zones. He used a harsh green in a Saint on the left, but then he juxtaposed not full red but a very diluted pink hue in the cloak of a neighbour.

Zeuxis: You are very observant, Arte. Soon you will be able to be a teacher yourself. Now, a last example!

Zeuxis shows a picture of Renoir.

➔ Pierre-Auguste Renoir (1841-1919). La Balançoire. Musée d'Orsay. Paris. 1876.

Zeuxis: Lastly, let us have a look at Pierre-Auguste Renoir's picture "La Balançoire". Here, Renoir used contrasting colours in a very obvious way. The girl wears a yellow-white dress, and on this dress are bright blue flower motives. The man also wears a blue jacket. On the road are blue and yellow flowers. Blue and yellow are complementary colours, and Renoir could not have shown them in a more contrasting way. The contrast brings joy and energy of laughter, and happiness in the painting.

Arte: I observed something else, Zeuxis! When one considers the three colours red, blue and green and combines these in paintings, then often a problem occurs. Red and green match harmoniously, also when they are used in different tones. Red and green are approximately each other's complementary hue. But the complementary of blue is a shade of yellow. So, blue does not match well with red and green.

Zeuxis: That is very true, indeed, Arte. Rembrandt for instance, used but little blue, and so did Titian in his later pictures. Discovering blue in a picture of Rembrandt and Titian is a real quest! Blue did not match with their ochre, red, brown, olive green colours.

Separating Contrasting Colours

Zeuxis: Chevreul wrote that when two hues did not accord well, they gained by separating them with white. White darkened somewhat both colours and thus subdued the other hues.
Painters have used this principle often. We already saw an example in Georges Seurat's painting, as he brightened a small border around one dark colour (purple) to separate it from another non-complementary dark tint (green).
In the "Madonna of the Magnificat", Sandro Botticelli judiciously separated all hues by a bright yellow or golden tint, close to white.
Black particularly was good to separate hues, because for Chevreul black never produced a bad effect when associated between two luminous colours. For such separation, black was better than white. Black associated with sombre colours such as blue and violet or with broken tones of luminous colours produced harmony of analogy, and that was always an agreeable effect for Chevreul. But Chevreul thought of his law of simultaneous contrast, so he added that black did not go well together in between two colours of which one is luminous and the other sombre. Black was then inferior to white as separation colour.

Zeuxis: A colour between white and black was grey. Chevreul told that grey never produced a bad effect in between two luminous colours. But these associations were rather dull and inferior to combinations of those colours with black and white. Grey in combination with dark colours, or with broken tones of luminous colours, produced harmony of analogy. But these did not have the vigour of black, even if grey at least separated to some extent the dark hues from each other. Chevreul considered that grey associated with two other colours, one of which is luminous and the other dark is better than white, because white could produce too strong a contrast of tone. And these combinations with grey were also better than with black, as black increased too much the proportion of darker tones.

Arte: You have in several of your lessons referred to Titian and Rembrandt, Zeuxis. These two painters discovered the force of dark tones to enhance the hue of rare patches of colours.

Zeuxis: Yes, Arte. Rembrandt discovered this effect very early as it might have been brought to him by the example of Caravaggio. When Rembrandt was still a young man, his palette was very lively, maybe as lively even as Fra Angelico's. But after the

paintings of his youth, his style evolved to sombre backgrounds that brought extremely high power in but a few colours.

Titian however, died before Caravaggio really made his masterpieces. Titian discovered the principle late in age, so we may regard this to have been the culmination of a powerful feeling for colours that grew stronger with age in a painter who did not have to prove anything anymore, and that continued to experiment in ways of expression.

Chevreul's advice on Harmony

Zeuxis: Chevreul furthermore remarked that in every composition of small extent, as in paintings, the colours as well as the objects represented should be distributed with symmetry. He gave the contrary composition the term "spotty", for want of a good distribution of objects. Through the study of harmony of colours, Chevreul had also reached concepts of harmony of composition.

He advised painters particularly to bring out a colour by contrast, in employing either light tones complementary or more or less opposed. And he proposed employing a broken tone of a hue complementary to a contiguous colour more or less pure. He proposed to the portrait painters to endeavour to find the dominating colour of the complexion of a sitter, and then to assort among the accessories such colours that impart value to the complexion of the figure in the portrait.

As a conclusion of the extensive investigations of Michel Eugène Chevreul into the effects of contiguous colours, one must state that the only association of two colours that improve strengthen, purify each other is, when the two colours are each others' complementary.

Arte: A painter who did just that was Fra Angelico and that may be one reason for why I admire his pictures such as the "Coronation of the Virgin" so much. Another painter who was particularly sensitive to this effect, was Sandro Botticelli. We find in some of his paintings an almost obsessive interest to separate colours, but also to show the primary colours combined. An example of this is his "Madonna of the Magnificat".

These painters also preferred brilliant, pure hues, for such hues attract viewers immediately, because the mood of the picture is then cheerful.

Zeuxis: Chevreul made a remarkable stand when he stated that it was his conviction that the greatest artists could not free themselves from certain rules without compromising art itself. He wrote that in this connection, he certainly considered the arts of painting, which employed coloured materials in a state of infinite division. Chevreul was thinking of tapestry making. In tapestries one can mix thin threads of stuff together in various proportions, like one thread of black to every three of red.

Zeuxis halts here with his conservation. Arte, after a short while, looks at Zeuxis interrogatingly.

Arte: Was that it, Zeuxis, do I know everything there is to know about harmony?

Zeuxis: I was just thinking, Arte. No, there is another principle still to learn. We have to go back to a concept we also spoke of when we discussed the elementary shapes. That is the concept of balance.

Balance of coloured areas

Zeuxis: In the previous lessons we have developed various principles of harmony of colours. This was done independently of the shapes of the coloured areas. We merely discussed combinations of colours without taking into account the shapes of the areas of composition. Yet, the same rules or principles apply as we have explained in the chapter on harmony of composition, with the addition of the relative values of colours.

Harmony of forms lies in the repetition of approximately the same shapes or masses, whether simply repeated or rotated in a certain direction, or gradually modified in dimensions and overall shape. Symmetry can be applied, and generally balance needs to be conserved. Colours help in realising and emphasising these principles!

Just as balance and hence harmony is in the gradual displacements of forms, balance is in gradually evolving hues, saturation or intensity of the coloured areas. Symmetry can work on colours also. Dark areas can balance other dark areas, but dark areas can be surrounded by lighter areas, which they then bring in equilibrium. Finally, principles of gravity can be exploited, by which areas of a certain shape and colour balance other areas of different characteristics.

The combinations of colours are endless, as is their use on areas of paintings.

Each hue has an inherent value of tone in relation to other colours. This can be best illustrated by looking at the colour wheel. Red is "darker" than orange, violet is darker than green. One could assign numbers of increasing brightness to this notion.

So, violet may have a value of 3 and yellow, its complementary, a value of 9. Orange would have a value of 8 and red of 6, whereas blue would have a value of 4 and green 6 also. Such numbers are entirely arbitrary, and subjective. But they can be used to explain the weights of areas in composition. A violet area would have to be much larger in dimensions to match in balance a yellow area. In fact, these are the values that Goethe suggested. [G97.] In general, in order to conserve balance in a picture, the darker areas will have to be larger than the lighter areas, and the pure hues of high intensity will also have to be confined to smaller surfaces of paint.

In order now for colours to balance each other, the shape of a violet patch should be three times smaller than a yellow surface. A blue surface should be two times larger than an orange one, whereas green and red areas balance each other when they are of equal size. The sizes of the surfaces should then stand in the proportions of 9 for violet, 3 for yellow, 4 for orange, 6 for red and green and 8 for blue in order for the colour surfaces to balance each other. Johannes Itten called this the "Contrast of Extension".

Arte: The concept can be seen in Wassily Kandinsky's painting "Yellow-Red-Blue", Zeuxis! Please show that picture once more.

Zeuxis projects Kandinsky's picture.

➔ Wassily Kandinsky (1866-1944). Yellow-red-Blue. Musée National d'Art Moderne. Centre Pompidou. Paris. 1925.

Arte: The dark blue area on the right is smaller than the yellow-brown shape of the left side. Kandinsky painted a well-delineated dark blue circle, and he combined that with a large yellow-brown more diffuse area. In this way, the tonal value of a colour joins the forms in the concepts of general harmony of composition.
Kandinsky favoured the yellow hues, thereby forcing the blue even further to the background. He deliberately did not balance the colours, but brought the yellow area of the left to the forefront and he pushed the blue closed circle to the cosmos.

Zeuxis: Colours in a painting can also carry a quality of weight that enters in the equilibrium of harmony. Dark colours are heavier that light colours, as the earth is darker than the sky. So, darker colours near the bottom of the panel appear to be more natural, give more a feeling of comfort to viewers. Putting dark colours on the top of a painting and lighter colours below would not seem natural, and be a surprising effect! This inversion has rarely been used in paintings, since viewers have a natural feeling for what is low and high, also in colours.

Zeuxis presents a Renaissance picture on his screen.

➔ Francesco Raibolini called Francesco Francia (1450-1517). Sacra Conversazione with Saints Petronius and Luke. The Picture Gallery of the Academy of Fine Arts. Vienna.

Zeuxis: Let me illustrate the concept of balance of colours with a picture of Francesco Raibolini, also called Francesco Francia, a Bolognese artist who worked around the turn of the sixteenth century. Francia lived in Bologna from around 1450 to 1517. The picture we will use is the "Sacra Conversazione with Saints Petronius and Luke". The picture is signed and dated 1513, and it is now in the Picture Gallery of the Academy of Fine Arts of Vienna, Austria.

Zeuxis: We see the Madonna seated on a stone throne resembling an altar, holding the baby Jesus on her lap. This is a traditional 'Sedes Sapientiae' picture, with Jesus standing on the seat of wisdom, which is his mother Mary. Mary is dressed in a deep blue maphorion and her robe is a very saturated red, which can also be found in the curtain behind her. Later on, Mary's colours would evolve to blue and white and the blue would be of a much lighter tone. But Francesco Raibolini used the darker, warmer colours of tradition. Saint Luke the Evangelist stands at the right of the picture, equally dressed in blue and red, but the colours are reversed in his dress. He wears a red cloak over a blue robe. This represents only a moderate, welcome mutation of the use of colours in the central figure of the Virgin. Saint Petronius stands to the left. He wears a grey robe and a golden cloak. We may believe that Francesco Raibolini did not want to break with the traditional representation of the Virgin, so she holds Christ at her right, which is to the left side of the picture.

Arte: We may believe that the painter wanted to continue the same colours on both sides. That meant painting Saint Luke in the colours of the Virgin and Saint Petronius in the colours of the child Jesus, thus in brighter colours, such as in the yellow-gold and silver-grey that we see. We also might argue that the importance of a divinity like Jesus could easily balance the relative importance of a minor Saint like Petronius, and hence accept the balance of the lighter colours between Jesus and Petronius.

Zeuxis: That is right, Arte. But in using the darker, warmer colours to the right of the picture, and the brighter red and blue colours in the centre, as compared with the yellow hues on the left, Raibolini create a visual imbalance that draws the attention of the viewer to the heavy right, which is a side that is already enhanced for most people as a natural emphasis and preference of view. Raibolini might have reached better visual balance by painting Saint Luke in brighter and lighter tones, which would have better matched the colours of Petronius to reach more balance.

Arte: The painter was faced with a problem however, which was almost insurmountable. He wanted to express a link between Saint Luke and Mary. We see the head of the Virgin neighing towards Luke. Raibolini wanted to show the bonds between the Virgin and Luke also in colours, painted them in the same colours, and thereby he drew the warmer colours to the right. He contrasted the warm temperature of the right part of the picture with the colder, more splendid but more intellectual, brighter colours of Saint Petronius, which could be linked to the concept of the divinity and thus to Jesus. The picture was hence balanced in ideas, in concept, and also in lines, but Raibolini had to leave a picture that in first impression and thus in emotion is visually asymmetric, unbalanced in colours.

Zeuxis: Yes, Arte. Wilhelm von Bezold once remarked that the whole mood of a picture could change by modifying once single colour. One cannot but wonder how Sandro Botticelli or Raphael might have handled the subject of Raibolini's "Sacra Conversazione" in colours.

Arte: Now that we studied balance in areas of colours, Zeuxis, I would like t know what other writers and artists thought of that concept. Can you explain some more?

Zeuxis: I sure can, Arte, but I am growing tired of speaking so much. I'll write you a letter and you can read all that at your ease then.

Arte: Sure, that is a good idea, Zeuxis. I can study some on my own now.

Zeuxis sighs and disappears. Arte remains alone, thinking about all she learned on colours.

Fifth Letter of Zeuxis to Arte: Theories of Harmony after Chevreul

My dear Arte,

Many people have pondered over the harmony of colours. I describe hereafter some of their theories. Take patience: this is heavy stuff!

Wilhelm von Bezold (1837-1907)

Von Bezold's theories on harmony joined those of Goethe and of Philipp Otto Runge. Analogous colours in the circle of twelve colours are contiguous colours, and for Bezold these were harmonious when combined. Bezold wrote on the notion of relative brightness of each hue. In harmonious colours, the relative brightness of each hue had to concord also. Bezold found that colours that were further away from each other on the colour circle did not go well together. So, these hues were un-harmonious. Only when the distance between two colours became large, did Bezold find again harmonious contrasts. In combinations of three colours, harmony was thus obtained when the distance between the colours was the same.

Albert Henry Munsell (1858-1918)

Munsell was a north-American painter. He wrote a book with the title "The Grammar of Colour", in which he presented his concepts of colours. He proposed five major hues: yellow, green, blue, purple and red. He devised a colour wheel of twenty colours. Munsell defined these colours as the basic hues. He came to that conclusion from perceptions of afterimages, that is of hues perceived after one looks for some time at a hue and then diverts one's glance away from that hue and on to a white background. Munsell placed the afterimage colours on opposite sides of his circle. Munsell also proposed a numbering system for hues, which was later adopted by the United States Bureau of Standards, and that has remained influential to this day.

Munsell wrote on harmony and he proposed five rules for harmony.
Rule one was that as few hues as possible should be used; if more hues were combined together, they had to be similar for Munsell.
In rule two, he proposed to combine hues of different tone, but he stated that a balance between these was needed so that for instance one part of brightness was balanced by three or four parts of less bright colours.
In rule three Munsell proposed to combine very pure with less pure colours, and again to hold these in balance.
Munsell's fourth rule described these balances in surface areas. He stated that the dimensions of the areas should be inversely proportional to the products of purity and brightness of the colours of these surfaces.
Finally, in a last rule, he said that harmony was reached when three out of the four foregoing rules were realised. Munsell thus stated that there were three characteristics of colours: hue, purity and brightness. He also emphasised the notion of balance of areas of colour.

Wilhelm Ostwald (1853-1932)

Wilhelm Ostwald was a professor of chemistry and physics at the University of Leipzig in Germany. He won a Nobel Prize for chemistry. Ostwald also wrote on his notions of harmony of colours in a book called "The Harmony of Colours".
He wrote that there was one major rule by which colours go well together, and that was that their characteristics should be in simple relations to each other.
For instance in the grey scale, the relations between hues are indeed straightforward, as only the degree of white and black can vary. A simple relation was also when two hues could be combined with a third to obtain a neutral grey. Ostwald discussed many cases of combinations of colours, and his notion of "simple relations" that could be found between them to determine harmony or the lacking thereof, and hence their discord. Ostwald stressed the importance of tone. He found that any colour could harmoniously be combined with any other, as long as their tone was similar. This however did not work well for hues that were already similar. Ostwald used a colour circle of twenty-four colours. He stated that mostly two complementary colours went well together, or three, or four or eight colours of the circle, as long as they were similarly situated at symmetric intervals on the circle.

Other writers

Other writers of the end of the nineteenth century and somewhat later were Adolf Hoelzel (1863-1934) and Paul Renner (1878-1956). Michel-Eugène Chevreul made his discoveries on the changes in perception of juxtaposed colours in the 1830's, and he then also formulated his views on harmony of colours. These are still much the soundest basis for contemporary theories on colour perception and on harmony. Very few scientists and artists of the twentieth century have studied colours so extensively as Chevreul, and fewer still published additional ideas.

Two of the best-known teachers on colours were Josef Albers (1888-1976) and Johannes Itten (1888-1967). They were both born in the same year, both Germans and both taught at the Bauhaus institute founded by Walter Gropius in Weimar. Itten taught form and colour from 1919 to 1923. Wassily Kandinsky followed him for the course on colour, whereas Albers taught later after the Bauhaus' departure for Dessau. Johannes Itten published his book "The Art of Colours" in 1961; Albers' book "Interaction of Colours" was published in 1963.
Various other authors and painters wrote on colours, such as the painter Hajo Düchting. Düchting wrote a book that gave a synthesis of previous theories.
The psychologist Rudolf Arnheim also handled colours in his book "Art and visual perception", published in 1952 and revised in a new edition in 1974. We will also mention Arnheim's ideas on colours.

Josef Albers' views on Colours

Josef Albers mostly explained how colour effects could be made aware to students. He did not formulate new rules for harmony, and barely touched the subjects that

Chevreul had studied. He emphasised the subjectivity in the perception of colours, his scepticism with theory, and his belief in practical exercises in the teaching of colours. He described marvellous exercises to demonstrate the effects of simultaneous contrast.

Albers stated that his studies on the size of areas of colours, which he called his "quantity" studies, had taught him that independent of harmony rules, any colour "goes" or "works" with any other, presupposing that their quantities were appropriate. He wrote that it was fortunate that there were so far no comprehensive rules for such aims.

Josef Albers noted that effects of simultaneous contrasts often appear as shadows on one side of a boundary between two colours, and as light reflected on the other side. He remarked that these effects occurred most perceptibly between colours that were contrasting in their hues, but also similar in light intensity.
He much relativised the theories, as they had been devised with colour areas of particular sizes. He even stated that the boundary effects of simultaneous contrast were perceived under the same conditions by some people and not by others and that – though rarely perceived – the articulate boundaries could be made nearly invisible through the choice of appropriate colours of equal light intensity.
Moreover, he emphasised that colour harmonies were not the only desirable relationships between colours. He wrote, "As with tones in music, so with colour – dissonance is as desirable as its opposite, consonance."

Albers' views are very wise. His views lack maybe in delicate analysis, but gain in synthesis. Albers, as other modern writers, proposed to prone individual taste over analysis of colour harmony.

Johannes Itten's ideas on harmony and contrasts

Johannes Itten noted the obvious subjectivity of the concept of harmony. He wrote that the assertion of harmony or discord referred simply to scales of appreciations like agreeable-disagreeable or attractive-unattractive, which remained very subjective attitudes. Like Josef Albers, he found primarily that harmony implied balance and symmetry of forces.

Itten pulled the concept of harmony therefore into the purely objective domain, in order to be able to share a definition, and he based this definition soundly on the complementarity of colours.

Itten devised a colour circle logically derived from the three painters' primaries yellow, blue and red.
These three colours give rise to three secondary colours as they are combined: green (blue plus yellow), violet (blue plus red) and orange (red plus yellow).
The three secondary colours can be combined in their turn with the three primary colours to give rise to six tertiary colours, whose names denote the combinations: yellow-orange, red-orange, red-violet, blue-violet, blue-green and yellow-green.
Itten thus obtained in all twelve different colours, which he positioned on his colour circle, but configured as a ring. We reproduce this in the following figure.

Plate 76

The Colour Ring of Johannes Itten
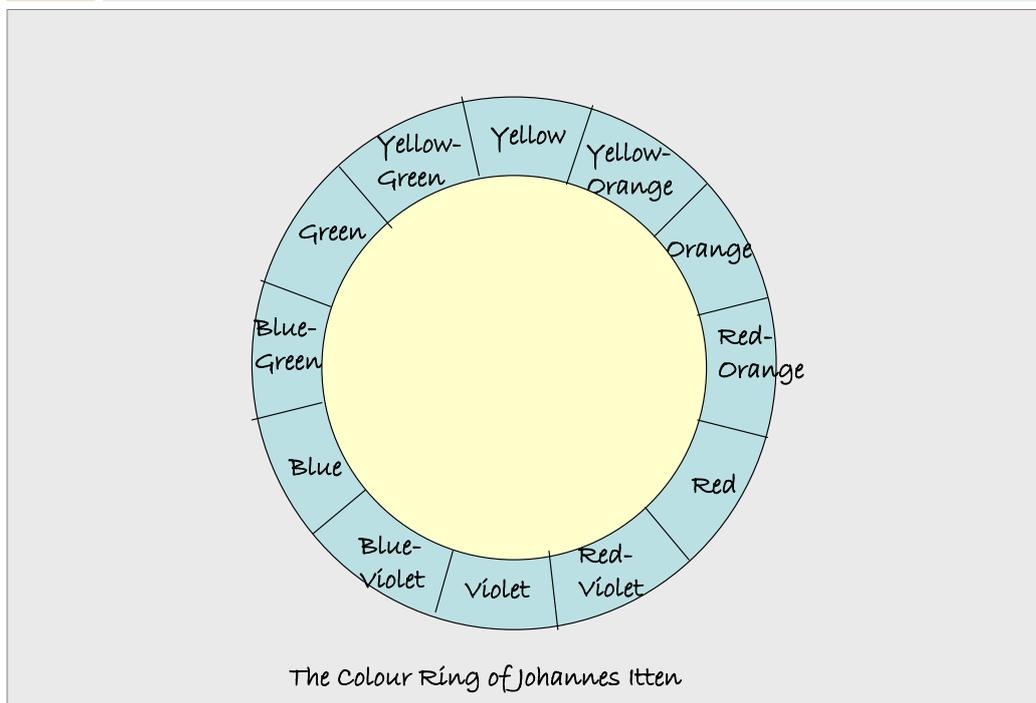
Itten gave an almost mathematical definition of harmony.

He stated that harmonious were the complementary pairs of colours, the colours that lay on opposing ends of the radius of the colour wheel.

Harmonious also were the combinations situated at the corners of the equilateral and isosceles triangles, rectangles and squares, as well as of the two hexagons that could be inscribed in the ring. Such combinations of colours yield in a subtractive mixture of paints a neutral grey.

All other combinations, he called expressive or discordant in character.

But Itten quickly added that many great paintings used this expressive intonation to exciting and provocative effect. So, Itten very much relativised the necessity for harmony as an absolutely desired sensation of perception, that naturally evoked feelings of pleasure. He did not spend much time on elaborating rules for colour combinations that could explain what could have agreeable or disagreeable effects on viewers. He almost dismissed the notion, calling it an entirely subjective criterion that was in the realm of individual taste.

Itten preferred to remove the concept of harmony from that subjective sphere, to give it a definition of logical construction that was both universal and objective. This construction was derived from the subtractive mixing of paints. Itten therefore used a painter's definition and view on harmony.

The concept of harmony according to Johannes Itten is entirely based on fully saturated hues, and on hue only. The properties of tone and intensity do not enter the definition of harmony for him.

Both Itten and Albers did away with the attempt of Chevreul to define criteria for harmony that included all three characteristics of colour, and they refused schemas like Chevreul had given. If Albers hardly spoke of harmony rules and had more the idea that "anything goes" in combinations of colours, as long as balance of quantity was preserved, Itten aimed to limit once and for all the polemics on harmony to a geometrical construction based on the subtractive complementarity of hues.

Johannes Itten started his book on colours by stating, "Colour effects are in the eye of the beholder. Yet the deepest and truest secrets of colour effects are, I know, invisible even to the eye, and are beheld by the heart alone. The essential eludes conceptual formulation". Herein lies modern and contemporary analysis of colour harmony. The search for criteria or rules for harmony seemed to be over, as Albers and Itten relegated the notion either to the fully subjective or the mere arbitrary definition. The twelve-colour ring of Itten is an elegant and simple construction that has the great advantage that it is easily constructed, and thus can be easily remembered by painters and viewers alike. Its simplicity is its superiority.

Plate 77

The Construction of the Colour Ring of Johannes Itten
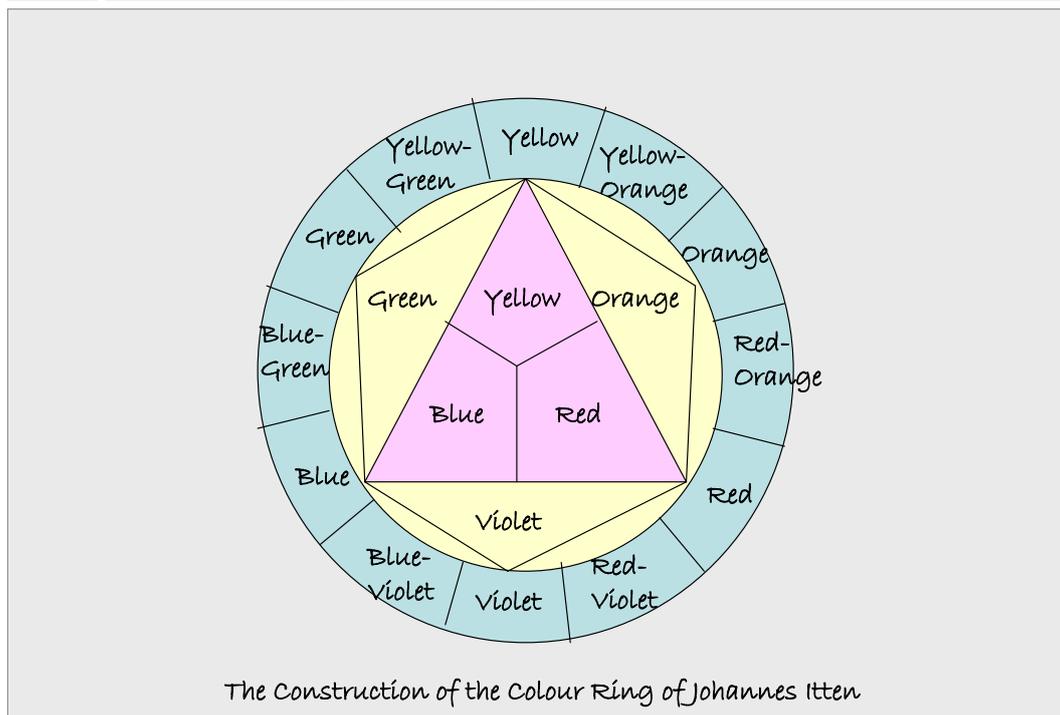
Once Johannes Itten had dispensed with the controversy on harmony in a decisive manner, he distinguished between seven schemas of colour combinations that could serve as analysis models in paintings. He called these "colour contrasts". He identified seven such colour contrasts. I discuss these hereafter.

Itten's Contrast of Hues

Itten called these contrasts the combinations of the saturated primary and secondary colours, plus white and black.

These were the combinations of the undiluted colours that Goethe had called together the "splendid". Itten allowed the brilliances of the colours to be varied, as well as their quantitative proportions. Such combinations are splendid indeed and the examples we have used in these lessons to illustrate them, date mostly from the Early Renaissance (Botticelli and Fra Angelico), as such combinations express grandeur, joviality and in Itten's own words "cosmic universality".

Itten's Light-Dark Contrasts

Light-dark contrasts are series of colours of equal brilliance or of equal darkness, colours of the same tone.

These contrasts can be formed by all the shades of the grey-scale and for such a given grey-tone of all the hues of that same tone. Equality of tone relates colour hues, but some hues are simply too extreme in tone by themselves to be able to be configured in any scheme of constant tone. Yellow for instance is simply too brilliant a hue, so that it cannot find its place in schemas of darker tones. The same goes for violet in the brighter tones.

Light-dark contrast is created when a colour of a light tone (whatever its hue) is combined with a colour of a dark tone (whatever its hue).

Itten wrote that when in a painting colours are not grouped by tone, then order, clarity and vigour of a composition are sacrificed. This however was not necessarily a wrong effect, and could even be desired in certain paintings.

Itten's Cold-Warm Contrasts

On Johannes Itten's colour ring yellow is the brightest and violet the darkest hue. Itten positioned these on the vertical axis and opposing each other. On the horizontal axis we find red-orange facing blue-green. Itten called these the cold-warm contrasting colours, with red-orange the warmest and blue-green the coldest. Combinations and gradations of these yield paintings based on cold-warm antagonies of colour.

Itten's Complementary Contrasts

The pairs of complementary colours yellow and violet, blue and orange, and red and green create complementary contrasts. These pairs of course excite each other to maximum vividness, as Chevreul had proven. Itten found that such combinations, used in the proper proportions, gave the effect of statically fixed images, as each colour confirmed the other's hue and intensity. He noted that complementary colours often occurred in elegant mixtures in nature, for instance in flowers.

Itten's Simultaneous Contrast

Itten recognised of course the effects of the laws of simultaneous contrast of Michel-Eugène Chevreul. He confirmed the importance of these effects, which transformed single hues into other hues due to the relative position of such a hue in other, surrounding hues, so that the effect was a real challenge for painters.

Itten's Contrast of Saturation

This contrast relates to the degree of purity of a colour. A hue can be diluted by white or black, and thus be transformed over a scale. Contrast of saturation then was the contrast between pure, intense colours and dull, diluted colours. These are 'dull-vivid' contrasts.

Itten's Contrasts of Extension

By this term, Itten denoted the proportions of relative areas of two or more colours patches, the contrast between large and small sizes of colour areas. We handled this notion in our previous chapter on balance of colour surfaces in size.

Johannes Itten wrote more on contrasts than on harmony. Thereby he drew attention away from harmony, to expression. Contrasts are expressive, create tension, and they emphasise emotions. Many modern writers seem to find this aspect more important than harmony. Whereas harmony induces gentle, equal feelings in viewers, contrasts are surprising, entice interest, create tension and thus form the dynamic, lively aspect that strikes and captures the viewer. For Johannes Itten, such effects were more necessary than the harmony of colours in pictures.

Harald Küppers

Harald Küppers is a German engineer who was very active in the German colour industry, and who wrote several books on colours. In 1989 he edited a book on the theoretical foundation of the basic colours called "The Theory of Harmony of Colours".
Küppers based his theory on the three colours upon which the retina of the eye reacts: red (slightly orange-tinted), green and blue (slightly violet-tinted). These three allow eight combinations, but including the three primary colours and also white (formed when the three primary colours are present) and black (when the three primary colours are absent).
Like his predecessors Runge, Chevreul and Ostwald, Küppers built a three-dimensional system to represent colours of the additive process in hues, tones and intensities. Whereas Runge used a sphere, Chevreul half a sphere and Ostwald a double cone, Küppers found that a rhomboidal form best allowed representing all colours. To explain practical concepts of harmonies, he devised a colour circle of twelve colours, and he represented changes in intensity by gradually varying the degree of white and black towards the centre.

Küppers' circle looks like the following figure. Three of the colours received names given by Küppers, which are hard to translate so we left them in Küppers' original German notation.

Plate 78   The Colour Circle of Küppers
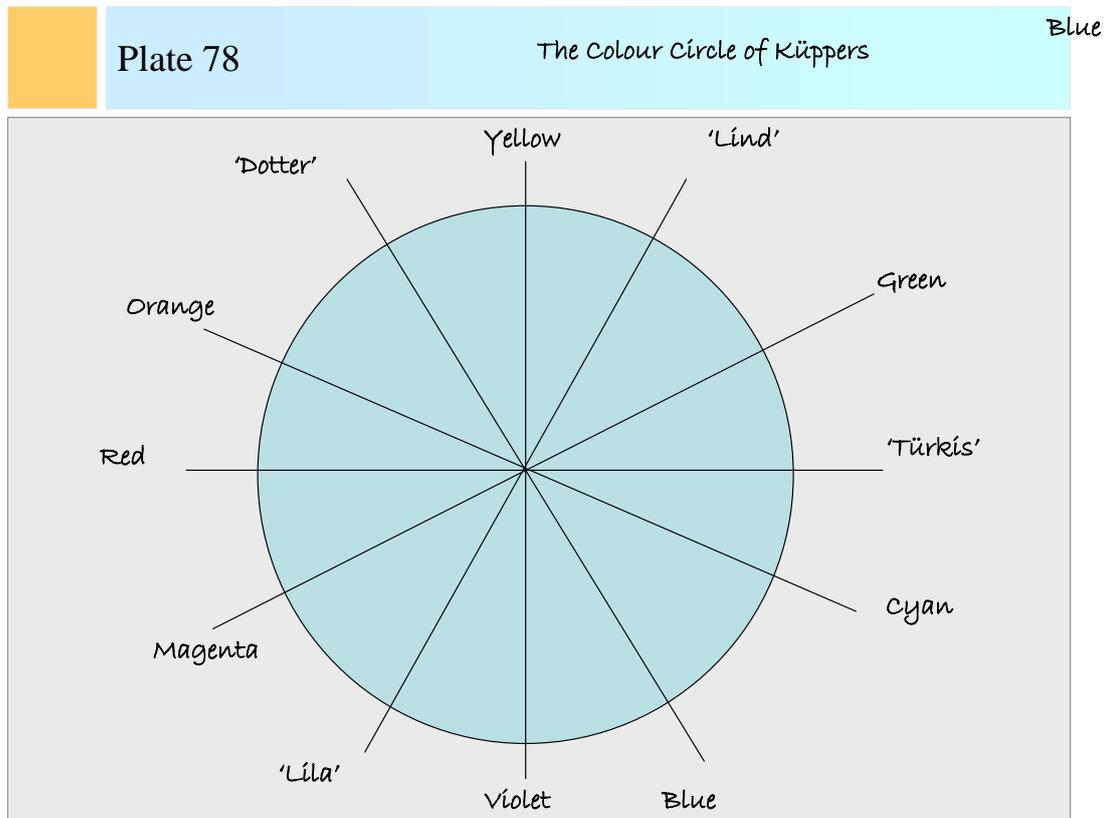
Harald Küppers laid particular emphasis on the three primary colours of the additive process, red, green and blue, especially as compared to the painter's basis of yellow, red and blue. Küppers claimed red, green and blue to be the colours of the real physical processes that form our eyesight. Yet we do not know how distinctive perception of colours is created in our mind by the stimuli of the red, green and blue receptors in our retina. Colour is created by a complex opponents process of transforming the mere first physical signals, so in our view painters like Johannes Itten and Wassily Kandinsky can claim as much feeling for colours as could be deduced from the additive process. Moreover, we know that colour perception depends on the relative reflectances from neighbouring zones, so more complex processes are at work than merely an addition of hues.

Küppers summarised his theory of harmony by stating that harmony exists when there are relations between colours of visual nearness or of contrasts.
Contrasts are between one or two of the four aesthetical differences (hue, tone, intensity, area), or when related to one or two combinations of green, red and blue. Analogous hues constructed from one colour and varying the intensity always pleases, but is of course a very easy effect. One may remain with close colours on the circle, but should not go too far away from contiguous colours of the colour wheel. Contrasting, complementary combinations are also good, proposes Küppers, but the colours should meet each other somewhat, tending somewhat to each other on the

wheel. One can build combinations of three, four or six colours, by staying at symmetrical distances on the colour wheel and in the same intensity. Other combinations are difficult to find, but not impossible.

Küppers concluded by stating that a theory of harmonies cannot be a simple recipe that automatically, by applying a few rules, would lead to certain harmony, whereas also artists will need to use dissonant, un-harmonious colours for specific effects. Küppers wrote however that, in general, dissonance between colours comes when there are no regular relations between the chosen colours, when the colours are not chosen in some logical way.

Synthesis of the theories of Chevreul and Itten

The various theories of contrasts of colours and of harmonies refer to the changes in the qualities of colours. As we have seen before, colours have three qualities: their hue, tone and intensity. One or two of these qualities can be kept fixed while the other qualities are varied so that different colours are created. It is about and within these variations that Chevreul and Itten proposed their contrasts and harmony.

In the following table we present the six possible cases. To explain the concept of this table, consider the first row. This row explains how Chevreul and Itten have handled the case when a certain hue is chosen for an area, for instance red, and then other areas are juxtaposed with the same tone but with varying intensities.

N/A indicates not applicable, or not directly handled by the authors.

Hue	Tone	Intensity	Comment	Handled by Chevreul in	Handled by Itten in
Fixed	Fixed	Variable	One hue in one tone only, but the intensity (saturation) varies as white or black is added to dilute or dull the colour	Harmony of contrast of scale	Contrast of saturation
Fixed	Variable	Fixed	One hue and one and the same intensity or saturation, but the brightness or darkness of the hue is varied	Harmony of scale; Harmony of contiguous hues of different tones (when several hues of these properties are considered together)	Light-dark contrast
Variable	Fixed	Fixed	For a certain tone and intensity, look at various hues of colours	Harmony of contrasts (very different hues); Harmony of approximate hues; Harmony of a dominant colour	Contrast of hue; Complementary contrast (only between the complementary colours); Harmony definition
Variable	Fixed	Variable	Take one tone and then look at all hues that have that same tone, diluted or not	N/A	Light-dark contrast

			with white or black		
Fixed	Variable	Variable	All modifications of one and the same hue	N/A	N/A
Variable	Variable	Fixed	Take one intensity and look at all colours of various tones and hues	N/A	N/A

Table - plate 79. Variations in the qualities of colours

This table teaches us that variations of contrasts exist, which have not been handled by writers on contrasts and harmonies. Chevreul distinguishes harmonies within one category, whereas Itten defines harmony just in one category of variation. In each category however, we can speak of harmony and of contrast. We can categorise paintings according to the categories of this table, and analyse which means of variation the painter used and try to find out for what reason.

Johannes Itten, and also other writers, talk of additional effects and qualities of colour. These qualities are then other qualities but hue, tone and intensity. They are qualities of colours of one hue, one tone, and one intensity.

Itten talks of cold/warm differences in qualities of colours, more specifically between red-orange and blue-green.

Another quality of colours is the nearness quality. All colours have a property by which they seem to lie in different planes of space. Blue is further off and more distant to viewers, orange-red in closer to viewers.

Itten defined contrasts between colours also based on these notions, even though he did not indicate a contrast category specifically for the intrinsic spatial quality of colours.

Finally, Johannes Itten handled simultaneous contrast as a category of contrasts but we know that this is an effect of any colour when it is juxtaposed to other colours. This is a quality not of one colour, as confronted with other colours, but more the mutual influence of colours upon each other. Michel-Eugène Chevreul described this effect extensively.

As an analysis based on this table, we might first conclude that harmonious are the pictures in which one hue is used but in which this hue is varied in tone and in intensity, as long as the variations are gradual and preserve structural balance.

A second conclusion might be that when some or many hues are used together in a picture, then some colour combinations seem to be better than other. Not too many colours should be used, lest the viewer be lost in the number of impressions that are forced upon him or her.
Which colour combinations are agreeable and which not? Michel-Eugène Chevreul presented long lists of appreciations of colour combinations, and Johannes Itten tried to state simple rules for harmony of hues. We will elaborate some more on these notions in the next paragraph.

It has to be noted that so far, no real conclusive analysis and testing has been presented on what harmony of hues could mean when in one painting various hues are combined in many tones and intensities. The number of combinations are simply too staggering and defy analysis. This is one of the wonders of the art of painting. We have come a long way in our discussion of colours, only to find that the wonder of colours remains much as mysterious as when we started.

Analysis of combinations of hues

Rudolf Arnheim wrote a book in 1952, revised in 1974, "Art and visual perception – A psychology of the perceptive eye", in which he also handled colour. Arnheim also wrote about harmony without defining specific rules, but he did produce a schema and annotation of colours to enable appreciating the value of colour combinations. We will continue on his notation schema and his ideas in this chapter.

Arnheim noted the three primary colours yellow, blue and red as Y, B and R.
The secondary colours (see the colour wheel of Johannes Itten) were then YB (green), YR (orange) and BR (violet).
The other secondary colours had one primary hue dominant and the other subordinate so Arnheim used small and capital letters to indicate the relative proportion. Thus Yr meant Yellow-red with yellow dominant and red subordinated. In this notation all the hues of the Itten colour wheel are R, Y, B, RY, YB, BY, Yr, Yb, Ry, Rb, By and Br. There are three primary hues, three secondary hues with two primaries mixed equally and six secondary hues based on a dominant primary.

Arnheim's question was to find which combinations of these hues were agreeable, and which combinations were not. He only provided a schema for combinations of two of these colours.
We know of course that many more combinations are possible, for instance of three or more hues, as Johannes Itten had embarked on to consider. But is a fact that painters do not and cannot use so many different hues in near combinations, which then also do not vary much in tone and intensity. So a classification of just the combinations of pairs among the twelve basic colours might learn us much.
Itten's construction of complementarity inside the colour wheel, as well as the concept of the isosceles triangles, rectangles, squares and hexagonal inside the colour circle seem to be somewhat too arbitrarily deterministic to remain unchallenged.
Michel-Eugène Chevreul defined his famous six rules for harmony, but he added long lists of colour combinations and advised on their being agreeable or disagreeable. Can we systematise such analysis?

The twelve colours of the colour wheel of Johannes Itten can be subdivided in three groups:

Group 1:	R, Y and B
Group 2:	RY, RB and YB
Group 3:	Yr, Yb, Ry, Rb, By and Br.

Then, seven kinds of combinations between these three groups can be considered:

Combination set 1:   combinations of R, Y and B
Combination set 2:   combinations of RY, RB and YB
Combination set 3:   combinations within Yr, Yb, Ry, Rb, By and Br
Combination set 4:   combinations of R, Y and B with the hues of group 3
Combination set 5:   combinations of R, Y and B with the hues of group 2
Combination set 6:   combinations of hues of group 2 with hues of group 3
Combination set 7:   combinations of hues chosen at random from the three
                      groups together.

Among these combinations Rudolf Arnheim analysed the sets 3 and 5, and he gave indications on set 1. We discuss briefly the combination sets.

Plate 80   The notation derived from Arnheim on the painters' colour circle.
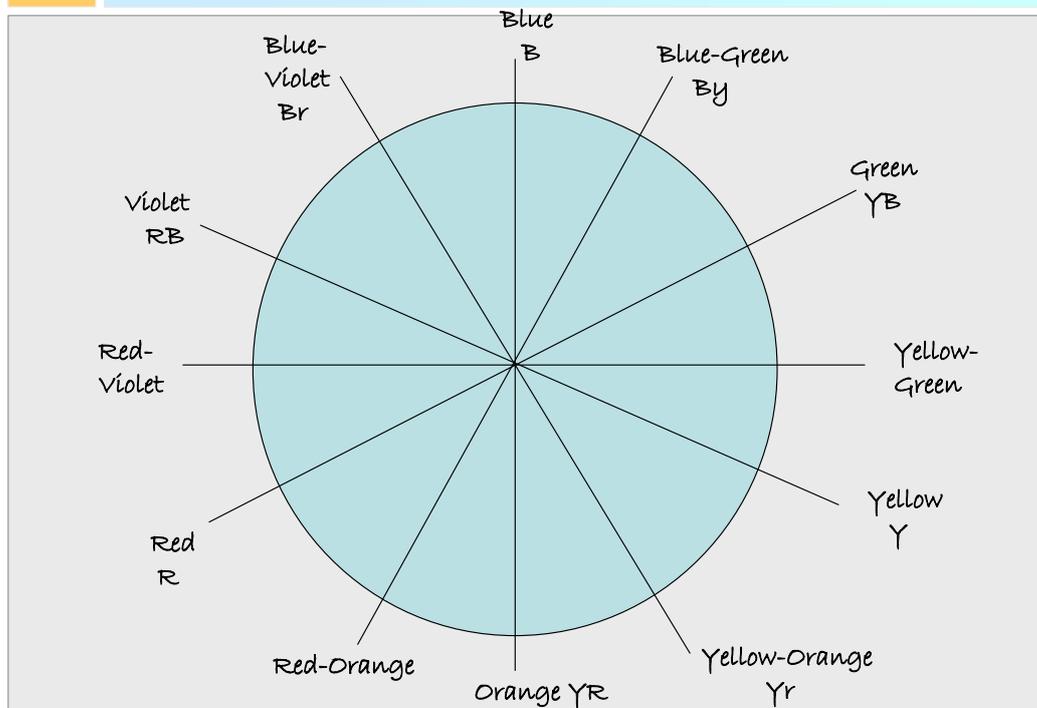
Combination set 1

These are combinations of the three primary colours red, blue and yellow.
Rudolf Arnheim wrote on this, "these three fundamental primaries behave like the three legs of a stool. All three are needed to create complete support and balance. When only two of them are given they demand the third. The tension aroused by incompleteness of the triplet subsides as soon as the gap is filled".
He linked to this statement the theory of complementarity. Complementary colours (determined as colours apposite the centre of the colour wheel) go well together. The use of the three primary colours and of complementary colours to a harmonious, agreeable effect can be found in many Renaissance and late Gothic paintings, even if

the three primary colours of the additive process (being red, blue and green) were used as much as red, blue and yellow.

We could speculate on the use of these hues instead of on the subtractive primaries in painting, due to the basic reactions on our retina of the additive primaries. Indeed, which hues should be called primary colours, those of the additive process or those of the subtractive process? Painters use paint, and thus prefer to think in terms of yellow, red and blue. The subtractive process generally generates the colours we perceive from nature such as the green of pastures or the red of leaves in autumn. So the "natural" colours are mostly created by reflection of light. But the additive process is physiologically more "natural", as our eyes react more on green, red and blue. However again, to what colour sensations do our brain processes react? One can build a schema of colours on the basis of the triplet red, yellow and blue, but when one talks of matters of natural harmony and equilibrium between the three fundamental hues, it may be more logical to consider red, green and blue as the basis.
Josef Albers, Johannes Itten, Rudolf Arnheim, Wassily Kandinsky and Michel-Eugène Chevreul stuck to the painters' primary colours, to yellow, red and blue. But Chevreul was candid about the primary colours. He stated that graphical constructions had been proposed for the purpose of representing colours and their various modifications, either by numbers or by a rational nomenclature, and that these were the primary colours red, yellow and blue. He himself formulated no proof or justification for any choice of primary colours. Chevreul did not really need the notion of primary colours. His analysis and his law were based on complementarity of colours, and all colours of the colour wheel have a complementary (the hue opposite the centre). The concept of complementarity does not need the concept of primary colours.
So, when we conclude that the three primary colours need each other to establish a harmonious equilibrium, we might state that any three complementary colours suffice for this effect.

Johannes Itten also stressed the agreeable effect of the complementary hues. Itten and Arnheim remarked that the three primaries need each other in combinations and in paintings these combinations – always taken into account the necessity of structural balance or the necessities of expression – are agreeable.

Combination set 2

Combination set 2 is constituted of combinations among the secondary colours orange, violet and green. This is for the combinations RY+YB, RY+BR, and BR+YB.

Each of these colours when juxtaposed in pairs of RY, BR and YB, holds one primary colour in common, and one different. Therefore they seem at the same time to destroy and to enhance each other. When juxtaposed, and according to Chevreul's theory, the common component will be subdued on both sides, as its complementary will be added, which hurts the common component, but the effect intensifies the other component. Combinations of these hues can be quite agreeable.

Arnheim discussed these combinations and spoke of the "highly dynamic pattern of attractions and repulsions in such a scheme", of "classicist stability". The secondary

colours are lively hues, which help in combinations to brighten and to enhance contrasts in scenes.

Combination set 3

The combinations of set 3 are among the secondary colours, but the first derived ones (orange, violet and green). These are the combinations Yr+Br, Yr+Ry, Yr+By, Yr+Rb, Yr+Yb, Br+Ry, Br+By, Br+Rb, Br+Yb, Ry+By, Ry+Rb, Ry+Yb, By+Rb, By+Yb and Rb+Yb. There are in all fifteen possible combinations.

Arnheim found that when in these pairs the one colour in common was a subordinate, then the effect was agreeable. This is for the three combinations Yr+Br, Ry+By and Rb+Yb. This is probably because as the colour in common is only subordinated, the mutual destruction effect of adding the complementary remains of little importance. So the colours do not mutually destroy, and since the three primaries are present in these combinations, the result is lucky.

Agreeable also were the colour combinations that Arnheim called to be of "structural inversion". These are colour combinations which hold each colour subordinate and each the same colour dominant, whereby in the juxtaposed colours the common hue in inversed. These are the combinations Yr+Ry, Br+Rb, and By+Yb. These three combinations are agreeable. We cannot but think of the harmony of analogues of Chevreul in this regard.

But Arnheim considered that combinations that had a similar dominant primary in the pairs were repulsive. Again, we can apply Chevreul's law of simultaneous contrast to explain the destruction effect. Therefore, the combinations Yr+Yb, Br+By, Ry+Rb are not so agreeable. The two dominant colours destroy each other, and this effect interferes too much with the subordinate hue.

Then remain the six combinations in which there is structural contradiction in one common element: Yr+By, Yr+Rb, Br+Ry, Br+Yb, Ry+Yb and By+Rb. These were not so good combinations. The contrasts seem to produce a conflict, and thus mutual repulsion.

Combination set 4

Combinations of the three primary colours R, Y and B with their secondary colours Ry, Rb, Yr, Yb, Br and By yield the combinations R+ Ry, R+Rb, R+Yr, R+Yb, R+Br and R+BY as well as Y+Ry, Y+Rb, Y+Yr, Y+Yb and Y+By and B+ Ry, B+Rb, B+Yr, B+Yb, B+Br and B+BY. Here we have eighteen combinations.

Arnheim wrote on these combinations in two variants. He said that when a primary was the subordinate element in the composition, then the colour combination was not so agreeable. Chevreul would have stated that the primary hue constituent in the secondary would be much hurt by the complementary of the primary hue and so the colours destroyed. When the primary is dominant in the secondary colour, the effect is even more severe.

So the combinations R+Yr, R+Br, Y+Ry, Y+By, B+Yb, B+Rb are not very agreeable, and the combinations R+Ry, R+Rb, Y+Yr, Y+Yb, B+Br, B+By are even worse. In all that makes for twelve not so lucky combinations.

As for the combinations R+By, Y+Br, B+Ry, R+Yb, Y+Rb and B+Yr we may assume that the combinations re-enforce each other, as the three primaries are together and the hues tend to complementary colours.

Combination set 5

These combinations have much in common with the combinations of set 4, which were handled by Rudolf Arnheim. Combination set 5 is constituted of combinations between the three primaries R, Y and B on the one hand and the first derived secondary colours RY (orange), RB (violet) and YB (green). The combinations are thus R+RY, R+RB, R+YB as well as Y+RY, Y+RB, Y+YB and B+RY, B+RB, B+YB.

When the primary that is juxtaposed, for instance R, is placed next to a secondary colour that contains the same primary, here then RY and RB, the secondary colour will be much disturbed by mutual influences and the effect will not be agreeable. This counts for the combinations R+RY, R+RB, Y+RY, Y+BY, B+RB and B+YB.

The remaining combinations however, that is R+YB, Y+RB and B+YR, will enhance each other and be agreeable. These are combinations of the primaries with their complementary colours in the colour wheel.

Combination set 6

These are combinations of the secondary colours RY, YB and RB with the other secondary hues Yr, Br, Ry, By, Rb and Yb. This set consists hence of eighteen possible combinations: RY+Yr, RY+Br, RY+Ry, RY+By, RY+Rb and RY+Yb and also RB+Yr, RB+Br, RB+Ry, RB+By, RB+Rb and RB+Yb plus BY+Yr, BY+Br, BY+Ry, BY+By, BY+Rb and BY+Yb.

Combinations among these colours, which are very similar, are perceived as agreeable, as Chevreul wrote on his contrast of analogues. That is obvious for the six combinations RY+Yr, RB+Br, YB+By and RY+Ry, RB+Rb, BY+Yb.

Combinations in which one of the two primary hues of RY, UB and RY is present only as the subordinate hue in the other juxtaposed colour, will be rather agreeable, as the combination tends complementarity. The subordinate will not disturb too much the other colour in which it is dominant, whereas the complementary of the first derived secondary will enhance the other. That is the case of the combinations RY+Br, RY+By, BR+Yr, BR+Yb, BY+Ry and YB+Rb.

The remaining combinations have a primary hue dominant on both sides. The result will be mostly repulsive. That is the case for the combinations RY+Rb, RY+Yb, YB+ Yr, YB+ Br, BR+Yb and BR+By.

Combination set 7

We can combine all colours chosen from the three groups that we defined. Any two combinations have been discussed in the above paragraphs. Further combinations in triplets or more colours could be treated in the same way as the above analysis, but of course yield a massive amount of possible combinations. And then, we could variegate these colours by considering for each hue other tones and intensities. The possible number of combinations is infinite.

Painters rarely use more than two or three colours from the colour wheel. Usually, they use just two colours for large parts of their composition. They do that because otherwise also for them the combinations to harmony or breaking of harmony in particular expressions are too difficult to control. Moreover, many colours may distract and confuse the viewer in the composition.
Many painters have therefore told or written that just a few basic colours were preferable and necessary in a painting. These colours then they could evolve in analogous hues or by gradually changing tone and intensity. The above analysis of the six combinations taught us thus most we need to understand of the harmony of hues.

Conclusion on the combinations of two colours

After this analysis the following combinations of two colours are nice:

RY+ YB, RY + BR, BR + YB: combinations of the secondary colours

Yr + Br, Ry + By, Rb + Yb, Yr + Ry, Br + Rb, By + Yb

R + By, Y + Br, B + Ry, Y +Rb, B +Yr

R +YB, Y + RB, Y + YR: combinations of primary colours and their complementary colours

RY + Yr, RB + Br, YB + By, RY + Ry, RB + Rb, BY + Yb

RY + Br, RY + By, BR + Yr, BR + Yb, BY + Ry, YB + Rb

Comparison with the rules for harmony of Johannes Itten

Johannes Itten only allowed six combinations of pairs of colours: the pairs of the complementary colours. In an analysis like we made in this chapter, many more combinations are allowed as colours that match each other reasonably well (29 combinations of two colours in the set of 12 colours in all).

Arnheim made no formal analysis on combinations of more than two colours. Itten however, stated that harmonious combinations of three colours were the sets of colours on equilateral and isosceles triangles in his colour circle. Such combinations are nothing more than emphasis on the contrast of colours. Itten says in fact to take any two colours on the colour circle, and then to take as a third either one of the two colours that are farthest away of each, in the middle between the two picked hues. Take for instance Rb and RB; Itten would propose as third colour either B or RY. These last are the colours most complementary to the two originally chosen colours, and the painter would do best to place this colour in between the two first. Itten's rule is a rule of maximum contrast.

Final recommendations for harmony of colours

*A*fter the review of the theories on the harmonies of colours we can define a few simple recommendations to which most of the authors would agree.

We might follow Harald Küppers in that the best basis in our current knowledge would be to use the primary colours of the additive process, which is the colours red, green and blue, even if the red should be somewhat tinted orange and the blue somewhat tinted violet.
We use a colour circle of twelve colours like the colour wheel of Harald Küppers, and we let the hues vary in tone from the darkest tone at the rim to the palest tones in the centre. Then the simple recommendations of harmony of colours can be as follows in ten rules.

1. Harmonious are the combinations of colours of one hue for which we vary the tone very slightly.
2. Harmonious are the combinations of colours of one hue for which we use contrasting tones. In this way contrast of tone plays, and we always have to remain cautious with contrasts. The contrasts must balance each other out.
3. Harmonious are the combinations of hues that are contiguous on the colour wheel, in combinations of not too many hues, so just two or three colours taken together and arranged in only slightly varying tone and intensity.
4. Harmonious are the combinations of contiguous hues arranged in contrast of tone and intensity, but taken care with balance of areas especially.
5. Harmonious are combinations of true complementary colours, even of differing tone and intensity, and always taken care of balance of areas. These colours then enhance each other through what Chevreul called "simultaneous contrast" effects.
6. Harmonious also are combinations of more than just two colours, when taken together, and taken from symmetric distances to each other on the colour wheel. Here we can use Johannes Itten's constructs inside the colour wheel. The colours are best arranged according to the sequence of the colour wheel instead of in a random order. The colours can be of differing tone and intensity, even to the point that one colour is dominant. But care should be taken of balance of coloured areas.

7. Colours that do not go well together, so in combinations that are random or that do not satisfy the above recommendations can favourably be separated by grey, black or white, and most favourably by a grey hue and tone that matches the tons of the other colours.

Three additional recommendations can be formulated and these can be applied together with each of the foregoing.

8. Very harmonious and agreeable are the pictures of one mood, one overall and the same tone, even if the tone is a bright or a dark one. Such a mood is immediately recognised by the viewer, and thus has generally a very pleasing effect.
9. In one and the same picture do not use too many zones in which the above rules change and vary. Have preferably an unpaired number of zones in which the combinations change, and order these well in a logical and easily recognisable way. This recommendation may be adapted according to the dimensions of the frame, as one can with less impunity vary combinations in larger pictures than in smaller ones.
10. Always keep balance between the surface areas of the colours. A good guideline for that are the numbers Goethe assigned to colours.

Yours truly,

Zeuxis

Lesson Thirteen - Line or colour, energy and mood

Arte and Zeuxis are outside. They are near the river. Summer has set in and it is very hot. Arte is dressed lightly, but Zeuxis does not seem to be bothered by the heat. Arte flings her hand at the occasional fly that bothers her. Cows are near in the fields, but the young grass has made way for a darker green and lower grass.

Zeuxis: So, here we are again, Arte. It has been a long time. Have you read what I wrote about harmony? What have you concluded?

Arte, sighing: Well, Zeuxis, now at least I know why men prefer blondes with blue eyes. They like the harmony of contrasts. Quite common tastes, if you ask me!

Zeuxis: Mmm, Arte. It is also a combination of the bright radiation of the most brilliant hue with the distance of blue to be conquered. But you would be surprised at how many men prefer copper-coloured redheads with green eyes. That also is a harmony of contrast, representing warm tenderness with soft confidence, and a combination of the red fire of passion in the comforting vastness of green nature.

Arte, blushing: Why, thank you, Zeuxis. You spread compliments in your old age.

Zeuxis: Not a compliment, Arte, just complementary notions.

Arte: I learned by now that there is an endless set of different colours, and that even one colour hue exists in various tones, and in various degrees of saturation or intensity. One and the same hue can be varied endlessly. All colours can be considered as additive or subtractive combinations of other colours, and since our retina contains molecules that are particularly tuned to red, blue and green, we took these colour hues as the basis of the process of additive combinations.
In paintings however, yellow, blue and red are the basic colours of the subtractive process, so that artists writing on their art usually took these three as the basis of conceptual theories on colour contrasts and harmony.
The juxtaposition on the canvas of areas of small dots of colours and of larger areas of one colour hue changes the perception of the colours. We have to remember always that never one sole area of colour counts in painting. What counts are the combinations of various areas of colour on the canvas or fresco or mosaic.

Zeuxis: That is all right, Arte.
Michel Eugène Chevreul did not just describe effects of contrasts of colours. He also formulated principles of general harmony. He wrote that harmony was established between different parts of an object by means of the proportion of the parts, volume or superficies, form and colour. Symmetry was one condition of harmony, but the symmetrical parts of the object had also to have harmonious proportions.
Thus, harmony was also established between different objects by means of analogy of size, of form and of colour. Harmony was also built by means of symmetrical position, and lastly by means of the repetition of the same form, of the same colour, or of the same object or objects. These were the private rules of general harmony of Chevreul, and these rules have remained for a long time the basis of our current understanding and conventions to describe harmony.

Arte: In our own times master-painters revisited Chevreul's theories and formulated new rules and new definitions of harmony. None really had the extent and the detail of Chevreul's experimentation, even though painters like Josef Albers and Johannes Itten wrote from lifetime experiences as teachers in colour, and from an experience of a century more of reflecting deeply on the value of colour combinations.
The general awareness grew that in colour combinations, harmony was essentially an individual and very subjective appreciation. Josef Albers and Johannes Itten concluded that viewers could appreciate almost any colour combination, as long as balanced proportions were realised, or as long as colours were subordinated to a grander design and aim. And new emphasis was laid on contrasts of colours as means of expression, contrary to the value of harmony.

Zeuxis: Rudolf Arnheim cited Ostwald, who proceeded on the assumption that "two or more colours in order to harmonise must be equal with regard to essential elements". The essential elements are hue, tone and saturation, so that we come back much to Chevreul's harmony of analogues. But Arnheim thought of this kind of harmony that it was, "the most primitive kind of harmony, suitable at best for the colour schemes of nurseries and baby clothing". Indeed, expression comes like in music from the counterpoints in musical harmony, from the variations in melodies.

Arte: Overall harmony of colours must take into account a myriad of parameters, Zeuxis, so many that my head spins!
It must take into account hue, brightness and saturation of each colour on the canvas. It must take into account the proportions of the surface areas that are coloured in each of the three features of colours.
The relative positioning of the coloured areas are also important, as are the ways these are balanced in the picture.
The contrasts between the colours play, and the overall mood is often a deciding factor.
The temperature of the colours, the spatial value of colours and effects of repetition or of emphasis on certain colours, are elements that construct harmony.
Then there is the correspondence between colours and meaning to take into account. There are too many parameters to be cast in a mathematical, geometrical or logical model! We are far away from the moment in time when a machine would be built that would scan a painting, measure and calculate all its parameters of harmony, and give to the viewer one number that would represent the index of harmony. Yet, that is exactly what the human eyes and brain do. The sensations on the retina of our eyes are pre-processed, sent to the brain and worked upon there so that a judgement is formulated on harmony.

Zeuxis: So true, Arte. Only then a viewer can tell, "Yes this is a quite harmonious painting in its colours", or, "No, I do not like these combinations".
The theories of harmony, as stated earlier, work only on the simplest of schemes and on the easiest of parameters. Our brain is much more complex. More complex still are the brains that produce harmony in paintings. We call that genius.
Painters are people who are particularly tuned to the perception of colour, and who seem more than most other people apt to make use of the combinations and both intuitively and intellectually to know what the effect is of such combinations. Most people however, are tuned to a lesser degree to the value of feeling induced by

colours. Painters are the masters who have a profound sensibility for the overall combinations of colours on the canvas in oil or tempera painting, or on a wall in fresco painting. Painters seem to be able to exploit the grand colour combinations to an inner vibration. Colour is therefore one of the foremost elements by which painters appeal to our mind and inspire emotions in the viewer.

But the viewer may or may not be tuned to the same sensibility as the painter. This means that the communication of the value of feelings may be complete, or only be so to a certain degree. The paintings that seem therefore best to be able to move a viewer, to best communicate the inner feelings of a painter to a viewer, are the paintings that appeal to the overall sense of form, of line, of colour and of content of the viewers.

Arte: Harmony is so complex. Can you not give me a few simple indications anyhow? I know all the writers and painters have written and written, but what would be your recommendations?

Zeuxis: In fact, that is for every redhead girl to decide for herself. What would you take as rules?

Arte in a very dignified but ironical tone: Well, here are Arte's very simplified rules on harmony.

Arte even writes her rules down:

Arte Rule 1: Use hues, intensities and tones that are close.

Arte Rule 2: Contrasts of complementary colours are nice and striking.

Arte Rule 3: Use repetition, symmetries and balance in hues.

Arte Rule 4: Break all above rules to draw the attention of the viewer, but
                 do that sparingly.

Zeuxis: That is quite good, Arte. I would add a fifth rule, Zeuxis' rule, and that would be to use your intuition, and to have faith in your hidden talent. Nevertheless, do not forget all the theory I explained, and when you make a complex painting: have a look at the more complex theories of harmony.

Arte: Thank you, Zeuxis, but those theories are really too complex for me. I might stick with just Itten or Chevreul; I do not know yet which I will take.
I have an image in my mind when it comes to harmony of colours, and that is the symbol of the Olympic Rings.

Zeuxis (surprised): What do you mean, Arte?

Arte: The Olympic Rings are five. As the symbol of the Olympic games they represent the five continents of earth, but for me and now they are also a symbol of harmony of colours.
The left rings are blue and yellow. The blue ring is of course the top one, representing the sky.
The rings on the right are green and red, with the green ring below because it represents the green earth. Blue and yellow are almost complementary colours, and so are green and red. The fifth ring in the middle, the ring that holds the other rings together, is black. Black matches best with all colours. Finally, the rings are usually shown on a white background. White is the neutral colour, but also the combination of all colours of the rainbow.
I remind you also that you told me before that the four Roman teams that competed in the chariot games of ancient Rome were dressed in blue, red, green and white. If the white were yellow, we would again have almost complementary colours.

Zeuxis: That was truly a nice comparison, Arte. People indeed intuitively use complementary colours in many instances.

Arte: Here is another question for you: how many different colours should I use in a painting?

Zeuxis: There is no rule on the number, Arte. But it is an interesting subject indeed. Just how many different colours a painter would need to colour every area of a canvas in such a way that two bordering areas would never have the same colour has impassioned mathematicians for ages. The answer is that four colours are enough, but the proof of this theorem took over two centuries to develop and filled a fifty-page article plus hundreds of pages of supplementary material. The theorem could only be proved with the aid of powerful computers in our century. It was called the four-colour theorem in mathematics, and was only proven in the 1990's.
By the way, when we think of four colours we see of course red, blue, yellow and green – whereas the modern theories of the subtractive and additive processes of colours need only three primary colours.

Arte: Does this then ends our lessons on harmony of colours?

Zeuxis: It does, Arte. I would like to come back now on the war between line and colour that has brought passion and anger between painters for generations.

Arte: Oh, I thought painters were such nice and peaceful people. Tell me about that, Zeuxis.

Zeuxis: Painting can be defined as the placing of forms and colours on a surface. In order to distinguish the forms, either line or colour must be used.
Over the history of the visual arts, schools developed that either emphasised line or colour.
The schools that favoured lines also favoured reasoned composition, and based their pictures on strict geometries. The schools that favoured colour over line, reached dominance later in the centuries, probably because the science of colours had to be developed better before colours could be fully understood and their effects exploited.

The Italian Florentine painters of the Renaissance period favoured line, and thus drawing. These were rational artists. They had observed that the colour of an object was not constant. Colour of an area could change with the conditions of lighting. We know our eyes adapt to light variations and correct for changing conditions of light, but that is only so to a certain extent. Full red light thrown on an object does change its colours, as compared with a full white light directed at the same object. We saw also in the chapters on the law of simultaneous contrast that colours change with adjacent colour areas. So colour was somewhat illusionary, not constant, not really a property of the object, and the Florentines wanted to paint to the natural "truth". Line and form were constant, properties of the object that did not change. The rational Florentines preferred what did not change in various conditions, and that was line and form. Most of the early Florentine painters worked first in wet fresco painting, a process whereby colours are put next to each other on wet lime. These were grand scenes in which the design of the forms was indeed important.
Leon Battista Alberti proposed in "Della Pittura" to first draw, and make a composition according to nature. He told a painter had only to be concerned with representing the things that could be seen, and then to fill in the areas with colours. Drawing came first, colouring only later. The various drawn areas were filled in with colours, and splendid colouring was appreciated, but the most important was design, the art of composition of line and forms. Painters had to be able to draw in the first place.

Arte: That is why you taught me to draw lines in the first place.

Zeuxis: Yes, but there are two kinds of lines in paintings.
We have already talked about the directions of structure in the composition, and now we also have to talk about the lines of the forms. What is the difference between these two concepts?
The directions of structure are the contours of sets of forms (such as of a group of figures), the directions along or around which the masses of colour are grouped, and the directions indicated by special features of the picture (such as the directions of lances worn high by soldiers). The directions of structure may be shown, supported immediately by visible lines, or they remain directions that the viewer has to infer, sees only indirectly like for instance in the general positioning of figures along a diagonal of the frame. The viewer is led to imagine the diagonal line, even though the diagonal is not drawn visibly. Still, by such invisible lines, which we have mainly given the name "directions", painters build their structure and hence their composition.
By the word "Disegno", the Tuscan Renaissance artists did not just mean these lines, the directions of structure. They also simply meant the true lines of the forms, the lines of the shapes of the coloured areas. Such lines of form may have to be shown in a black colour or in another colour than the ones of the two adjacent colour areas, so that then they are quite visible, apparent, and do not need to be imagined. The lines of the forms are rarely however shown so obviously, even in Renaissance paintings. The lines do remain imaginary, but can be implied from the boundaries created by the adjacent colour areas. When two adjacent colour areas contrast strongly in hue, tone or intensity, the lines of the forms of the coloured areas become more apparent and are more easily evoked in the mind of the viewer.
"Disegno" meant emphasis on conceiving a painting in the directions of structure and in emphasis of the lines of forms over colour.

In "Disegno", a painter would start by drawing in black chalk or with any other means allowing him or her to draw thin lines, the lines of the forms in the painting. In simple words, the painter would start with what we call "drawing". Before doing this, the artist would of course have a strong view of the directions of structure, of his composition. Once the lines of the forms made visible, the artist could colour the areas that appeared well delineated, the areas of the outlined surfaces. While colouring, the drawn black lines would disappear, but the forms remained clearly visible as separate entities. In this way of proceeding, design and drawing came before colouring, and the forms were originally constructed by the drawing of the lines. Colour was de-emphasised in the sense that the colours came in second in the conception of the painting. Colours served only to fill in the forms that were created by lines. Colour served of course the magnificence of the painting, and colour very much also had symbolic meaning, but colour served primarily to embellish the picture and to render the structure more subtle. This way of painting, of designing a picture, came naturally in the evolution of art. Mosaic tessellae filled in the space between drawn shapes and also in the technique of wet fresco painting it was necessary to fill in with colours well defined shapes, area after area of a wall surface one after the other, in successive days. Such techniques favoured clear delineation of the areas of colour.

Another way of proceeding in painting was not to start from "designo", but to think of a painting primarily in terms of areas of colours.

The painter then would conceive his picture first in his mind as a combination of patches of colour, which would be balanced or would conflict and be in tension with each other. But the tensions between the colour surfaces would create forms, which then could be perceived by the viewer. Such a mode of constructing pictures could only be realised in its purest manifestation in abstract paintings. But when painters tired to work this way, forms would nevertheless appear, even if these might remain only vaguely recognisable. In fact, it is impossible to place patches of colour on a canvas without creating a sense of forms, of shapes, in the viewer's mind.

Painters like Joseph Albers, Mark Rothko, Wassily Kandinsky and the so-called "Colourfield" painters sought to eliminate the perception of forms altogether from their pictures, but that effort was in vain. Even when the forms created by the adjacent colour areas were nothing natural that could be recognised by viewers, however intricate the colours might flow into each other, however broken the patterns of colour, colour without forms is impossible to create. It also did not suffice to blur the boundaries between colour areas, like Mark Rothko did. The sense of forms always breaks through colour.

Arte: All right, all right, Zeuxis. So, colouring without creating forms is impossible, but creating forms with lines without colouring the areas is quite easy - obviously. You will agree with me that it is tempting to conclude that lines and directions come before colour, thus are more important than colour, especially when one makes abstraction of the purpose of paintings.

Zeuxis: Gee, Arte, was that a defender of colour speaking?

Do not forget that as expression of the feelings of the artists, as communication of those feelings, colour has as much weight as lines and directions. Isn't that why you were attracted to colours in the first place?

A painter can easily imagine a general mood and think firstly of a uniformly coloured background or of an overall temperature of colour before thinking of the forms of a

picture. He or she may first conceive his or her picture as a tension of coloured areas, and afterwards only think of distinct forms or of distinct content such as figures, plants, or objects.

"Disegno" does not need to come before colour, even though it is so in most paintings. Colour is not subordinated to the design of lines and hence forms. Still, the art of colouring without creating a sense of forms in the mind of the viewer is impossible.

Arte: Gee, Zeuxis, was that a defender of lines speaking?

Zeuxis: Eh, well, I believe, Arte, that lines and colour form the art of painting to equal value.

To continue with history: somewhat later than the Renaissance Florentines, the Venetian school as the first, started to explore the qualities of colour. The first Venetian painters still drew delicately and wisely with great skill, but their paintings acquired a sense of smooth colours so that the lines faded and the colours slid into each other. There is a tactile, sensuous quality to Venetian colours, and Venetian transition of colours.

Gradually, the Venetian painters also evolved to warmer colours than the cool, pure colours of the Florentines. The late paintings of Tiziano for instance, are made in dark brown or grey colours out of which a subdued red or yellow or green emerge.

In the nineteenth century, schools like the Impressionists, Pointillists and the Fauves completely favoured the glory of colour over line. Patches of various colours, often in high tonal keys, are delights for the eye. These artists really discovered colours, experimented with them in various ways, and applied the colour techniques we have spoken of in previous chapters. But even in that century, critics devoted to colour could state like Charles Blanc (1813-1882), "Colour, which is under fixed laws, can be taught like music. And it is easier to learn than drawing, whose absolute principles cannot be taught".

Line continued however for a long time to be perceived as the nobler art over colouring.

Over the centuries the two schools, two ways of considering what was important in paintings, have continued to exist, and the polemics between either trends is not finished. Academies usually preferred line and composition of forms to colour, whereas individual painters have time and time again preferred wild combinations or harmonious variations of colour areas to line and form.

Arte: I would have preferred colour over line, Zeuxis, but I realise that line and form are important for viewers to recognise something familiar in paintings.

Zeuxis: Now I want to continue with our lessons on colour and tell you about energy and mood in a painting.

Arte: Go on, Zeuxis!

Energy

Zeuxis: Energy is a quality of a painting that expresses the amount of emotion a viewer receives. These emotions are generally violent, and rapid for dynamic pictures.

But energy is also in the surprise of an unusual theme, and then the feelings do not need to be so intense in perception.

Lines already can bring about energy by themselves, as shown in the jagged lines of the forest scene of Natalia Gontcharova's Rayonism style. Energy seems therefore to be in oblique lines, like in the slanting composition of Rubens' "Descent from the Cross". Oblique lines represent movement, and movement is one of the characteristics of energy. But a quality of acceleration, of change in speed needs to be associated for movement to become energy, as energy is work performed in a unit of time.

Zeuxis projects a Delacroix painting on his magic screen.

➔ Eugène Delacroix (1798-1863). Arab Horses fighting in a Stable. Le Musée d'Orsay. Paris. 1860.

Zeuxis: Energy is in the movement that the picture represents as in Delacroix' painting of the prancing Moroccan horses. Here we have movement and speed of a moment of action combined. So energy can of course also be in the content, in the subject of the scene.

Zeuxis continues: Energy is in the way forms are composed and presented on a canvas.

For instance, energy is in a triangle that is placed on its top. The viewer knows that energy was necessary to bring the triangle in that position, and energy is necessary to keep it there. Such a position has high potential energy, whereas a square that rests on its sides has minimal energy. Energy also is in a progression of floating or slanting such forms, which indicate movement.

Energy is already purely in colours, when the colours render a feeling of movement or when colours clash, as in so many paintings of Wassily Kandinsky.

Some colours are more energetic than others. Bright yellow and bright pink are colours that seem to radiate more energy of light to the viewer. Violet and brown are more passive colours. Energy lies in the contrast of these colours and the contrast is often pleasing, and energising.

Energy can be shown in the rapidity of the brushstrokes on the canvas. When the sweeps of the brush or the drips of the paint can be seen on the canvas, the viewer can sense some of the action energy of the painter, and thus the viewer also receives an impression of that energy. This is often the case for Expressionist paintings, where the strong black lines are apparent. These evoke in the viewer simultaneously feelings of movement and of the rapid action of the brush or knife over the canvas.

The energy of the "action painting" jumps from the canvas out to the viewer.

When these elements coincide, that is movement in oblique lines and variegation of forms, movement in content, and when highly contrasting colours compete against each other on the canvas, then the painting shows a high amount of energy, which is the immediate impression of that energy on the viewer.

Zeuxis: What would you say of nice, quiet paintings, Arte?

Arte: Quiet paintings have sweet, picturesque content. They may be idyllic landscapes of slowly sloping hills and green pastures. They may be landscapes without figures in winter scenes. Sweet scenes are the peasant boys of Esteban Murillo playing in the street, or his images of the Virgin Mary.

Many of these scenes are static, based on strong vertical or horizontal directions. Painters use in quiet paintings the contrast of analogues that Chevreul liked, with hues that are of the same colour and that slowly change. Painters then can apply a rich palette, but of the same hue, and those hues are often brown or ochre or a darker yellow.
Energy is contrast of complementary colours and in the conflict of lines, shapes and colours.
The figures of quiet paintings stand or are together in poises that seem to be able to be fixed for eternity, whereas energetic pictures always convey feelings of transitoriness. So there is always a sad element in energetic pictures, and they not always cope well with changing feelings about style in viewers, whereas quiet pictures seem much to remain to be appreciated by the audience.

Zeuxis: Energy is a powerful feeling for viewers. It is a powerful tool for painters to excite emotions in viewers and thus to interest viewers in the work of art.

Mood

Zeuxis: Where energy is a measure for the amount and for the power of the emotions evoked in viewer, these emotions can be of many kinds. The kind of emotion that a viewer receives instantaneously we call the "mood" of the painting.

Zeuxis: A picture can evoke a mood in the viewer that corresponds to all the various emotions a human can feel. The mood of a painting therefore can be one of sadness or of joy, of mystery or of dignity. A picture can be wild or peaceful, cheerful, controlled and cool, warm and empathic. It can be heroic or majestic. It may seem funny, sentimental, naughty, sensual or apathetic.
The content or subject matter of course creates mainly the mood, as the viewer perceives first and most rapidly the overall content of a scene.
Thus Jacques-Louis David's "Rapt of the Sabine Women" has a heroic and epic mood. Gino Severini's "Landscape at Civray" has a peaceful, idyllic mood. Sir Everett Millais' "Blind Girl" is sad and arouses our empathy. George Stubbs' dragoons show a picture that is disciplined and cool.
Remark how in these paintings the mood is also created by the elements of the form of painting, by the composition of lines or directions and by the shapes in the pictures. The form helps to create the mood as much as the content does. A painter must make a decision on the mood he wants to convey with his picture.

Arte: Abstract paintings rely on form alone to evoke emotions in the viewer, and thus they rely on form alone to create the mood of the picture. Don't they, Zeuxis?

Zeuxis: Yes, Arte. Colours help most to induce feelings in the spectator, but then also the other elements of form.
Piet Mondriaan's fixed structures of horizontal and vertical lines call to the viewer a sense of rationality and of cold, immutable order. When the artist used warmer colours such as red or green for his lines, these colours added touches of empathy in the picture.

Kasimir Malevich's constructions of rectangles and triangles give equally a cold impression, as well as impressions of unrest. Here we find a mood of distance, of strangeness and even of alienation.
Wassily Kandinsky's paintings are often warm, somewhat naturally chaotic. Their mood is one of dynamism, and of wandering through a space of varying feelings. Jackson Pollock's drip paintings and also Mark Rothko's pictures are all mood. Mark Rothko once demanded of his pictures "that they would force viewers to fall on their knees and to break out in tears". [G86.] Rothko's paintings indeed often have a dark, menacing, heavy and gloomy mood.

Zeuxis: A viewer starts looking at a picture and he or she will perceive even at first glance the mood of the picture. This mood, as created by the colours and other elements of design, may be emphasised by the details of the scenes as the viewer discovers these. This will be most often the case, so that the painter re-enforces the mood by more intricate detail of symbols or by other more subtle content. Sometimes however, the details contradict the mood so that irony, and even cynicism enter the picture mood. Examples of these effects are not so rare, and they were used especially in Surrealist paintings. The clash between the primary mood of the picture and its content at a second layer of meaning always puzzles the viewer, and enhances the interest – sometimes regrettably also, the repulsion of the spectator.
Abstract art can be explained partly as an art that did not want subject matter (objects, natural views, human figures) to interfere with and to distract the viewer from the intrinsic mood of the picture. This is one of the aims of abstract art among many others. Artists like Kandinsky, Pollock and Rothko certainly showed the power of abstract art to evoke emotions without the need of subject matter. Their work is based on not all but on just a few of the elements of form in painting – barred subject matter – but with just these - and maybe because of this restriction - they delivered pictures of a very strong mood that continue to appeal to viewers.

Arte: When you talked about Delacroix' Arab horses, Zeuxis, I could not but remark however, how colours need to be in line with the subject of the picture. Can you say some more on that?

Colour and Meaning

Zeuxis: Painters distribute their areas of colour over the canvas so that these evoke naturally and spontaneously emotions in the viewer. When a painter uses colours that are naturally associated with the subject, such as green for grass and orange for the sun, then viewers have sensations of rapid recognition of subject and colour.

Arte: But colours however do not have to be "natural", Zeuxis. They always evoke particular feelings in viewers. You taught me that. This effect happens whatever colours are used, as long as the colours support the desired effect, and the painters have absolute freedom to apply the colour combinations that suit their purpose.

Zeuxis: Right, Arte. We discussed the psychological value associated with most colours. Painters play on the intrinsic values of colour to better convey and express their inspiration, and to evoke special feelings in the viewer. The colours that painters

use can be entirely chosen to produce these feelings, and these effects are analogous to the patterns of tones of music. Painters can however also subordinate colours to other means of expression and aims. Then they may use colours that are not in harmony with the image, colours that are not naturally associated to a form. The colours specifically express feelings, and viewers maybe remark these exactly because the colours do not adhere to the form. Thus painters can paint trees blue to evoke emotions of surprise and distance.

In the earlier centuries of the art, before our "abstract" twentieth century, painters imitated nature as well as they could. Nature bears particular colours, the ones viewers perceive every day. By using the natural colours, painters made viewers feel at ease. The viewers experienced the familiar feelings of natural colours and could marvel at how well painters rendered nature as realistically as humans could perceive that nature daily. Painters of course interpreted the colours of nature and modulated these colours to a certain extent, but then only to suit reality better than the eye might see exactly. The artists had a particular problem in that they had to work within the constraints of the natural colours and still cope with the obligation to evoke emotions in the viewers, but the best painters managed to reconcile limitations and freedom of expression.

During the centuries that Christian religion pervaded European thought, magnificent contrasts of pure, light colours were applied to evoke feelings of spirituality. Colour was subservient to a cause, which was to show nature in a way that inspired in viewers a feeling for the transcendence and immateriality of the divine world. The religious figures were glorified with bright, ethereal colours. In these centuries, colour also was used for its symbolic meaning, and a whole set of conventions on colour as to be used in pictures existed, and was known by viewers. Jesus Christ wore a red robe of love, the Virgin Mary was in white of purity and blue of distance, Judas had red hair and wore a yellow cloak. In the Middle Ages, in religious pictures, the colour blue was mostly associated with God the Father and yellow with the Holy Spirit, although sometimes we see these colours alternatively used. The scheme of colours was not always so consistent. But red was always associated with the Son. Colour thus emphasised the meaning of the scene, and had as much value as the icons or the symbolic images of the pictures. Although the colours had particular meaning, the combinations of colour intensities and tones were chosen in such a way that balanced effects or subtle effects of exception were still shown.

It was only from the twentieth century, on that colours came to be used exclusively for their expressive quality. Expressionist art needed tension and antagonism in its expression, in its images and in its use of colour. So this art applied colour contrasts that were not harmonious anymore. Colour was used to make the forms oppose each other and to clash. The Expressionist artists used hard, fully saturated colours and interspersed these with broad black lines and borders.

Thus, colour can be used basically in various ways. Colour can be used to depict objects with the colour of the moment these objects are seen. We know these colours change with the changing light that is thrown on the objects, but these colours are still perceived as natural to viewers. And painters can use colours for their symbolic value. Colours then can convey meaning, as well as forms and content. Finally, colours can be used to evoke emotions directly. In this case any combination that suits the purpose, whether harmonious combinations or not, may be applied. Viewers can reflect on what use a painter has made with colours in a particular painting.

Arte: I understand quite well now, Zeuxis. So, what is the next subject of our lessons?

Zeuxis: It is far too hot for more lessons today, Arte. I would like to stop here. It was a short lesson, but that is appropriate, since we also have finished studying colours now. It does not mean that we have finished with the effects of light, and colours will come back in various themes of our next lessons, but the fundamentals of colour theory and the special effects of colours should be no more a secret to you.

Arte: You are right, Zeuxis. Let's go for a walk then and go home slowly. I need a drink. Thank you for the shortness of this lesson.

Zeuxis offers his arm to Arte. After a short hesitation, she accepts gladly. Arm in arm, Zeuxis and Arte walk towards Arte's home.

Realism

Realism in Western Europe was a reaction at first of French painters against nineteenth-century Romanticism. Then, the movement spread into other European regions. The painters took note of the social realities of their society, in cities and in the countryside, and they depicted life as harsh and real as it was to draw attention to the poverty and alienation. The originally strong movement lost impetus to Impressionism, but it revived in the twentieth century, became a major tendency in the 1930's by the social engagement of European and American artists, and then was taken up as the preferred art form of state hegemonies in Russia and Germany, though of course then not anymore in a form that was antagonistic to the states, but that supported them. Realism was by far the main movement of Russian since the beginning of the nineteenth century.
Realism was a period of style that covered works in Russia throughout the nineteenth century, parts of Western European painting in that century, and an enduring style of depiction that took various forms in the twentieth century.

Barbizon

In the beginning of the nineteenth century, French realist artists worked together in the village of Barbizon near Paris, close to the forests of Fontainebleau. They painted in the open air and made mostly landscapes, sometimes also of the common people at work in the fields of the country. They studied the effects of light on the landscapes, and thus prepared the way for the Impressionists.
Painters of the Barbizon school were Théodore Rousseau, Jean-François Millet and Jean-Baptiste Camille Corot.

The Hague

The School of Barbizon inspired in the nineteenth century a comparable school in the Netherlands: the School of The Hague, named after the city where a group of artists had come together.
Painters were J Israels, H. Weissenbruch, M. Maris, J. Bosboom, P.J.C. Gabriels, H.W. Mesdag, A. Mauve and others, among which also Vincent van Gogh in his first period.

The Wanderers

Realism was extremely important in Russian nineteenth century painting.
In 1863, a group of fourteen artists left the Imperial Academy of Fine Arts of Russia, to protest against the conservatism and rigidity of the Academy. A new group or school was founded only in 1870, with a first exhibition held by this younger Russian generation of painters called the "Wanderers" or "Peredvizhniki". These painters were interested in the social condition of the Russian people.
Painters of this group were Ivan Kramskoi (1837-1887), Vassili Perov (1834-1882), Grigori Miassoiedov (1834-1911), and Nikolai Gay (1831-1894).
The movement would later evolve into the "Critical Realists".
The "Wanderers" movement more or less dissolved into the later – around 1890 – St Petersburg founded "Mir Iskusstva" (World of Arts), an association of younger

generation of artists among whom Alexander Benois (1870-1960), Constantin
Samov, Leon Bakst (1866-1924), and Evgeni Lanceray (1875-1946).
Around 1910, this movement culminated into a new association now founded in
Moscow, called the "Union of Russian Artists", with Abram Arkhipov (1862-1930),
Filipp Maliavine (1869-1940), Mikhail Nesterov (1862-1942) , Constantin Yuon
(1875-1958) and Igor Grabar (1871-1960) among others.
"Mir Iskusstva" in St Petersburg and the "Union of Russian Artists" worked alongside
and in various groups that had names such as "Blue Rose", "The Link", "The
Triangle", "The Crown" and "The Valet of Diamonds". This last and the "Blue Rose"
were most influential, emerging into the famous Russian Avant-Garde of the first
abstract painters in the world.

American Social Realism

A group of American painters around 1900 and after, followed upon realist styles.
Painters of this period were Thomas Eakins (1844-1916), Robert Henri (1865-1929),
Rockwell Kent (1882-1971), and others.
A group formed in New York, called the "Ashcan" School. The movement is now
called "Social Realism". It proved socialising tendencies in American art before and
after the New Deal, even though the term mostly indicates the painters of after the
1930s. Social Realism was an urban-oriented movement.
Regionalism took the American countryside as subject. The content of Social Realism
paintings was a form of genre.
Social Realist painters were Reginald Marsh (1898-1954), Raphael Soyer (1898-
1987), Isabel Bishop (1902-1988), Philip Evergood (1901-1973) and others.

Socialist Realism

Realism as we defined it above, is a nineteenth century phenomenon. Various trends
to Realism inspired by Communist ideology renewed in the twentieth century.
One of these was a movement called AKhRR, the "Association of Artists of
Revolutionary Russia". This group was opposed to the Russian abstract avant-garde.
It was founded in 1921, and considered the avant-garde a heritage of the bourgeois
order.
Similar movements existed in Germany. One was the "Red Group", Communist party
artists of Weimar, founded in 1924. Another was the ARBKD, the "German
Association of revolutionary Visual Artists", formed in Berlin in 1928.
These schools led in the beginning of the 1930's in Russia to Socialist Realism, the
official Communist Stalinist art, which lauded in its "Dogma of Social Realism" of
1932 the socialistic construction of the country and the revolutionary triumphs of its
industry. Social realism had to serve the masses, and thus be able to be appreciated
rapidly and easily by a wide public.
To these movements belonged the artists Alexander Gerassimov, Alexander Deineka
(1899-1969), Yuri Primenov (1903-1977), Arkadi Plastov (1893-1972), and Serafina
Ryangina (1891-1955).
The Mexican painters Diego Rivera (1886-1957) and David Alfaro Siquerios (1896-
1975) founded a similarly revolutionary Communist and Anarchist inspired
movement of mainly mural painting in Mexico, a style that also Jose Clemente
Orozco (1883-1999) applied.

A still later realist, but also Neo-classical art based on social-realist ideas, was Nazi Academicism. This also was a state art, which existed for the purpose to support the program of a political regime.

American Regionalism

American Regionalism was a movement of the 1930's that had its roots in the American agricultural mainland. It opposed Social realism of leftist North-American artists and pointed to the conservative values of the United States. This movement is also sometimes called American Gothic, after a painting of Grant Wood. The most typical painter of this movement was this Grant Wood (1891-1942).

Realism in general

All lines and directions were well known and exploited by the time the Realist tendencies started. In landscapes of course horizontal lines were emphasised and figures set well in front. They placed the vertical forms in contrast with the horizontal lines of the landscape. These contrasts between vertical and horizontal were often used to underscore the social themes.

The Realists used strong composition, and often vertical and horizontal forms, which they showed as if in conflict, such as in low horizons and a few figures standing out and higher than the horizon in order to emphasise the conflict between man and the land. Oblique lines and areas of compositions were not often applied.

The nineteenth century Realist artists painted rather dark colours, detailed realism in scenes. This was the case for the Barbizon and The Hague artists. Realist tendencies of the twentieth century however preferred clear, even hard colours.

The content of the Realists was reality in all its forms. That meant however as well scenes of social drama, of poverty and humbleness of the less favoured, as very realistic landscape views. Contrary to the landscapes of the Romantics, the Realists seemed to prefer the gloomy, menacing aspect of nature.

In realist landscape painting, much attention was given to depth and space, although nature was looked at closely and most of the scenes remained intimate. Realist landscapes were not as wide and as dramatic as the Romantics preferred.

In the nineteenth century French Realism painters were Jean-Baptiste Camille Corot, Gustave Courbet, Charles Daubigny, Jean-François Millet, and Théodore Rousseau, also Vincent Van Gogh in his early years.

Nineteenth-century Realism was a reaction on Romanticism. It delivered mostly a change in content, but also in colour, since many Realists worked in deeper tones, in darker and heavy colours. Realism returned to non-idealist reality. They wrote that nothing could be as beautiful and noble as pure reality. This was a reaction to the escape in ideas and dreams of the Romantics. The Realist painters also painted landscapes, as the Romantics, but they did not express their view of nature in its mystique.

Realists painted life in the country, as it was, less dramatic and mysterious than before, and they painted also the life of the country people and their livestock in open meadows, rather than in hidden mountain or forest scenes. Realists also showed a tendency to social engagement, which was however more present in some painters than in others.

The Pilgrimage to Saint Guidon at Anderlecht

Charles Degroux (1825-1870). Musées Royaux des Beaux-Arts - Brussels. 1857.

The scene of the "Pilgrimage to Saint Guidon at Anderlecht" represents a Catholic procession of horse riders before the church of Saint Guidon. Bystanders look passively at the riders as these pass the front doors of the church. The scene is painted with all the figures of a crowd gathered for a Roman Catholic religious feast.
The persons, horse, and the church are shown realistically, as if a photograph had been taken of the scene. The painting might be interesting as a nineteenth century document of the city-life of Brussels, and more particularly of Anderlecht, a popular suburb of Brussels. Anderlecht is the quarter where the slaughterhouse of Brussels was, a part of Belgium's capital where all the classes of society lived together.

Charles Degroux painted the "Pilgrimage" mostly in brown-yellow colours, a little on the dark side, but with quite more light than other Realists of his time painted. An oblique band of light is running the long of the painting, in which Degroux shows lively colours, mostly golden yellow hues, and some red colours. The leading horse is white, and that enhances the light in the scene, which is bright in front and then darkens towards the centre and the background.
The light is apparently on the main scene, and here Degroux painted his figures in most detail and in the liveliest hues, as if indeed this was a joyous celebration. Look at the golden robe and cloak of the young woman situated almost in the middle. She stands with her back to the viewer, but the play of light on her shawl and robe are splendidly painted.
Degroux was quite a professional, who might not have been one of the foremost artists of the Realist movement, but who nevertheless had all the skills of a master painter. The riders are well drawn too, and so is the light falling on the Gothic architecture of the church.

The riders and the church introduce an element of verticality that balances the general horizontal band of the people standing lower than the horses. The horses are coming towards the viewer, so they are growing towards the front. This feature, together with darkening colours in the background, provides a subtle feeling of perspective, of depth of space.

The overall mood of the painting is a static one. The riders are sitting straight up on their horses. The people are standing, and the lines of the church as the windowed fronts of the houses in the far add to a sense of immutability. This static feeling is not what we would expect as viewers, since the procession should be moving and all

should be in a joyful chaos of figures. We would expect more of that bustle, and of the joy, to be shown. We would have expected children playing, horses prancing, the flags and standards joyously flying in the wind. We would expect to see the white colours of the priests and the figures of the bearers of the symbol of the pilgrimage. Degroux painted none of that.

This is a sad scene. The crowd seems to be silent. They are standing and looking. A few people are piously kneeling in the middle, but these are children and there is no playful energy in them. They also never look at the viewer. The horse riders that pass through the people look haughty. They are sitting high on their massive Brabant horses, which are horses that draw carts and are not kept for sporting. The riders look forward, do not gently or proudly link with the crowd. They could be the occupiers of the land, riding in a procession of victory to take possession of Anderlecht and of the people that have just come out of curiosity to look at them in silence and in submission.

There is a dark corner in Degroux' painting, on the right, a corner one easily forgets at first glance. In this corner stand the men of Brussels. They also have come to the procession, to watch but not to participate. They have come to watch, but their impassiveness is scorn and defiance. One figure is sitting in the shadows with his head towards the viewer, as if to refuse to look at the procession. Higher up on the left, still in the dark triangle, the silence continues in people leaning with their backs to the walls. And just in front of the shadows stand a man and a woman in the full light, but with their backs to the riders. These are in empathy with the poor of the shadows, and almost ostentatiously disapprove of the riders. The man of that couple is the only figure painted in a faint blue colour, so that the attention of the viewer would not miss him.
Here is the essential message of Degroux' painting. He painted a procession organised for all, but only the rich are riding horses. Protest against the blatant injustice of the great difference between rich and poor seems to be growing. The rich merchants have horses and ride high; the poor stand in the shadows. A few people show their dissent. But this is still a Roman Catholic procession, so devotion is in a few knelt young people. The priests are not there however, absent at the differences in society, or pushed back by the power of the wealthy, pulled to the background from where they eventually emerged.

The significance of the painting becomes clear when we put the scene of Degroux in the perspective of the social climate of his times. The middle of the nineteenth century was for Brabant and Brussels a period in which the differences between the classes of society were important, very apparent and growing. The new industrialism had created a bourgeoisie and pauperised the masses. The farmers were ruined, as farms consolidated under the economic pressure. The poor flocked from the countryside to the cities. The landowners amassed ever more land while the farmers starved. The farmers came to the towns to augment a labour force that could be exploited by merchant and industrialists at low cost.
The ruling class of the country was the nobility, the Barons, the Counts and the Dukes. These rarely lived in the cities. The new wealthy of industry and trade built up on their wealth in the towns. As they wanted to become rich quickly, they had to exploit more, such as the merchants of the slaughterhouses of Anderlecht did.

Degroux' painting shows these rich people leading the procession, forming the procession, whereas the clergy is absent, as if it did not know its place between these classes yet.

Roman Catholic religion was the only consolation of the poor in all previous centuries, but the people increasingly understood that a part of the clergy, especially around the cathedrals, still sided with the class of society that owned all and held to the power and the money in that society. Religion would be seen in the end as part of the harsh differences in wealth. The clergy would be looked at as wanting to perpetuate a situation of extortion, for the sake of a peace and apathy that could be endured no longer in the face of the injustices.

The too apparent cleft in society led to rebellions after the years of fear and impassiveness. Tensions grew, and Degroux showed the lack of sympathy, the hostile tension in the people standing on the left defiantly against the walls. We can hear the mocking remarks, the anger and frustration. It is shown in the colours, since the poor stand in the shadows of the left triangle. It is shown in the lines of the painting, since the horses advance and emphasise the vertical directions, whereas the people form a lower band that is horizontal and deep. It shows in the haughtiness - or is it unease and fear – in the front rider, even if he stays impervious to the tension. And behind the riders grow the high lines of the Gothic church, the lines of hierarchy and of supreme authority. The riders are closer to these lines, which oppress the low people. Finally, the front rider is confronted with children, whereas the adults prefer to stay in the dark background, in silent defiance, and probably also in shame.

The year is 1857. The scene is Belgium in Western Europe. Belgium was a new country; it received its independence only in 1830. Belgium is a younger state than the United States of America. Industrialism soared. In Europe of the late 1800s, the metallurgic industry in particular grew massively, mainly in the carbon belts of Europe, among which Belgium. This brought new concentrations of people to the existing cities of Wallony (the French-speaking southern part of Belgium), to the old towns of Lorraine in France, to Saxony, the Rhineland, Poland and Czechia. The cities became black by the coal dust pollution. No bright pictures could be painted.

Western Europe knew economic crisis well enough. In 1831, one such crisis bankrupted Charles Degroux' father, so that the Degroux family of ten children had to move from the French part of Comines, a town on the border of France and Belgium, to Brussels where Charles' father got a job as a clerk. Degroux came from a family of ten children – one child died very young – ten, as in his painting of the "Benedicite". Since the beginning of the 1840s, social critics were uttered frequently by economists, militant politicians and journalists, such as Louis Blanc and Pierre-Joseph Proudhon, against the appalling conditions of the working class. In 1846-1847 the economical situation in Western Europe became catastrophic. It was linked to insufficient agricultural production. Famines broke out, especially in Great Britain and Ireland. Tens of thousands immigrated to North America. Remember the "Last of England" by Ford Madox Brown, painted in 1852.

Karl Marx and Friedrich Engels founded the Communist League in London in 1847. Its former name was the "League of the Just", for justice and dignity they claimed indeed. The Communist Manifesto dates from 1848. From 1848 on also, a wave of revolutions rolled over Europe: Vienna, Berlin, Munich, Venice and Milan. The

French Republic was proclaimed, the president of France would be chosen by universal voting. In 1851 two workers, William Newton and William Allen, founded in Great Britain the "Union of Engineers", one of the first workers' unions to claim higher wages in an organised way. In 1853, Prussia installed a new law on children's work: children workers had to be older than ten years and should not work more than six hours because they had to be at least three hours at school – this either in public schools or at their working place. The Bessemer converter was invented in 1855; Friedrich Krupp of Essen in Germany applied it eagerly. Industrialism still expanded.

There were constant battles between the armies of the European countries during that time. The Crimea war started in 1854. In 1857 there was a new financial and economic crisis in the United States, Great Britain and France especially. Unemployment grew. New revolutions started. Giuseppe Garibaldi came, though by royal decree, at the head of an Italian army. He fought and defeated the Austrian army. The former French president, now adorned with the title of Emperor Napoleon III, also declared war to Austria. Solferino, the very bloody battle at which the idea of the International Red Cross grew, was fought in 1859. Shocked by the horror of this battle, Henri Dunant founded the Red Cross in 1864. Karl Marx published "Das Kapital" in 1867.

In 1848, in Belgium, a small army of Belgian and French workers threatened to march against Brussels, but was defeated by the Belgian regular army. In 1849 the workers in the cotton manufactories of Ghent went on a strike for two months.
In "Das Kapital" of 1867, Karl Marx called Belgium the paradise of continental liberalism. He noted that in the high furnace factories for every 1000 persons worked 149 women, as well as 98 boys and 85 girls younger than sixteen. He further wrote that between 1850 and 1863, Belgium had doubled its exports of carbon and iron[G16]. Liberal Belgium was a powerhouse where enormous fortunes were made. Belgian centralisation of industry was an example for the world, not only because so much carbon and steel were exported, but also because of its output of machinery, locomotives, and railways. The countryside and the farmers did not participate in the wealth however; workers were exploited and lived in abject poverty.

Charles Degroux was born in 1825; he died in 1870 a mere 45 years old. His father had brought the family to Brussels, and Degroux studied at the Brussels academy where one of his teachers was François-Joseph Navez. Charles Degroux did not have a good health. He had a weak hearth, and would die suddenly in his workshop, leaving his wife and children without any means so that they had to sell all Degroux' paintings and drawings at an auction [G73]. His friends, all artists, paid for his tomb. Charles Degroux was very pious and seemed to have found solace in his prayers. He lived off his painting. He was not poor, but certainly also not rich. Degroux has not made a great many paintings, but he painted in the new realist way that suited the industrialism and the social struggles he saw around him. He painted religious scenes also, and historical scenes hoping to earn more money. He always showed the poverty in his religious scenes, and always the poor people were the first subjects of his paintings. He lived through these socially troubled years not without being deeply touched.

Belgium was very Catholic then. In 1854 Parliament adopted the Convention of Antwerp, reinstating the influence of the Catholic Church on public schools. Yet,

there was also quite some anti-Catholicism. A liberal anti-clerical party won the elections of 1857. Belgium would remain stubbornly Catholic, especially in the country, in Flanders and amongst the farmers.
In Italy, in 1860, the year in which Degroux painted his "Grace", Garibaldi entered the Papal States and defeated its army.

Pictorial art of the times since 1850 changed from Neo-Classicism to Realism. Its main proponent was the Frenchman Gustave Courbet who exhibited "The Stone Breakers" at the Brussels painting salon of 1851. His paintings caused a stir in art, but when we now look at them in retrospect, they still seem very nice, sweet, still devoted to harmony, to restraining rules of art, and not very revolutionary. Yes, the subjects had evolved from Greek and Roman mythology to everyday life, and from portraying middle-class rich people to picturing common folk and workers.
The paintings were still addressed to middle-class buyers, however. Just as Degroux' picture they are not really intended to shock, only to show. They remain harmonious in lines and colours, storytelling, and within the rules.
The Realists, like Degroux, were painters who did not deliberately by their subjects, their content, seek higher beauty and ideas. By showing common people, the Realist painters drew the intellectualism and individualism of Classicist and even Impressionist painting back to harsh reality. Critics vehemently opposed these views. Art was to be idealistic, not supposed to show the hardness of life.

Some of the real horrors would be shown only much later by Belgian painters like Eugène Laermans, Constantin Meunier and Charles Hermans. The social-realism movement would lose momentum by 1880. Painters needed buyers; they frequented the middle class and were from the middle class themselves. Peasants and high-furnace workers do not usually spawn painters, and when that happened nevertheless, these painters quickly moved to middle-class circles, were provided for by the middle class or the very rich, and moved in their circles.

Charles Degroux thus painted a scene that represents the tension in Belgian society. His picture is static, because sadness had to be shown and tension. His picture is a silent accusation. The people have come to a religious procession only to see that the leaders of the procession are the bourgeois merchants, and no priests are in view. Where is religion in this painting? Notwithstanding the title, Degroux did not paint a religious scene but a social theme, and the antagonism between the classes of society. His painting is very realistic, really a scene as Degroux might have actually seen. But in order to show reality, an artist has to re-arrange that reality to capture the undercurrents of feelings. Degroux did just that.

Pierre-Joseph Proudhon (1809-1865) who knew Gustave Courbet (1819-1877) the best known French Realist, wrote in 1865 on the painters of this the called "Naturalist" movement, "Should one then say, as the writers of the new school do, that these pictures are pure realism? Take care, I should reply; your realism would compromise the truth that you claim to serve. The real is not the same thing as the true; the former refers mainly to matter, the second to the laws that govern it; the latter alone is intelligible, and can on that account serve as object and goal of art; the former has, of itself, no sense."[G87]
Charles Degroux showed the undertones of social injustice. He did that very efficiently, and in a subtle way, so one sees only a nice scene, maybe a bit strange in

its lack of energy, but a scene in subdued harmonious colours that would probably not greatly affect first viewers.

The Realist movement in painting first started as a non-romantic depiction of landscapes and cityscapes, which produced almost a genre in which only the interested viewer would find the true mood of the picture. The viewer, who only briefly passes by such pictures does not catch the bitter undertones.

The artists that worked in the small town of Barbizon near Paris, had evolved to painters like Degroux, who showed the revolutionary protest of their social engagement.

Lesson Fourteen – Light and dark

Arte and Zeuxis walk along the river. It is hot and still in midsummer, but in some fields farmers have already harvested the wheat. Arte looks with interest at Zeuxis.

Arte: Zeuxis, friend, it has been a while since we saw each other. Were you tired of coming to me?

Zeuxis: Oh, no, Arte. You have to be in a certain mood to call me to you. You have been busy these last weeks and had no time for introspect, dreams or questioning things. I only come at your bequest.

Arte: I missed you. Maybe I missed also being alone. After the last lessons on the harmony of colours, I needed to let my thoughts rest. You brought me in confusion and in turmoil of feelings. I wondered whether I would continue to learn about painting. I even wondered whether I would even continue at all with painting. It is all so complex.

Zeuxis: Welcome to adulthood, Arte. In this life nothing is easy. I felt the doubts and feared you would stop. But here you are. There is still much to know. The more you learn the more you will understand how little you know. Goethe made his Doctor Faust say that at the beginning of his book. But Mephistopheles, the devil, took Faust on to see the rest of the world. Only resolution can kill doubt.

Arte: And you will then be my Mephisto, Zeuxis? I, who saw you as the Archangel Michael at least!

Zeuxis: Now you are complimenting, Arte. Shall we start? I would like to talk about light and dark now.

Arte: Yes, please.

Zeuxis: The power of contrast between light and dark in paintings was a gradual discovery. Painters gained knowledge and awareness of the dramatic views resulting from light thrown on objects and the contrasts formed with their shadows. We also have to take the effects of painterly techniques in account to explain the evolution of how painters used extreme brightness contrasted with dark backgrounds and ample shadows in their work.

Arte: I saw in Italy very fine and very bright wall-paintings. Are you referring to these paintings, Zeuxis?

Zeuxis: Yes. In European painting, most works of before the thirteenth century were frescoes. In fresco painting, colours are applied on wet plasters. A first layer of plaster is set on the nude brick or stone walls, called the "arricio". Thereupon, the painters drew the design of their picture. This was made with a red ochre pigment and hence called the "sinopia". On the sinopia a light, thin further layer of plaster was set, called the "intonaco". On this wet surface then, painters could apply their paints. Only so

much intonaco was prepared as could be painted over in a day because the paint had to be put on wet plaster for the paint to react with the plaster and dry with it. The fresco work of one day was called a day's work; a fresco painter worked in "giornate". This technique had several limitations for painting.

Over the large surfaces of a wall, it was very difficult to have gradual changes in tone. It was hard to continue day after day with exactly the same tones, and change them slowly over time without the differences of the days being noticed by attentive viewers. It was difficult to paint one side of a room in bright colours and the other side gradually darker. The earliest pictures therefore were painted in all-pervasive light on the environment, and once the style was used for some time it became a tradition. Places, rooms, landscapes thus bathed in all-pervasive light that came from one side, as indicated by crude shadows on buildings and people.

Arte: In Venice I saw very old mosaics made in the Byzantine style. The mosaic layers already knew how to show shadows on figures.

Zeuxis: Byzantine painters had learned to provide an illusion of volume by showing the changes made by the shapes of the body in the vertical lines of the draperies of the cloaks of the divine figures, and later also by applying subtle shadows in darker tones. Such effects were easily transposed in fresco painting to give a sense of the direction of light. It sufficed to darken draperies in certain places, to bring golden lines to indicate the folds. But these were also the only effects of light used for a long time by painters. Occasionally shadows of the figures on the ground would be depicted, but even that obvious effect of light was not a first evolution.

Fresco colours become chalky with time, as the white plaster balances the saturation of the hues with white. The result was a bright, clearly delineated picture, in only so many simple hues, and without the richness of transitions in hues that could be obtained later in oil painting.

The discovery of oil painting allowed working over previous layers of paint. It allowed very gradual changes in hues and tones. It allowed a variation in colours, infinitely richer than what could be obtained in fresco painting. It liberated the painters from work on wet surfaces. Painters could make repents with oil painting, corrections over earlier errors. And oil painting allowed exploiting all the richness of the observed changes of light that came not anymore fully from one side, but from one point in space. All-pervasive light could be modulated.

Arte: What do you mean by all-pervasive light, Zeuxis?

Zeuxis: An all-pervasive light could also flood scenes in oil paintings with brightness. This was the case in pictures made by the Flemish Primitive painters of the fifteenth century. In their devotional scenes, the divine light was to diffuse through all the figures, since indeed the characters belonged all to the New Testament. Shadows of figures would be rare and only slightly indicated beneath each figure, or even only beneath some of the figures. Shadows were of course necessary on the figures themselves, in order to create volume, but were otherwise absent.

Zeuxis brings forward his magic screen and projects again Fra Angelico's "Coronation".

➔ Fra Angelico (ca. 1400-1455). The Coronation of the Virgin. Musée du Louvre. Paris. Ca. 1430-1435.

Zeuxis: An example of this way of representing the divine light over all of a picture is Fra Angelico's painting that we have shown before. There are no shadows at all in this painting, as the divine light comes in equal intensity from all directions. Fra Angelico only applied delicate chiaroscuro on the draperies of the figures, which he needed to do, giving an impression of volume in his figures.

Arte: You used a word I do not know, Zeuxis. What is "chiaroscuro"?

Zeuxis: Painters can use contrasts between light and dark to create powerful effects. One of the earliest effects is called Chiaroscuro, from the Italian words of "chiaro" for light and "oscuro" for darkness.
Chiaroscuro was and still is a way to represent light and shadows to define the three-dimensionality of objects. Chiaroscuro was applied on all objects, but could be used at its highest complexity on the human body and on the clothes, often draperies, of figures.
By using chiaroscuro, painters can suggest that sunlight or other light comes onto a scene from a certain angle, from the left or the right. Light can come also from higher up or from below. The shadows thrown on the ground, and also the shadows on the clothes of the figures and on the architectural constructions indicate the direction of the light. The shadows form gradually on round objects, and by doing so, they create depth on the object. Although the canvas is flat and has only two dimensions; chiaroscuro can therefore only create an impression of volume, which is an impression of three dimensions. Chiaroscuro has been applied since the beginning of painting, since it was the foremost technique to create illusion of volume, illusion of three dimensions on the panels.

Arte: What do you mean by the beginning of times, Zeuxis?

Zeuxis: Pliny lets a Greek critic state that an illusion of roundness could be created by the outlines of the figures. He stated that the outlines had to go round to such an end that the lines promised what lay behind and in doing that would suggest what was obscured. Ernst H. Gombrich mentioned that my friend Parrhasios' triumph lay in that his figures suggested what they could no longer show. [G106.] And indeed, Arte, we Greek painters already knew how to create volume by contrasts of light and dark!

Zeuxis projects now a painting of Michelangelo Buonarroti.

➔ Michelangelo Buonarroti (1475-1564). The Holy family with the infant Saint John the Baptist (Doni Tondo). Gallerie degli Uffizi. Florence. 1506.

Zeuxis: We look as an example of chiaroscuro at the Doni Tondo of Michelangelo. Michelangelo used the chiaroscuro technique on this oil painting, as if he were working a fresco. He used the play of shadows fully in the draperies to indicate the volume of his figures. Thus, although we know the tondo is a flat surface, the illusion of the knee of the Virgin coming out of her blue cloak is perfect. Michelangelo did not use black for these shadows, but lower tones of each colour. In the clothes of the Virgin he used darker pink on the right side of her robe, and darker blue on her cloak.

A subtle transition of tones in the face of the Virgin brought volume also to her cheeks and lips.

Arte: Michel-Eugène Chevreul argued that two contiguous parts of the same object unequally lighted by a same light differed from each other in height of tone and in optical composition of the colour, their hue. In sunlight, this happened to parts in shadow and the shadow tended not to black but to the complementary colour. Can you show me an example of that effect, Zeuxis?

Zeuxis, suddenly alert and surprised: Hey, hey, Arte. You hid from me that you had read Chevreul in the meantime!

Arte: I am a good pupil, Zeuxis, dear. Now go on!

Zeuxis shows Gino Severini's landscape again.

➔ Gino Severini (1883-1966). Landscape in Civray. Private Collection Rau. Germany. 1909.

Zeuxis: As an example of this we look again at Gino Severini's landscape. The trees throw shadows on the ground. Severini did not paint these shadows in grey and black colour. He painted them in green hues, the complementary of the red-orange colour of the meadows.
Thus, the darker colours of chiaroscuro change with the colour of the surface on which the shadow is formed. Chiaroscuro on draperies means that the parts of the draperies that receive less or no light at all, thus should be areas of grey or black, but since these areas are adjacent to the coloured areas of the draperies, they take on the complementary colour.
The effect of chiaroscuro changes also with the colour of the light that is thrown on the scene. Light is not necessarily pure white. Sunlight can be orange-red to orange-yellow in morning and evening. Then, a whole picture can be pervaded by these hues, and that has also its effects on the chiaroscuro and on the shadows overall.

Zeuxis waits a few moments, and then he continues: Chiaroscuro is a powerful effect in paintings. But not all critics unconditionally accepted chiaroscuro.

Arte: Chevreul wrote that for a painter to be a perfect colourist, he must not only imitate the model by reproducing the image faithfully, but that while respecting aerial perspective, relative to the variously coloured light. He argued also that the harmony of hues must be found in the local colours and in the colours of the object imitated. If these were colours inherent to the model that a painter could not change without being unfaithful to nature, there were other colours at the disposal of the painter that had to be chosen so as to harmonise with the first.
With this definition, Chevreul departed from the usual idea of his time that was to admire full chiaroscuro in pictures. He also refused those people who only called a painting beautiful when its hues were vivid.
He said a painting in full chiaroscuro or in vivid colours could have a disagreeable effect, because the colours of the objects had no harmony in the sense he had defined with his law of simultaneous colours. Chevreul was of the opinion that some pictures in flat hues (without chiaroscuro), but with hues that perfectly assorted to the eye,

although contrary to those which we know to the objects imitated, could produce under the relation of general harmony of colours, an extremely agreeable effect.

Zeuxis: Yes, Arte. And this was a revolutionary view. It was an opinion that came very naturally from a person who had learned to admire good colour combinations to any other devise of art. But Chevreul disassociated in this view an object entirely from its colours. Chevreul encouraged painters to apply more his propositions of harmonies of colours overall than to paint the "true" colours of the object and to show it in its chiaroscuro. We now know how the French school called "Les Fauves", and the Divisionist painters, took up Chevreul's opinions.

There are a few other techniques to talk about now that we are at it: sfumato, tenebrism and a technique we might call of "point sources of light".

Sfumato

Zeuxis: Leonardo da Vinci was probably one of the first painters to use a technique called "sfumato". Sfumato is an Italian word derived from the verb "sfumare", that is to evaporate like smoke or to tone down. It is a technique whereby colour transitions between areas of different colours are made in fine shading, in subtle gradations. Thus the differences between the various colour areas gradually flow into each other. Thereby, the impression of lines separating the different colour areas is subdued. Sfumato allows very soft but realistic rendering of faces in portraits. Leonardo's chiaroscuro thus became subdued and gradual. He painted the transitions between colours broader than ever before. The advantage of this was that the problems of the simultaneous contrasts of colour were much avoided.

Tenebrism

Zeuxis: The contrasts between dark and light that were exploited in chiaroscuro since the beginning of oil painting, were mostly used until the seventeenth century to show volume and to indicate the realistic play of light on objects. In the beginning of the seventeenth century however, painters started to use the contrasts between light and dark in more dramatic ways.

Caravaggio made low tonal pictures with bright, splendid colours in his figures. Instead of painting nice, bright backgrounds as was usual until then, he painted his backgrounds in dark tones. All or most of the details of the background disappeared in this process. But then, Caravaggio brought his figures to the foreground in bright colours. The effect that was thus created, was an impression of intense emotions, of conflict between the drama of the figures and their surroundings. This style is sometimes called Tenebrism. The word is however not very correct when applied to Caravaggio's paintings, since it seems to refer to pictures of overall low tones, whereas the paintings of Caravaggio brought often splendid and pure colours to the foreground.

After Caravaggio, the Baroque painters used this technique to augment the emotional tension of their pictures. Especially Rembrandt applied low tone pictures and the contrast against these backgrounds. He used even the whitest colour possible for his figures, which is the lead-white. When most if not all of the picture is painted in deep tones, the term of tenebrism applies better to the style of painters like Francisco

Zurbarán, Juan Carreno de Miranda and José de Ribera. Especially these Spanish Baroque devotional painters of the seventeenth century preferred this style.

Point sources of light

Zeuxis: The skill of painters can be remarked by looking at how the artists render the play of light. It takes much skill to show the effect of light coming from a left or right side. It takes more skill to show the effects of a beam of light coming from an oblique angle. Caravaggio excelled in such scenes lit by a radiant beam of light coming from a concentrated source.

The highest skill was and still is in displaying light coming from a point source. There is a tradition of painters trying their art at such scenes. Painters that excelled in scenes lit for instance by a single candle, were such different artists as Georges de La Tour and Joseph Wright of Derby.

In such paintings, one has to bear in mind that the light from the source diminishes with the square of the distance between the object and the source. Thus, light diminishes rapidly in brightness, especially from a faint source. That feature constructs dramatic effects, as objects and figures very close to the light are highlighted, whereas the brightness fades rapidly into total darkness.

Zeuxis shows a painting on his screen.

➔ The Adoration of the Shepherds. Gerard van Honthorst (1590-1656). The Wallraf-Richartz Museum – Köln. 1622.

Zeuxis: I show you one painting, Arte, in which light comes from a single source. Here the light radiates from the newly born Jesus in a typical "Adoration of the Shepherds" scene. Gerard van Honthorst painted a scene of the "Adoration of the Shepherds" that was in everything traditional but for the uncommon light coming from the baby Jesus that is thrown on the figures.

Van Honthorst made his picture not so many years after Caravaggio had made his first paintings with dramatic effects of light. Van Honthorst had been from 1610 to 1620 in Rome, and must have seen some of Caravaggio's innovative work on the effects of light in paintings.

Arte: Great, Zeuxis. But it starts to rain. Let's run for home now.

Arte start to run suddenly, as hard as she can, and Zeuxis remains perplex; then he disappears.

Impressionism

Impressionism was an art form created in the 1860s in France. A French critic gave the name for this movement after seeing Claude Monet's painting "'Impression-Aube". The Impressionists wanted to stress the illusion of the representation in the art of painting, mainly the representation of landscapes and still-lives. They proposed only "impressions" of what they saw, yet emphasised the representation of real nature, as contrary to presentation of imaginary scenes. Impressionist painters left their workshops to paint outside, in the open, and in front of their views of nature. They sought light, the sun and its varying effects on nature in colours. They were obsessed by colour, and studied colour effects intensely.

Divisionism and Pointillism

Divisionism was the juxtaposition of dots or of small strokes of primary colour, methodically laid on the canvas. The Divisionist painters used the three subtractive primary colours to construct in the eye of the viewer all other hues. They "divided" the hues of the eye into the primary colours, and also aspired at harmony by separating all elements of colour, hence the name of this kind of painting. Pointillists then, obtained the combined colour effects only by juxtaposing small dots of paint.
Divisionism took the concepts of Impressionism one step further so that it is also called "Neo-Impressionism". The name was founded by the Italian painter Gaetano Previati, who wrote a book in 1906 with the title "Principi scientifici del Divisionismo", and the name was then taken on by French painters.

Impressionists used all techniques of lines and directions. However, they gave preponderance to colour, and to bringing colour areas on the canvas. Most Impressionists only needed a few high-level lines and looked first to colour to induce emotions, not to clear lines. Yet, they did not reject strong underlying structure in a picture. Horizontal directions dominated in the landscapes.

Compositions remained often simple and high-level. The basic triangles and also vertical and horizontal layers were used for structure. The main emphasis was not however on academic use of form and compositions. Emphasis was on the creation of emotion through colour, not through line, composition of forms, or clever and intricate compositions.

Impressionist painters honour light in all its changes and facets. They were fascinated by the relation between light and colour in a free depiction of their subjects. They applied colour in soft hues and bright tones. Impressionists preferred clearly visible transitions of colour, in many hues.

The artists avoided historical, genre, religious or romantic themes, and turned resolutely to landscapes, cityscapes and still-lives in the first place. Impressionists did not seek out intricate detail, also not in their figures.

Impressionists did know the importance of volume and of depth of space, but these were usually not applied in a sophisticated way. Chiaroscuro was used, but in broad areas instead of in many subsequent smaller juxtaposed zones or in delicate graduations of colour. Later Impressionists were much concerned with the representation of volume and space, but they emphasised more or were more aware of the flatness of the canvas. So instead of creating sophisticated illusions of depth, they simplified their relations to space, in order to represent it purely in colour changes, thus more indicating volume and depth than wanting to imitate it on the canvas.

Painters of this period and style were among many others: Claude Monet, Camille Pisarro, Edgar Degas, Edouard Manet, Pierre Renoir, and Alfred Sisley.

Impressionism continued on the impulse given to landscape painting and to genre painting by the Romanticists and the Realists. Impressionism was a radical evolution in formal style. The artists rendered the impression they had of the landscape only, and therefore neglected line for colour. That was new in art, and in the beginning vehemently ridiculed. Impressionism was another artistic, formal expression of looking at nature and objects. The Realists had darkened much their tones; Impressionists would re-introduce light and study effects of bright light on landscapes, on figures and interior scenes. Divisionism was a logical outcome of the tendency to study effects of light, and through discoveries in light theory of scientists like Michel-Eugène Chevreul, this movement evolved to a new style of juxtaposing small coloured dots on the canvas.

Hoar Frost

Camille Pissarro (1830-1903). Musée d'Orsay – Paris. 1873.

"Hoar Frost" leaves a direct impression of cold. We feel instantly the dire cold of the frozen ground. We pity the farmer, who walks with a stick so that he would not glide away under the thick bushel of wood on his shoulders. In this frost, the man will need to keep his house warm and therefore he has to go in the morning a long way to way to carry his cut wood home. The sun rises slowly in the far. She sends her first long shadows over the ploughed fields. This is a fine picture of a landscape in the winter season, painted in harmonious colours.

We can admire the colours of the picture and how they evoke in the viewer the impression of cold. Details are frugal however. We see the man, a few bare trees, the ploughed fields and the small country road. This shows a rather lonely scene. The colours fuse everywhere in this picture. They inter-react nicely and do not much contrast, but seem to blend into one another as in fact this whole scene blends, even the man and nature. The painter's brushstroke is broad but delicate, and in particular places like in the trees, bushes, and in the figure, they are far more detailed than in the overall landscape.
There is a mixture of detail and of dominance of mood in the country view. The hues are modulated, so that the colours differ not much form little area to little area. But

there is less to discover in this picture than in paintings of earlier masters, and the picture is clearly far less ambitious in idea. It represents merely a landscape, and then it renders mostly only the first, rapid impression of the artist.

Pissarro of course went outside in the hoar frost and painted, and that was new, but we have to conclude that this is a "first phase" picture only, of which the first glance says all there is to know about it. Such paintings are all eye, and we mean the real eye, not the mind's eye. The view is beautiful and harmonious; the picture is efficient in inducing a certain tender emotion – here of the cold on a lonely winter day in the country. But there is not much more to discover. That was exactly what the critics of the nineteenth century reproached this picture for.

The paining "Hoar Frost" lacked moreover nicely worked-out detail. There was no special, elevated idea expressed, and reality was not even so faithfully represented as with the Realists, who with time had become accepted by the Parisian Academy. In times of historical painting, of Romantic outbursts of energy, after Neo-Classicist heroism, the view of a country path in winter cold could not arouse the intellectual interests of French critics of 1874. Paintings like this were instantly rejected.

Camille Pissarro painted in small strokes of paint laid one stroke next to the other. There is a wealth of hues to be found in every small patch of the canvas. Yet, when seen from a distance, the larger areas realise one overall hue, one global tone.

There are three such overall hues in Pissarro's painting "Hoar Frost". The road and parts of the fields, the parts that have received no sunrays yet, are in a peculiar hue of white-grey frost. The parts of the fields that did receive the sun can be seen in brown hues, as ploughed fields of course normally are. The sky is a subdued blue, and so are the shadows that are thrown in long lines over the fields. Were these really the colours as the eye of Pissarro saw them? Probably yes, but not necessarily. The impression of the cold and its working on the fields was the feeling that needed to be conveyed. For that reason, hues other than the realistic natural colours could be used, and that fact also puzzled the critics. The whole art of the painter lay in conveying the idea of the landscape at a particular moment in time, and thus in a particular moment of light. But pictures like this were no realistic mimesis of nature!

In 1873, several French painters who knew each other well because they all more or less painted in the same style, decided also to exhibit together. They had exhibited together before, and their art was not unknown. The French and thus Parisian, venerable Academy, organised each year an official exhibition of the works of the best painters of France. This was the yearly Salon. A committee chose the works that could qualify for the exhibition.

In the 1860s, there were so many refused pictures, and the protests of the refused so potent, that it was decided to install also an exhibition of the refused paintings, the "Salon des Refusés". But everything was hung in the Exhibition of the Refused paintings. There were hundreds of frames. All pictures were hung together, one higher than the other, so that the high walls were completely covered. The top paintings disappeared entirely in such an assembly. The public could hardly remark many of the pictures of the group of friends of Pissarro, informally called the group of "Batignolles".

In 1863, the salon was held in the Palais de l'Industrie in Paris. There were over three thousand applicants. Pissarro, Manet, Whistler, Monet, Jongkind, Fantin-Latour,

Braquenard, all applied but were all refused. The superintendent of the official exhibition, the Count of Nieuwerkerke, proposed the first "Salon des Refusés" and on 15 May 1863 this first Salon took place with more than six hundred fifty refused pictures rejected at the official Salon. Since 1865, the group of painters around Camille Pissarro and Claude Monet was called the Group of Batignolles, because they lived and gathered in the Rue des Batignolles in Paris. They came together in the Café Guerbois there. Pissarro always lived in the country, in the 1870s in Pontoise near Paris.

In 1873, the group of young radicals was not pleased anymore with the Salon des Refusés. They wanted to exhibit as one coherent group and separately. They formed an association called the "Anonymous Cooperative Society of Artists, Painters, Sculptors and Engravers". They were looking for an exhibition hall, when the photographer Félix Nadar proposed his studio on the corner of the Boulevard des Capucins and the Rue Daunon in Paris, in the fashionable Madeleine quarter of Paris. This would be the "Salon des Indépendents". Around twenty painters were found ready to exhibit and offered paintings. Edouard Manet, who had until then been the leader of the Batignolles painters, refused to exhibit, so that leadership passed entirely to Camille Pissarro and Claude Monet. At the exhibition, Pissarro, Monet, Sisley, Renoir, Degas and Berthe Morisot had pictures hanging together in one room, among which "Hoar Frost".

A painting of Claude Monet was the "Impression: Sunrise". A critic used that title to suggest that the artists of the Salon des Indépendents painted just that, impressions. Other critics wrote in very satirical moods on the paintings and also "Hoar Frost" was mocked as if neither having tail, top nor bottom, front nor back, and on which the furrows of the ploughed fields were merely palette scrapings on a dirty canvas.
The name "Impressionists" was a name of derision but the Batignolles group during a meeting at the "Brasserie des Martyrs", the coffeehouse of the martyrs, decided to adopt the name and proclaim themselves to be a movement. The name "martyrs" was well chosen, because they had sold almost no paintings at the exhibition. Members of this Impressionist movement then were Pissarro, Monet, Sisley, Degas, Renoir, Morisot, Guillaumin, Boudin and Cézanne. Pissarro became the unofficial inspirer of the movement.

The painting "Hoar Frost" was one of paintings hung at the First Impressionist Exhibition of Paris. Camille Pissarro was very poor until the last years of his life, as were almost all the Impressionist painters who had no family money. The poorest of all the now famous painters was Camille. But he kept the movement alive, calling the group to exhibit year after year, until the movement reached the fame we know currently. The Impressionist paintings are now among the very most expensive pictures in the world. Each painting is individually estimated and sold at millions of dollars to tens of millions of Euros. Yet, in what is the value of these paintings? Were all of the critics of the nineteenth century art writers unjustified?

We already stated that Pissarro's painting is a "phase 1" picture. Impression paintings of landscapes, of still-lives, of portraits, indeed evoke a fine instant mood at their visual effects by the musical quality of their colours, combined with the mostly picturesque subjects. These add to feelings of unequivocal, simple aesthetic pleasure. A few details can generally be discovered in the composition or in the colours, but

these paintings seldom carry richness in symbols or in inspirational ideas. They represent a landscape as really seen outdoors at a particular moment, and that is that. A viewer sees and admires the painting in a few seconds, and then can go on; he or she knows the entire picture.

Impressionist art leaves however such a strong visual experience, that it needs no further knowledge. The art therefore was apparently easy and became very fashionable since the end of the nineteenth century. Such an analysis passes by the extraordinary eye for colours and the transformations shown in the depiction of reality, in order to make the scene more real than real. The technical prowess of the painters and the wealth of hues in their pictures remain unequalled.

The story of how the Batignolles painters, in a large part due to the steadfastness of Camille Pissarro, came from oblivion to fame, plus the romantic lives of its masters like Pissarro and Claude Monet or Edgar Degas, add interesting tunes to their paintings. Impressionist paintings have therefore also become "third phase" pictures, and have been recognised as very valuable.

The technique of the Impressionist painters was particular, based on new insights in the forming of colour impressions in the viewer. The Impressionist painters were all colours and not much line. They used slight touches of juxtaposed colour hues to imitate the great variety of the colours of nature.

The Impressionist painters sought a certain continuance of finding spiritual delight in landscapes. The Romantics had painted landscapes and brought the landscape themes to mythical dimensions. For the Romantics, the landscapes induced intense feelings of loneliness, of spleen, of sad melancholic moods, and these reflected the moods of the Romantic soul, the isolation of man in the universe. Because of the soul's mood also certain landscapes that were more in empathy with this mood had to be chosen.

The Impressionists did not seek this mystic symbiosis with nature. They were satisfied in simply seeing nature as they found it, often by chance, and paint its ever-changing variations under light. They admired nature as it was, and for its own sake, marvelling at the ever-changing wealth of colours that came with the passing sun. The Renaissance Florentines had been suspicious of colour, because colours changed and thus were not at all an intrinsic quality of the object or figure, as were lines and forms. The Impressionists lived by the changing nature of colour, and tried to capture its changing nature.

The Impressionists took elements from the Romantics, some of the delight in the landscape, but they had found the extraordinary wealth of the varying colour hues of nature. They marvelled in the way light formed and changed colours. Pissarro's "Hoar Frost" is one example of a painting showing a simple landscape at an unusual hour of the day and in unusual conditions of lighting.

The Impressionists succeeded because of three reasons. They succeeded because they proposed very strong "phase 1" impressions on viewers, because of their romantic lives, and because of their peculiar technique of using small juxtaposed colour strokes to an extraordinary variation of hues, which brought admiration for the visual process. This brought the Impressionist painters to their current high valuation.

Lesson Fifteen – Volume and Space

Arte and Zeuxis are sitting in Arte's home. It rains abundantly outside. Arte has a towel around her head and she has changed her dress.

Zeuxis: Sorry, Arte. Rain doesn't hurt me so much as you. I was not really aware. Shall we continue?

Arte, puffing: Please do, Zeuxis.

Zeuxis: All right. Let's change subjects. We need to talk about volume and space, two new concepts.

Zeuxis: I have already talked previously about some means of creating volume and space. Thus I spoke of the "Open V", which opens the view of the spectator, a traditional way of creating space in a picture. I also spoke of chiaroscuro shadowing to show volume, especially on figures, and on objects, although the objects are depicted on a completely flat two-dimensional canvas or wooden panel. These means created an illusion of three dimensions.

Arte: I remember, Zeuxis.

Zeuxis: Humans see the three-dimensional aspects of objects because of a phenomenon of vision called "binocular disparity". Humans have two eyes, and these are set in slightly different positions in the face. Thus the images of an object on the retinas are not exactly the same. The brain combines the two slightly different images, and converts the differences into a sense of space and depth, of three-dimensionality. Paintings are made on a flat panel or canvas, so creating volume, space and depth in a picture is creating an illusion of reality. Yet, when an artist places colours or lines and shapes on the panel, he or she cannot avoid effects of space. A painter who colours half a panel in red and half a panel in blue, will create an effect of space, for the warm colour will seem to come close to the viewer whereas the blue colour will form a shape that recedes. Therefore, two separate planes in slightly different positions of an undefined space will be created, showing an effect of depth.
Amédée Ozenfant (1886-1966) once wrote that the only way to paint a two-dimensional picture was to paint a surface plane in one single colour. Colouring thus is immediately creating space and depth.
When a painter positions even the simplest geometrical shapes on the canvas, he creates space. The lines of a circle, of a triangle or of a square form a closed shape and this shape is perceived as an object placed against a background. The shape of the object is therefore suddenly lying in another plane of space. Thus, merely showing such a form by lines that close up on each other to a shape creates space.
Moreover, when a painter draws two shapes closely together, he or she can draw the shapes as overlapping. The shapes then even more are perceived as different objects situated in different positions of depth.
Depending on how we draw the lines of the shapes, we can emphasise the two-dimensionality of a representation or its three-dimensionality and thus space. Look at the two following figures.

Zeuxis takes a piece of white paper out of his sleeves and he draws plates 81 and 82

Plate 81
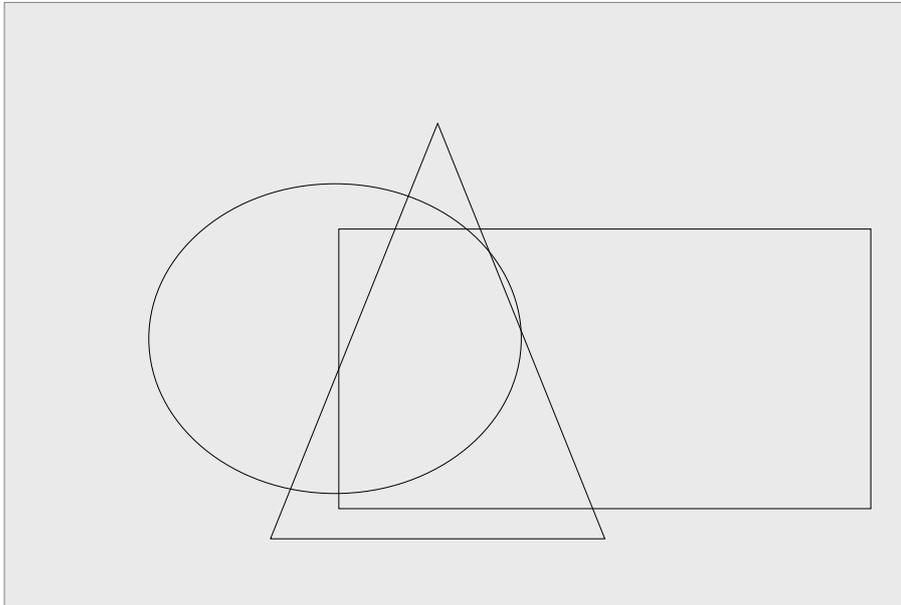
Plate 82

.
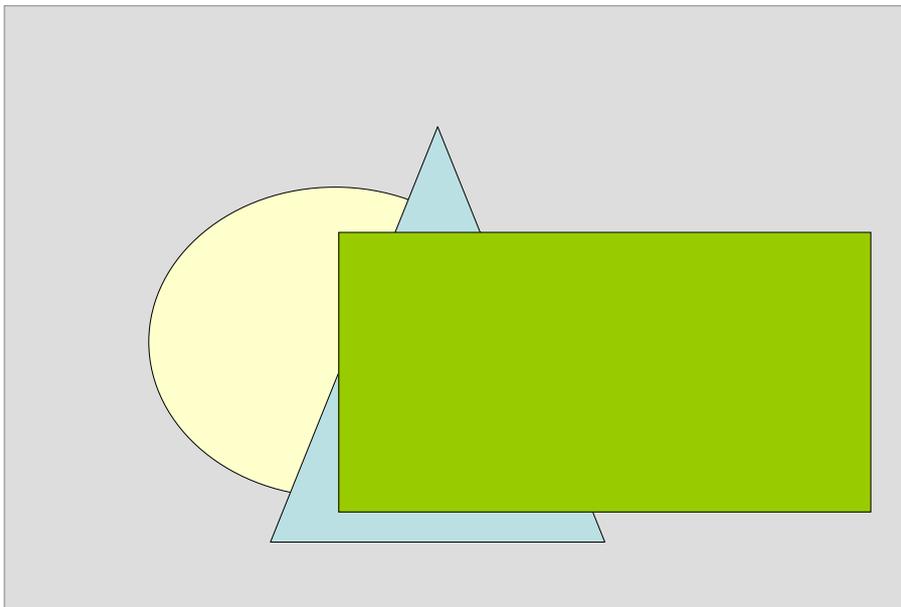
Zeuxis: In the first drawing, the lines overlap and emphasise the flatness of the canvas. Any viewer will be puzzled by this representation, as he or she immediately perceives the difference in space between the drawn lines and the background, but the viewer would expect also some lines to be hidden. As the lines are not hidden, the shapes violate space, and that is in contradiction with their being different from the

background. In the second picture, harmony and a sense of reality is restored. Here space and depth become acceptable, credible, and with the most frugal means the painter has created a feeling of three-dimensionality on the two-dimensional canvas.

Zeuxis: When we looked at such simple pictures, I spoke of shapes and background. I called background, as a notion of space, the larger shape of the frame of the canvas. The "background" thus becomes the "universe" in which the objects are positioned. So, painting shapes on a panel introduces depth, as one shape is put wholly or partially on top of another.
Even in the abstract pictures of Kasimir Malevich, which consist only of the primary forms such as squares, rectangles and triangles, a strong sense of space is created. The same can be said of Mondriaan's paintings of vertical and horizontal patterns, as also in these pictures the lines overlap, and thus evoke a feeling of various planes in space.

Zeuxis pushes his magic screen against the wall and shows a picture of Maria Elena Vieira da Silva.

➔ Maria Elena Vieira da Silva (1908-1992). The Theatre of Gérard Philippe. Le Musée d'Unterlinden. Colmar. 1975.

Zeuxis: As an example of an abstract picture that creates a very powerful feeling of space and depth, we show a picture of Maria Elena Vieira da Silva (1908-1992), a well-known Portuguese painter.
In her painting, Ms Vieira da Silva used patterns of lines that resemble perspective of receding lines. We will come back in next chapters on these patterns of perspective. She also used two colours, blue and black, plus the white as a background. The black lines seem to be painted on top of the blue lines, so that the black structure seems to be closer to the viewer, like the curtain of a theatre, than the blue scene that opens far. Over the whole picture, the viewer can find planes that intersect, and that seem to be placed on in front of the other.

Arte, proudly: This Maria Elena was a wonderful painter! She had a fine imagination. You always show me pictures made by men. I am very happy that you showed us a picture made by a woman for once.

Zeuxis: Oh, there were many female lady painters in history, Arte, and there are even more in your days. But that is another subject. I'll continue.

Zeuxis: The American art critic Clement Greenberg summed up the view on space in modern abstract art as follows in an article of 1960: "The first mark made on a surface destroys its visual flatness, and the configurations of a Mondrian still suggest a kind of illusion of a kind of third dimension. Only now it is a strictly pictorial, strictly optical third dimension. Where the Old Masters created an illusion of space into which one could imagine oneself walking, the illusion created by a Modernist is one into which one can only look, can travel only with the eye. " [G86.]
Maria Elena Vieira da Silva's work is such a work completely, as it shows a strange new space that although painted on a canvas invites to a walk in the far. But that space is not the natural one that the viewer has experienced in his normal life. It is a space of imagination, as only could be created by a human in his or her mind.

In Western European art, various means were used to depict volume, depth and space and I would like now to present these to you, starting with volume.

Arte, expectantly: Go ahead, Zeuxis!

Zeuxis: Figurative painting is the representation on a flat panel, and thus in two-dimensional space, of objects that have three dimensions. Real objects of nature have length, width and depth. This representation always presented specific issues to the artists. Painting could never be the exact reproduction of the object; it always remained merely an image of the object. Representation in painting is always an illusion. The illusion can be made as good as possible so as to be almost perfect, but the image will always be an illusion. There is no escape to that trivial statement, however many painters have tried to better the illusion.

Zeuxis continues: Painters can create an immediate illusion of space by overlapping the forms they draw. One of the nicest and also earliest examples I know of this technique is in a triptych made around 1330 by Bernardo Daddi (ca. 1280-1348). He painted a triptych with the Virgin Mary in the middle panel, flanked by the Saints Tomas of Aquino and Paul. Beneath the Saints is a narrow frieze and beneath Mary the frieze is larger and becomes a wooden inlay panel that looks like a balcony. The illusion of the balcony is strengthened, because Mary lowers her hand, "over" the balcony, to point to something beneath, to a predella or to the altar on which stood the triptych. Daddi painted a double illusion: an illusion of a wooden inlay panel and the illusion of a balcony. Mary's hand goes from the space of the painting into the space of the spectator.

➔ Bernardo Daddi (ca. 1280-1348). The Virgin Mary with the Saints Paul and Thomas of Aquino. The J. Paul Getty Museum. Santa Monica (Los Angeles). Ca. 1330.

Zeuxis projects a picture of Caravaggio to Arte.

➔ Michelangelo Merisi called Caravaggio (1571-1610). The Basket of Fruit. Pinacoteca Ambrosiana. Milan. Around 1594 to 1598.

Zeuxis: A young painter who really tried very much to make the illusion perfect, was Caravaggio. We show the basket of fruit he made around 1594 to 1598, and that is of such naturalism that flies vainly tried to touch the fruit.
Remark the delicate chiaroscuro in the fruit in the basket, perfectly applied to great skill to imitate the effects of natural light. Remark also how skilfully Caravaggio applied shadowing and the play of light on the basket of woven reed. This basket is actually a very complex object for light, since light falls in highlight on certain threads, and in various degrees of shadowing on others. The gradual changes from highlight or shadow are also masterly shown on the grapes.
Knowing that the representation of objects remained an illusion, always led to various reactions by painters who were inclined to experiment. In inventing new techniques however inadequate, various schools and styles in painting emerged.
The painters could, like the early Caravaggio, try to show the illusion as perfect as possible. But more revolutionary techniques were discovered also. The painters could

glue three-dimensional objects on the canvas, as some Pop-art artists did. Or painters could fully abandon themselves to the illusion. Then they created pictures like the "Pittura Metafysica" and Surrealist artists of imaginary environments, imaginary objects, super-natural combinations of objects and images. Painters could also use the means of the visual arts as an end in itself, that is apply line for line's sake, form for form's sake, colour for colour's sake. But in the first centuries of fresco and oil painting, which were centuries of figurative painting, the question on how to represent volume on a flat surface was a problem that was not easily resolved.
There was a conflict between what the eye saw and what the mind knew as to be reality. The problem was to determine how one should represent an object. Should one represent the object on the frame as it was seen, and then face the issue of the object not being recognised by the viewers? Or should one paint the object, as one knew it by one's mind from having touched it, turned it in space and knew logically how the object really was?

Zeuxis: The Egyptian artists tried to solve the problem by using several techniques. They showed various views of figures in the same image. The face of a pharaoh was drawn in profile, but the eyes were shown in full as if seen from the front. The legs of the figure were drawn one in front of the other, but in the same line, is one leg not behind the other but in the alignment of the first. The Egyptians artists did the same with the arms of figures in pictures of hunting, fishing or fighting. Yet, in later Egyptian painting, we find already an evolution whereby one foot is painted behind the other in a better comprehension of volume and space. In the picture of a pond, the flowers, bushes and trees that surrounded the water were painted perpendicular on the sides of the pond, instead of situated in front of each other in space. In Egyptian paintings, shadows are absent, and volume of figures or animals only indicated in bas-relief pieces of art. Here we had an art that tried to address the issue of the representation of three-dimensionality without chiaroscuro. That was a fascinating technique.
When painters began to see more and more of these images in archaeological museums and came to understand that other techniques but chiaroscuro could exist to show volume, a long period of new experiments started, which led to Cubist art. It was recognised that representation of an object in such a way that the object was well recognised, could take many forms.

Shadows

Zeuxis: The most important and traditional technique to show volume was the chiaroscuro that we have described earlier in this text. Chiaroscuro is the technique whereby shadows, that is darker colours, are applied to certain areas in the painting, so that an illusion is created of light falling in from a certain angle or side of the frame. The shadows create an illusion of depth and thus of space, particularly when applied to images of architectural constructions.

Zeuxis shows Arte the picture of Gerrit Berckheyde.

➜ Gerrit Berckheyde (1638-1698). The Large Square of Haarlem. Le Musée d'Art Ancien. Brussels.

Zeuxis: A good example of the use of shadows on architectures in order to create the strong illusion of volume, is Gerrit Berckheyde's image of the central square of Haarlem. Berckheyde showed more the church and the old, typical houses of the place than the square itself. Furthermore he chose a scene in a late or early sun, when the sun is low, throwing long shadows of the buildings and of the people on the brightly lit pavement. The effect of the shadows is dramatic, and creates a perfect illusion of depth and of reality.

Shadows are a very simple fact of observation, but they can become extremely complex for painters to imitate, especially when they design a painting from their mind and do not face a real scene.

Take a cube placed on a flat surface. When light falls from above and sideways on the cube, the face of the cube that is closest to the light will be the most lit. This is the highlighted face. Then, some of the sides of the cube will also be lit, in the direction of the source of light. But since the distance to the light source diminishes, less bright reflections will reach the eye. The viewer will only see part of these changes in brightness, unless he or she stands exactly between the cube and the light source. The half part of the cube on which light does not fall directly will be in shadow. The cube also will throw a shadow on the flat surface. Just behind the cube, there will be a very dark zone that receives no light at all. We call this the core shadow. With a cube this is a double triangle zone, right behind the cube.

Then, as we assume the light to be a large source, some part of the surface around the core shadow will also receive some light but not much, and form an additional zone of shadow on the surface. This will then be the total shadow cast by the cube on the surface.

A small, point light source or a distant source will cast a sharp shadow. A near source, a large source or a source of diffuse light will throw a shadow in a dark zone that receives no light, a zone called the "umbra", and it will cast a shadow in a lighter outer zone that will receive some light from parts of the source; this zone is called the "penumbra".

Zeuxis draws plate 83 now, and that takes some time. Arte looks interestingly at what he does.

Plate 83

Direction of Light

Highlighted Face

Lit Sides

Shadow Side

Core shadow, umbra

Cast shadow, penumbra
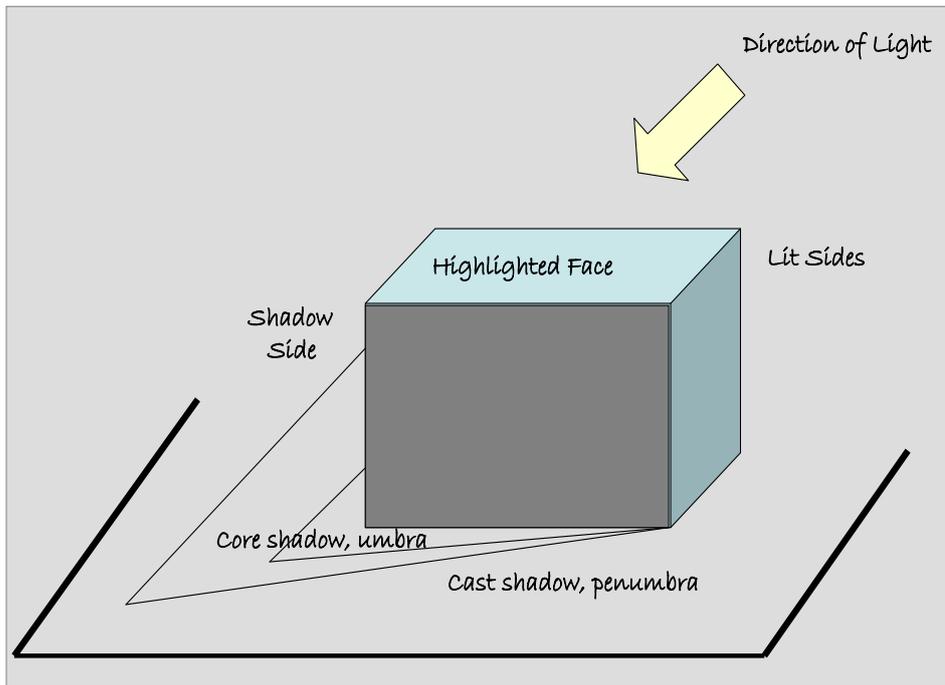
Zeuxis: This seems like an extremely complex example, Arte, but it is actually more like a very easy one. Few forms of nature are cubes or elementary volumes like pyramids, prisms and the like. It is hard to construct geometrically correct shadow forms cast on objects and surfaces. It is all the more difficult for a painter to imagine the result by intuition.

Imagine the complexity of light falling on a sphere! Then, due to the round volume of the sphere, light will gradually fade from a point highlight zone, the closest point to the light source, to the shadow zone. We can add to the complexity by giving different textures to the sphere.

Zeuxis: Close your eyes now, Arte, and imagine light falling on complex shapes such as the human figure.

Arte complies and Zeuxis continues: Each time the painter has to think of the gradations on very many areas from highlighted zones (there will be more than one for the human figure), to zones that receive less light because they recede, and to core shadow and cast shadow.

We have now only had in our imagination flat surfaces, but these also can change in shape, and thus equally receive highlighted and shadow parts. Determining purely by imagination the highlighted surfaces, the lit surfaces, the core shadows and the cast shadows for a complex three-dimensional form is a daunting task for a painter!

Zeuxis: You can open your eyes again, Arte.

Zeuxis continues: The painter must have seen the effects, retained all the details in his head, in order to give a truthful representation of a real scene lit by light. Then enter all the possible hues of the forms and of the backgrounds on which the shadows fall.

These hues change from minute area to minute area. The surface on which the shadows fall may not be flat but be a broken surface, or a flat surface with water. The source of light may be a large source that sends uniformly light to the scene, but the source can have other characteristics. It may be a faint light that fades rapidly with distance. It may be a point source. When the light comes from a point source, shadows are very sharp, whereas the shadows will be very gradually with larger sources.

Zeuxis waits a while, and then he continues: I have devoted little words in my lessons to the art of engraving or of drawing in one colour tint. I concentrated on tempera and oil painting and on frescoes. In black-and-white drawings, applying shadows is called shading. In shading, close and parallel black lines can be drawn in the zones of shadows, crossed over in the darker core shadow zones, and maybe even thick lines can be used there. The draughtsman can obtain the gradual transition from core shadow to casted shadow by drawing lines less closely, less dense and thinner.

Zeuxis: The preceding example showed what happens with white light falling on a white cube placed on a white surface.
The cube could however be green, and the surface white. The cube could be green and the surface blue. The light could be orange instead of white.
A few simple rules however rule over the colour changes!
Rule number one says that when coloured light falls on an object, that colour of light combines with the colour of the object.
Rule number two says that the shadow zones take the complementary colour of the surrounding colour.
With these two rules, we can make up the following table of the various colours for light falling on an object.
When coloured light falls on a surface, the resulting colour depends from the colours of the light and from the surface. In theory, the colours do not combine; in reality, they do.
Indeed, suppose we have a green surface on which an orange light falls. The green surface only reflects the wavelengths of light corresponding to green, so that if pure orange light falls on that surface we would see only black, since all yellow and red light would be absorbed by the perfect green surface. In reality, no surface is perfect in reflecting only one wavelength, and no light source is perfect in sending but one wavelength. Usually any surface will more or less reflect also other wavelengths and the light source will also contain other wavelengths of light, exemplified in white light.
So, when orange light from a not so perfect light source falls on a not so perfect green surface, some of the minority green of the source will be reflected well, and the surface will also reflect some of the yellow and red that fall on the surface. The result can be anything from a sombre brown to a sombre violet depending on the properties of the light and the surface.
In the following table, I pre-supposed imperfect light sources and surfaces. Look at how complex the colouring differences are, Arte! Painters rarely think almost mathematically at shadows. They either look well and copy more or less faithfully, or they simplify. After all, the exercise to determine the right colours of shadows is as difficult for the viewers as for the painters. Few viewers complain the colours are not right!

Arte: I can imagine, even with open eyes, Zeuxis!

Zeuxis fills in a table, plate 84, for Arte.

Light Source:	White	White	White	Orange	Orange	Orange
Cube:	White	Green	Green	White	Green	Green
Surface:	White	White	Blue	White	White	Blue
Highlighted Face	Bright White	Bright Green	Bright Green	Bright Orange	Bright Brown hue	Bright Brown hue
Lit Sides	White	Green	Green	Orange	Brown	Brown
Shadow Sides	Grey	Reddish Grey	Reddish Grey	Orange shaded Grey	Brown tinted Grey	Brown tinted Grey
Core Shadow	Black	Reddish Black	Orange-tinted to yellowish Black	Violet tinted Black	Violet tinted Black	Dark orange tinted Black
Cast Shadow	Grey	Reddish Grey	Orange-tinted to yellowish Grey	Violet tinted Grey	Violet tinted Grey	Orange tinted Grey
Surface	White	White	Blue	Orange	Orange	Violet hue

Table - plate 84

Zeuxis: On to our next subject, Arte: foreshortening!

Zeuxis: Painters knew that figures and objects further away from a viewer shrink in length. This effect could be used for instance in background images of Gothic paintings, to give a gradual impression of the far. It sufficed to draw a landscape with houses and figures, and to draw these gradually smaller as they reached the horizon. The effect was powerful, and it created astonishing depth of space.
It can be noticed in the painting of the van Eyck brother, the panel of the "Three Maries at the open Sepulchre", of which we spoke earlier. In this panel, the town of Jerusalem is far off. The buildings and walls of the city are much smaller than the figures of the foreground.
We already discussed the effect of vertical lines that became smaller towards the middle of the canvas in earlier chapters. And also horizontal lines that were parallel to the viewer on the canvas could grow shorter while reaching the centre, and sequences of horizontal lines that come nearer to each other near the horizon can generate effects of depths.
Furthermore, details blurred at a distance, and thus create a powerful feeling of perspective. Contrasts between colours disappear with distance. Distant objects are

seen in less detail, less distinct outlines and with less sharp lines. These effects also can be exploited to indicate distance.

Arte: What then is foreshortening, Zeuxis?

Zeuxis: A particular change in the length of the parts of objects or of figures due to distance is called foreshortening.
Foreshortening is a technique to present objects in depth, whereby the parts of the object closer to the viewer are larger than the parts that are further from the viewer. We already saw somewhat of this foreshortening for separate objects that are at further distance from the viewer, but the effect of foreshortening plays directly on one object too.
The effect was not obvious for painters. It meant that for the figure of a naked person lying down on the ground with his or her feet close to the viewer, strange images had to be drawn. For the feet had to be shown much larger than the head of the person, and that was intuitively wrong again, since the painter's mind, as well as the viewer's mind, told that the head was at least as large as the feet. Yet, reality of vision dictates that the closer the feet the larger they had to be painted. Gradually, painters gave in to the reality of their eyes' vision, and the resulting effect of applying perspective to these images is called foreshortening.

Arte: Foreshortening seems to be a quite natural effect and view.

Zeuxis: Yes. But foreshortening can be so dramatic as to be difficult and uncomfortable for the viewer, because too much depth is created so that the flat space seems to be entirely violated. Therefore, painters often softened the effect either by diminishing the foreshortening, thereby changing real physical vision or by setting their figures and objects in other ways, more parallel to the viewer.
How do we "see" foreshortening? Clearly, a photographic plate would "see", that is record, foreshortening in a very dramatic way. But foreshortening is one of the best examples of the phenomenon in which two influences are blended in our mind. On the one hand there is the photographic record made on the retina of our eyes. On the other hand is the recognition of the foreshortening of for instance the body of a man. Our mind has the concept of the body of a man in all its dimensions however, and that concept is more represented in our mind as a standing man, in front and in back, not unlike the Egyptian pictures of a body. In pictures of foreshortening, the photographic record and the knowledge of the mind-image stored clash severely, and our mind seems to vacillate between one and the other image until recognition dawns. As a result, painters have mostly avoided representing the dramatic, photographic reality of record of foreshortening in their pictures. They have eased foreshortening to meet halfway or entirely the conceptual images we have of a body in our head. Foreshortening like Salvador Dali showed in some pictures has rarely been painted that way for exactly this reason.

Zeuxis shows now a picture by Dali.

➜ Salvador Dali (1904-1989). Christ of Saint John of the Cross. Kelvingrove Art Gallery and Museum. Glasgow. 1951.

Zeuxis: A dramatic example of this foreshortening is in Salvador Dali's painting called "Christ of Saint John of the Cross". Jesus Christ is shown in most pictures of the Crucifixion on the cross but in parallel, immediately in front of the viewer, often from a low viewing point. Dali gave a spectacular view of the crucified Jesus from above. Therefore there is in this picture a surprising and powerful effect of foreshortening. The emphasis is on the shoulders and arms of Jesus, whereas Jesus's feet and body are further from the viewer.

Arte: So foreshortening was as much a style element as other formal elements of painting.

Zeuxis: Absolutely! Some painters used it formidably. Michelangelo Buonarroti applied foreshortening in dramatic ways in the sixteenth century. Michelangelo was trained as a sculptor, and he always preferred sculpture to painting. He was a man who saw and thought instantly and thoroughly in three dimensions, and he was used to see organic forms in space. Foreshortening used in extraordinary realist ways was one of the style features of painters who elaborated on Michelangelo's views. These were called Mannerists, and we have pictures of nude figures totally deformed by foreshortening in spectacular ways. The foreshortening was real and right, but too much foreshortening brings indeed a strain on the imagination of the viewer.

Zeuxis: That was enough for today, Arte. It has been a long day.

Arte: Many concepts to think about, once more, Zeuxis. Goodbye!

Zeuxis disappears slowly. He becomes transparent, waves at Arte and leaves her musing and alone.

Symbolism

Symbolism was an artistic movement created in France at the end of the nineteenth century. Symbolic artists abandoned Realism. They believed paintings had to be inspired by the artist only. The artist was the supreme god in his mind, and the entire world gravitated around him. The artist perceived the world, but that was only a very personal image. The artist could as well create another world in his imagination; a fantastic dream world was just as real.

Salons de la Rose+Croix

The Salons of the Rose-Croix were exhibitions of paintings organised by the eccentric Joséphin "Sâr" Péladan (1858-1918) from 1892 to 1897. Sâr Péladan also instituted a Catholic-Rosicrucian inspired sect. These salons attracted many people in Paris and focused French and International Symbolist art, even if many well-known painters such as Puvis de Chavannes, Odilon Redon or Edward Burne-Jones refused to exhibit.

The Symbolists were not at all concerned about line, or about clear drawing. They could enhance lines, but this was then only in certain places. Form should suit the creation of feelings of fantasy and imagination for the Symbolists.

Symbolist artists favoured completely free compositions, in which harmony was more a matter of the artist's intuition than academic structuring.

The Symbolists preferred soft, pastel hues and subdued tones. But their colours were often splendid and contrasting. They abandoned colour primarily used to express emotions, for a pursuit of the mysterious in lyrical images. In these images however, colour mostly still indicated the overall mood of the picture, and remained thus very important.

Symbolists thought that artists had to express their deepest personal feelings, more than reality. Symbolists used various methods of representation, but all wanted to convey spirituality and show impressions of the mind. Thereby, they used symbols again. They proposed a very subjective and idealist art. They rarely went back to traditional Christian religion. They were more inspired by ancient Greek and Roman mythology, sometimes by eroticism, others by death and hell, sin and redemption.

The Symbolist painters rarely used architectural structures. Hence they used few linear perspectives. The Symbolist scenes were usually placed without reference to space, as isolated subjects in the cosmic background. The Symbolists emphasised the effects of colour, and thus they used much aerial perspective, though often with unusual hues and contrasts.

We mention the Symbolist painters Odilon Redon and Gustave Moreau as major representatives of this movement.

Symbolism was a reaction of content, accompanied by a change in style. Symbolism reacted to Realism and to Impressionism, to art trends that had emphasised nature and

neglected man and his imagination. Symbolists returned to the realm of the mind, to the mystique and the fantasies of man's imagination. The change in content was emphasised by a change in style of painting. Rapid, visible brushstrokes were abandoned, as well as the bight hues of Impressionist and Divisionists. Symbolists preferred pastel colours, subdued hues and smoothly, lightly covered areas. Like in many more modern art expressions, Symbolism knew a great variety of manifestations of style.

Apollo's Chariot

Odilon Redon (1840-1916). Musée d'Orsay – Paris. 1905-1914.

We see colours, a sea of colours. Nice soft hues intermingle, but the blue hues dominate. In the middle we find glistening white and a bursting yellow. Downwards is dark brown and black, but this painter liked colour, so that even there he added bright yellow and green luminous patches. All is organic. The horses in the sky are a fine, joyous view, and even on what we suppose to be the earth, the undulating movements of life are present. Our first impression is one of lyrical tones and of mystical elation.

Odilon Redon painted an idea, a sudden inspiration, an image brought to scene in his mind and then expressed that in colour areas. For Redon, reality did not really exist. Our view is attracted by the prancing horses, which leap in the air, fly and dance there and float in a totally unrealistic way. But the horses are painted quite as horse riders sometimes imagine them in admiration and in fondness. The horses are splendid and white. Redon wanted them so light, that at places he simply let the canvas without paint. At other places he just set a little paint, and especially the white pastel tints. Redon loved pastel. Most of his pictures were done in those means, so that the texture of the canvas came through the colours, which gave the picture and mostly the figures a light, organic touch.
Redon's images emerge barely from out of the canvas. The horses are playing, emerging also and fleeing in all directions, apparently unaware of what is happening behind them. The horses are merely a symbol of elation, of lightness and of light, of playful feelings and of airiness. And the horses are some of the most graceful creatures of our world, so that immediately poetic feelings pervade us.

Behind the horses should be a chariot, as the title indicates. But there is a very bright yellow light of what we suppose to be the sun. We see no form, no round circle of what our intellect knows of a sun. Redon only saw the sun as the source of light, and his pictures were all light. Light was not white for Redon. Light was the source of colour, so the light created many hues. The yellow and white dominate, but soft bluish hues and the green patches are radiated and formed in the air. Nothing is smooth transition however; all is granular and fights for a place, as are the clouds that break in places and in various colours.

Beneath is the earth, as we know it. An undulating movement can be remarked there. There is no living being so closely ramping, slithering with its whole body in contact

with the ground as the serpent, the boa. So this must be the snake of life and of time passing on the earth in a curved, smooth, circling band. Only this idea, the symbol, is truly important. The snake does not need to be individualised, to have a head or face. Its head we can sense in a white granular area that remains vague, and also fades away into the colours of the left lower side. The earth is dark as the light emerges, but the yellow fire in the sky sends its hues shining brightly on the snake of earth. Between earth and sky are brown and blue hues, but Redon first inverted aerial perspective. The dark blue of the sky lies below, the lighter blue is higher up. That blue becomes of darker tone again still higher up so that the sky remains the sky to indicate the direction of elation, as is natural, and as all painters painted it. Redon merely expressed the darkness of night below. Some natural elements must remain normal for viewers to keep a sense of direction.

Odilon Redon was a French painter of Bordeaux. His family was well to do. His father had made a small fortune in Louisiana. Redon first tried to study at a school of architecture, but he failed in the entry examination. He then studied sculpture and painting at the "Ecole des Beaux-Arts" of Paris, under the master painter Léon Gérôme. But Gérôme was the entire academic Classicist, all line and clear forms. That was exactly the opposite of Odilon Redon's lyrical imagination, and the opposite of how Redon saw his images, all in colour and in vague forms. Redon returned to Bordeaux in 1865, and met there Rodolphe Bresdin, an engraver who was already a Symbolist artist. Bresdin's eccentric character agreed much with Redon's own and Bresdin activated Redon's fecund imagination.
In 1872, Redon went to Paris to stay and work there, and his career developed there until his death.
Redon was quite associated to the Symbolist movement. He knew well Stéphane Mallarmé and also Gauguin. With Gustave Moreau, Odilon Redon was the foremost French representative of Symbolist movement in painting. Redon painted mythical scenes, the idea and meaning of which was often left for the viewer to choose. He exposed with the Impressionists, but he had very personal opinions on colours, and his style stands out among all painters. He worked much in pastel, as in "Apollo's Chariot", and he found unusual hues that enhanced the poetical, strange, dreamy atmosphere of his pictures. Redon was all colour and not line.

Apollo was the sun God of the Romans. He drew his chariot, the sun, with his horses through the sky. This was a work for a God; humans were too weak to draw the chariot. Apollo's human son, Phaeton, once tried to draw the chariot of the sun, and he scorched the earth. With such a fire as the sun is, neither Apollo nor the chariot can be seen, but the horses are there. In ancient Greek mythology, Apollo fought and won over a monster to conquer the Oracle of Delphi. This monster was maybe the Earth itself, the Earth called Gaia, to whom the Oracle was dedicated since old. The monster over which Apollo had his victory was also called Pytho or Python, so that Apollo's surname also was Apollo Pythoktonos. From that time, on the Oracle of Delphi was dedicated to Apollo, but the name of the priestess seated above a steep cavity in the rocks out of which came enchanting vapours was Pythia and Python was a very old name even for Delphi.
Odilon Redon remembered the oldest myths of Apollo and Python, the earth serpent, and used these symbols to represent the victory of the spirit and of light over the earth. Redon's message of "Apollo's chariot" was therefore eminently symbolic, and entirely in line with the ideas of the Symbolist movements.

Some of Odilon Redon's chosen elements were symbols that could be interpreted by the viewer to his or her own liking and imagination. An example of this technique is the image of the snake, which returned in various pictures. Whether Redon had a meaning in mind, had read texts on the myth of Apollo, or simply copied at an instant's whim the image of a boa constrictor from a child's book, remains a mystery. The viewer can give the interpretation he or she likes. The element was added by Redon to create a strange, poetical emotional state in the spectators.

Odilon Redon was also a marvellous painter of flower still-lives. In that quality he should be present in any anthology of flower painters. His work was very idealistic, tuned to myths and legends, and he also made a few Christian religious paintings. In that he often remained deliberately hermetic, private as to his ideas, and completely in line with the Symbolist literature as of his friend, Stéphane Mallarmé.

Redon's "The Chariot of Apollo" is a picture of colours and of poetic mood that will enchant at first sight sensitive viewers. Redon painted little detail, and certainly not detail in fine lines and realistic depiction. He was first and foremost a colourist. Only colour can be discovered in his works. But we have to recognise that Redon had a true artist's sensibility of dreams and imagination of unfamiliar scenes in which he could create a very poetic mood of mystical content. Redon leads us into dreams, and he induces the sweetest thoughts and emotions, as much as there can be found in colour patterns only, to finally appeal to us as colour music.

Art Nouveau

Art Nouveau was more a fashion for design than a style of painting. It was a movement that lived merely from about 1897 to 1905 in many European countries and in North America.
It was called "Jugendstil" in Germany, "The Wiener Secession" in Austria (founded in 1897), the "World of Art" group (founded 1890) in St Petersburg in Russia (called after their journal "Mir Iskusstva"), and could incorporate "Les Nabis'" in France (although these artists are usually associated with a movement called "Les Fauves"), as well as "Les Vingt" in Brussels.
Secessionist movements refusing traditional forms of painting were created in Germany and Austria: the Munich Secession dates from 1892 (Stuck, Trübner, Uhde), the Viennese from 1897, and the Berlin Secession from 1899 (Liebermann).

Art Nouveau was characterised by many styles, which varied from country to country. Art Nouveau is sometimes presented as one form of the Symbolist movement, but it has also quite distinct characteristics so that we consider it separately.
The name "Art Nouveau" may have come from the name of a shop in Paris held by Siegfried Bing, a French naturalised German who originated from Hamburg. Bing had opened a shop of Japanese art called "Maison Art Nouveau" in 1895, and later a gallery in which he showed the work of the Art Nouveau. Bing's gallery closed in 1904. Bing died in 1905, and the movement almost disappeared with him.

Jugendstil

Jugendstil had precursors. In Germany, the "Worpswede Künstlerkolonie" was founded in 1889 by several painters, among whom F. Mackensen, O. Modersohn, H. am Ende, F. Overbeck, C. Vinnen and H. Vogeler. These painters made pictures of the low countries and of agricultural life in a very colourful way like the impressionists. They later evolved to Jugendstil and other styles.
Jugendstil was called after the Munich magazine "Jugend", a magazine for the decorative arts.

Les Vingt

"Les Vingt" was a school of Belgian painters and artists, mainly Theo van Rijsselberghe, Henry Van de Velde, Lemmens, Philippe Wolfers, Victor Rousseau, Gustave Serrurier-Bovy and even Constantin Meunier. Also the Dutch artists Jan Toorop and Jan Thorn-Prikker can be counted to this movement. The school was formed in 1884 in Brussels and led by a lawyer Octave Maus. Les Vingt was already dissolved in 1894 but then the group changed its name to "La libre Esthétique".

Wiener Secession

Otto Wagner, Hermann Bahr, Gustav Klimt and other artists founded the "Wiener Secession" in 1897 in Vienna. They edited a journal called "Ver Sacrum". A workshop was linked to the movement, in which all kinds of media were treated for decoration. The artists of the Secession provided design for a Vienna workshop in which artisans worked. This was the "Wiener Werkstätte".

The Art Nouveau knew various styles of use of lines. Lines were always very clear and sharp, but could as well emphasise curved lines of nature (Victor Horta, Antonio Gaudi in architecture) as simple vertical and horizontal, austere lines.

Art Nouveau was mostly figurative, and primarily decorative by objective. The painters used much the female person as subject in fluent attitudes of sensual attraction, sometimes stylised. Rarely more than one subject was shown in the pictures.

Art Nouveau saw colour only as a subsidiary element. Some movements used subdued, pastel colours, other harsher contrasting hues or even just black and white.

Art Nouveau was much a figurative painting. The artists painted the female form, natural objects, birds and flowers for decoration effects. Sometimes they even used images of insects such as butterflies and fireflies, as decoration themes that recurred. Landscape was entirely stylised, reduced to its surfaces of colour.

Art Nouveau was mostly a style in architecture and design. In painting, it was often a decorative style only in which volume and space were not important.

Artists of this movement were Ferdinand Khnopff, Privat Livemont, Henri Meunier, Adolphe Crespin and Fernand Toussaint in Belgium. Gustav Klimt, Koloman Moser and others worked in Austria. In France worked Alphonse Mucha, Henri de Toulouse-Lautrec, Théophile-Alexandre Steinlen, Eugène Grasset and Paul Berton. In Munich painted Markus Behmer, Thomas Theodor Heine and Peter Behrens. In England Aubrey Vincent Beardsley was much a forerunner of the movement.

Art Nouveau was much more a style of decoration and of interior and exterior design. Art Nouveau was also applied to household objects (jewellery, ceramics, etc.). In its paintings, it can be assimilated with Symbolism. In its decorative motifs, since it emphasised again clear and fluent lines, it could be called a reaction to Impressionism. Colours remained subdued; pastel hues were preferred.
Art Nouveau painters gave less attention to the effects of light. Drawing became the first element of the images. Thus it was a return to preference for line over colour. It was much characterised by the use of the female figure as central theme, and that was its main difference from previous art styles in painting.

Portrait of Adèle Bloch-Bauer I

Gustav Klimt (1862-1918). Österreichische Galerie – Vienna. 1907.

A long, sophisticated and sensual face appears amidst small golden ornaments. Gustav Klimt's portrait is very unconventional. We have never seen a portrait that is more decoration than this one! Yet, the face and hands of the ingénue appear out of a

myriad of background details. The resulting impression the viewer receives is that this is not a portrait, but a representation of a woman who exposes herself half-hidden to the views of an audience, and at the same time attracts by a strange sensuality. This is a lady that stood witty, mysteriously, utterly artificial but highly intelligent at a high-society reception. She is somewhat bored, but ready to draw to her and consume any man with enough daring to approach her.

Adèle Bloch-Bauer wears jewels on her neck and arms, and golden jewels surround her. She has jewels of all styles around her. On the upper left are rectangular forms of the newest trends of abstract art. Lower down on that left we see rectangles, and in these rectangles half circles of ancient motifs. These motifs already introduce a sensual element. In the left middle we find archaic volutes, and more to the left of that is a golden texture as if of an old weathered wall surface. To Adèle's right are golden volutes of Celtic origin, lower down again the Greek or Cretan whirls, curls that spiral into each other as intertwined lovers. Adèle was rich. She lived with gold and gold surrounded her.

The lady is clad in a tight robe of eyes. These are Egyptian motifs of life, of vision, of mystical links with the universe. The eyes look at the viewer, as if to enchant him as the woman surely would. A man would look at this woman with two eyes, but she dominates those looks from out of a thousand eyes. This woman is not to be dominated; she will be the dominator, even if she seems so naïve and alluringly open as she shows all her golden jewels. The eyes look outwardly and not inwardly, but the eyes could just do that, and then the woman would be exposed to the thousand glances that would fall on her. Yet again, the eyes are directed outwardly, so the woman reins in and controls. The eyes do not look at Adèle's nudity. We know that Gustav Klimt sometimes, if not always, first painted a nude woman for a portrait, and then painted his decorative patterns of mosaic robes on top, to let only the face emerge from out of the decoration.

Adèle Bloch-Bauer wears a tight robe, but the faint contours of a wide ballroom cloak undulate broadly downwards, as if suggesting that the lady were shown during a dance-party or at a high-society dinner. She holds her hands together in a gesture of interest. She might be hearing her elegant partner, telling her of his life exploits, or entertaining her with the latest news at the Courts of the Austro-Hungarian Empire, even explaining to her the intricacies of economic and industrial revival of Austria. These hands are long with fine, delicate, thin fingers that play while she hears her partner out. She holds a white triangular handkerchief between her thin fingers and she is well aware that the triangle draws the attention, whereas that pattern repeats on her chest and envelops her.

Adèle's face emerges above a long neck imprisoned in a silver, broad and tight necklace studded with a few precious stones. These also attract attention, and a man could easily imagine his hands around that long neck in a tight caress.
Adèle hangs to the lips of the viewer and looks at the painter, but her own ample, swollen, red lips are half-opened to catch any man without words in wild sexual expectations. Yet Adèle is sophisticated. Her whole face is long and narrow, not voluptuous like the large heavy-boned faces of Viennese slave prostitutes. She has large, dark eyes and her hair does not fall down on her face, as a luscious Hungarian gypsy would have had. Her hair is made up high and broad, pushed up and widened to

enhance the lines of her long face. She has a delicate nose, and large dark eyes immediately directed at you. She must be intelligent, but she mixes intelligence with red sensuality as she brought some rouge on her cheeks, and her lips stand out alluringly.

The decorative patterns of gold and white mosaic motifs become smaller and more entangled, more complex and chaotic around her face, as if passion heightens the movement around her head. Adèle's face is where the action is; here she captures all attention, not with her body, which remains hidden between the eye motifs of her robes.

Gustav Klimt painted a very flat picture. Dimensions and feelings of space, depth, and far landscape are all absent. The attention is on the face of the woman only. To enhance this effect, Klimt even brought on the lower left a horizontal black-and-white mosaic checker pattern, which a viewer could suspect to be a frieze that separates two surfaces of a wall. Klimt seemed to indicate that Adèle's portrait is a fresco. Only her face seems to have volume. Klimt indeed was a fresco painter. He decorated many walls of palaces, museums and private villas. But here he used merely a painterly technique to draw more attention to the woman's face. Gold was used in paintings of early Italian icons of the Virgin and Klimt re-applied this colour and metal in an entirely new way, almost as a means also to draw the face of the woman out of time and into our moment.

Adèle Bloch-Bauer was a precious jewel for Gustav Klimt, shining in Imperial Vienna of superficial mundane relations. We suspect violent emotions beneath, emotions of perversity and decadence and of surrender to eroticism. Yet, Adèle Bloch-Bauer does not seem to be a woman who would lose control; she dominates naturally.

The "Portrait of Adèle Bloch-Bauer" is hence much more than a portrait. This picture was not made to show a lady, a portrait to be hung reverently in a dinner-room. This is much more. It is a strange and mysterious ode to the dangerous, alluring women of the high-society of Vienna just before the end of the Empire. It is an eminently Art Nouveau picture in that it emphasises its main theme, women. It contains extremely many decorative elements, which enhance in curved lines and in a passion of intertwined forms the complexity of the character of the figure.

Gustav Klimt was born near Vienna in 1862, from a father who was a chiseller of precious metals, an artisan of art. Klimt went quite early, at fourteen years old, to the Academy of Fine Arts of Vienna. Together with his younger brother Ernst he made portraits, and at seventeen already he worked with his brother and their friend Franz Matsch at decorations in the Kunsthistorisches Museum of Vienna.

After many other works of wall decorations, he enjoyed recognition as one of the most promising artists of Vienna. He received the Golden Cross of artistic merit from the very hands of Emperor Franz-Joseph.

In 1892, he lost his father and brother in the same year. But Klimt gained a lifelong friend and mistress in Emilie Flöge, a woman who held a textile fashion shop in Vienna. Klimt would design robes for her collection.

Gustav Klimt became more and more, by his talent and daringness to innovate, the leader of a group of Viennese artists that were increasingly dissatisfied with the now sterile Romantic and Nazarene Austrian art tendencies. The group organised their

secession from the established art milieu. They founded in 1896-1897 a new movement they called the "Wiener Secession". The thinker and initiator of that movement was Hermann Bahr, but Klimt became its first official elected president. Joined to the Vienna Secession would be founded the "Wiener Werkstätte", a workshop of Viennese artisans that could execute the works of the artists and turn their ideas in designs for all kinds of objects, furniture and jewels, as well as architecture.

The Vienna Secession became a widely known group. The artists staged several exhibitions each year, and also drew international artists to exhibit in Vienna. Soon, the group had assembled enough funds to build a house for their movement. Gustav Klimt drew up plans; the architect Joseph Maria Olbrich realised it in modern geometric volumes. In the meantime, Klimt became more and more famous. Many of his paintings were considered scandalous, but Vienna society flirted with scandal and with Klimt, and Klimt gave the Viennese back exactly what could be expected as sensual representations. Klimt was extremely popular with the Viennese society of the wealthy and the nobility. The Austrian government refused many of his decorations but the ladies of Vienna continued to want a portrait made by Klimt. Klimt went on painting in his peculiar Art Nouveau style, and female sensuality was the main theme of his work.

In 1902, for the fourteenth exhibition of the Wiener Secession a statue of Beethoven, made by the Secessionist sculptor Max Klinger, would be placed in the centre of the halls of their palace of art. The interior of the Secession Palace was re-arranged by Joseph Hoffman and even a movement of a symphony of Gustav Mahler was performed, directed by the composer who was then the Director of Vienna's Opera. Gustave Klimt surrounded the statue with what was called the "Beethoven Frieze", set high on the walls almost against the ceiling. The Beethoven frieze represented all Klimt's ideas for his contemporary art. That art was extremely sensual and erotic, and Vienna did no longer accept the clear erotic images of Klimt. He was more and more criticised in Vienna, even though he remained respected and received enough commissions to live in ease. He also saw critics coming from the new Expressionist young painters.

In 1905, after a quarrel, Klimt and his friends the architect Joseph Hoffman, the painters Carl Moll and Koloman Moser, left the Viennese Secession. That was the end of the movement, which stopped effectively around 1908. Gustav Klimt however, remained popular as Vienna's main painter, through the years of the awful World War I in which Austria participated. Emperor Franz-Joseph died in 1916, in the middle of that war. Two years later, Gustav Klimt died in 1918. He died together with the Austrian-Hungarian Empire, which would be split in many independent states, and which would nevermore have an Emperor. With the end of the Viennese Secession and the death of Klimt, Austrian art declined.

Lesson Sixteen – Perspective

It is the ending of summer now. Arte and Zeuxis are sitting in Arte's garden. Zeuxis sits in his grand chair and Arte lies on the ground. It is hot and humid, and black thunderclouds hang menacingly in the sky. But Arte is alert. She looks eagerly at Zeuxis.

Zeuxis, looking pensively at the sky: This must be one of our very last lessons on the art of painting, Arte. Summer will end soon and we must part. I will not come back in autumn and winter.

Arte seems not to hear Zeuxis' words and cuts Zeuxis short: I was beginning to get used to learning from you, Zeuxis. What will this session be on?

Zeuxis: Well, we still have to continue our principles of space. Here comes the subject of perspective.

Zeuxis: When buildings and the interior of rooms were added to landscapes, new challenges arose. The problem was that painters knew that lines that were perpendicular to the standing position of the viewer receded to a far distance, to the horizon. In the beginning the process was not well understood so the horizontal lines that were not parallel but perpendicular to the viewer, and parallel to the ground of a scene, were observed as receding, but not necessarily as converging to a point, so they were drawn as receding parallel lines.
Painters drew these lines parallel to each other, because they knew was the case in reality. Indeed, the horizontal lines of windows of a building for instance are seen parallel to each other when a viewer directly faces a building. When a viewer looks at this building from any other position but one right in front, the lines start to slant and to converge. The issue was: how did the lines slant, what was the best way to represent this slanting and thus what was the best way of creating depth.
So, in the beginning and intuitively, painters used a technique of parallel perspective. We find here again the dilemma of painters that we talked about in the previous chapter. By observation painters could not but have noticed that the lines as seen came together to one point of vision in space. The lines that were parallel in physical reality converged to one point when seen by a viewer from one point. But that was not right, not as their mind knew. How were painters to represent effects of perspective and that in such a way that the viewers could still easily recognise reality?

Arte: The old technique of perspective was thus a parallel perspective.

Zeuxis: Yes. In parallel perspective lines that the painters knew were parallel, remained parallel.

Zeuxis posts his magic screen once more before Arte and shows Hubert and Jan van Eyck's picture again.

➜ Hubert (1365 – 1426) and Jan van Eyck (1390 – 1441). The Three Maries at the Open Sepulchre. Museum Boymans - van Beuningen. Rotterdam. Around, but after 1430.

Zeuxis: A good example is the image of the tomb in Hubert and Jan van Eyck's picture of the "Three Maries at the open Sepulchre". The left and right sides of the sarcophagus recede to the background, so they are drawn slanting, but they remain parallel. This was a nice example of the preponderance of reason over eye. The minds of the painters knew that the lines were parallel, so logically they should remain parallel while receding.

Zeuxis: The horizontal lines of buildings and rooms seen sideways do not remain parallel in the view of our eyes. They converge to a far common point called the vanishing point. This point is at the height of the viewer's eyes, even if the point lies in the distance. The horizontal line going through this vanishing point is the horizon line. All the objects of a picture are placed between the viewer and the vanishing point. The Florentine architects Filippo di Ser Brunelleschi and Leon Battista Alberti were among the first to re-discover the mathematical laws of linear perspective, some of the principles of which must have been known to Greek and Roman painters. Linear perspective was immediately for these artists based on the observation that the parallel lines seen in natural scenes converge to a common point on the horizon line.

Arte: I suppose perspective was known from early on in history?

Zeuxis: Yes. Well, that is relative. Alberti wrote in 1436 in his book on painting that he first drew quadrants on the panel. He drew the quadrants in thin vertical and horizontal lines. Then he determined one point, the centre point, and drew lines from all corners of the quadrants towards the centre point. These were the converging lines of perspective. The painter would follow these oblique lines for depicting the horizontal directions of the architectures on the painting. Alberti stressed to paint according to what the painter saw in nature. He did not directly use the word perspective, but the technique that he proposed amounts to a means of drawing monocular perspective with one point of convergence. Alberti also described how the figure of man could be the measure for the heights in the painting, even as the lines approached the centre point and lengths or heights diminished in size.
Another Florentine artist, Piero della Francesca, stopped even with the art of painting to write a treatise on linear perspective, and the Tuscan Renaissance painters experimented in the depiction of various objects in true perspective of nature, using the correct geometrical constructions.
Renaissance painters, who really were among the first to look for illusions on the canvas that in the best way gave viewers a very realistic feeling of Christian scenes, understood linear perspective rapidly. Even a painter as Fra Angelico, who would always enforce the transcendence of his themes and thus position his figures in an idealised setting, had remarked the effects of perspective.

Zeuxis projects Fra Angelico's painting.

➜ Fra Angelico (ca. 1400-1455). The Coronation of the Virgin. Musée du Louvre. Paris. Ca. 1430-1435.

Zeuxis: In the Beate Fra Angelico's painting of "The Coronation of the Virgin", the patterns of the tiles on the floor, as well as the panels of the golden throne behind Jesus, converge to one point. Not all is right in this perspective, but the first keen observation of nature was happening.

Arte: You always and only speak of straight lines. Perspective must thus also play on curved and other lines.

Zeuxis: True, Arte. The laws of perspective do not just work on straight lines parallel to the ground, but also on curved lines that are at various positions versus the earth. Geometrically correct constructions of perspective of round and irregular forms can be quite complex. Paolo Uccello thus made several drawings in perspective of torus forms that were used in Florentine hats. Linear perspective is the most powerful tool, together with the shortening of objects in depth to create space.

Arte: So that must be a geometrical technique.

Zeuxis: It sure is, Arte. Linear perspective is a mathematical system for creating the illusion of three-dimensional space and depth on a two-dimensional flat surface. Linear perspective is geometrically a construction of triangles. For this perspective, one needs always two points to define a section of line or segment, and then the vanishing point. The two end points of the segment are connected to the vanishing point.
Piero della Francesca in particular, was intrigued by this fact that three points formed the essence of perspective, and he brought this fact in relation to the Trinity, the concept of one God consisting of the Father, the Son and the Holy Spirit.

Zeuxis gets a piece of white paper out of his sleeves and draws plate 85 with a black crayon. He explains to Arte how the lines converge to a single vanishing point, which is a point on the horizon to which one views. He shows Arte the road that goes down her house and proves her the effect in real.

Plate 85

Converging
Lines
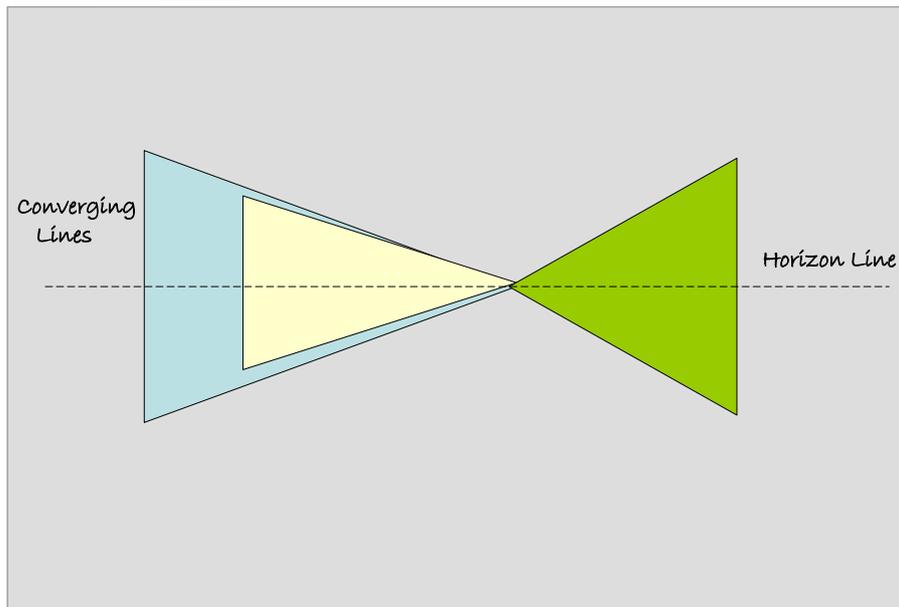
Horizon Line

Zeuxis: But linear perspective does not just play on the horizontal and vertical segments of reality. Perspective also needs to be applied to all forms of a construction of these forms seen in perspective. Thus it transforms and distorts circles into ellipses. It changes the directions of oblique lines.

This transformation of any form can be deduced from a ground plan and from the relative position of any two points on segments, whether they are straight or curved. Linear perspective also works on line segments that are horizontal, and that is parallel to the lower side of the rectangular frame of a painting. Linear horizontal lines are squeezed together in the direction of the vanishing point.

Powerful linear perspective is created when the perspective of vertical lines is combined with patterns of horizontal lines. One of the most used patterns to create depth in perspective is the ground-based checkerboard pattern. Even the Early Gothic painters like Jan van Eyck applied this pattern, though often only in parallel perspective, to create the illusion of depth. The checkerboard pattern in perspective can also be used in abstract pictures, as for instance Wassily Kandinsky did in a few of his compositions. We saw a picture of Maria Elena Vieira da Silva (The Theatre of Gérard Philippe), in which in a similar way these patterns create depth although used in an abstract picture. And then the grid may appear not in ground structures, but in any position, to give a powerful sense of direction.

Zeuxis draws a checkerboard pattern in linear perspective on another sheet of white paper, in plate 86

Plate 86

.
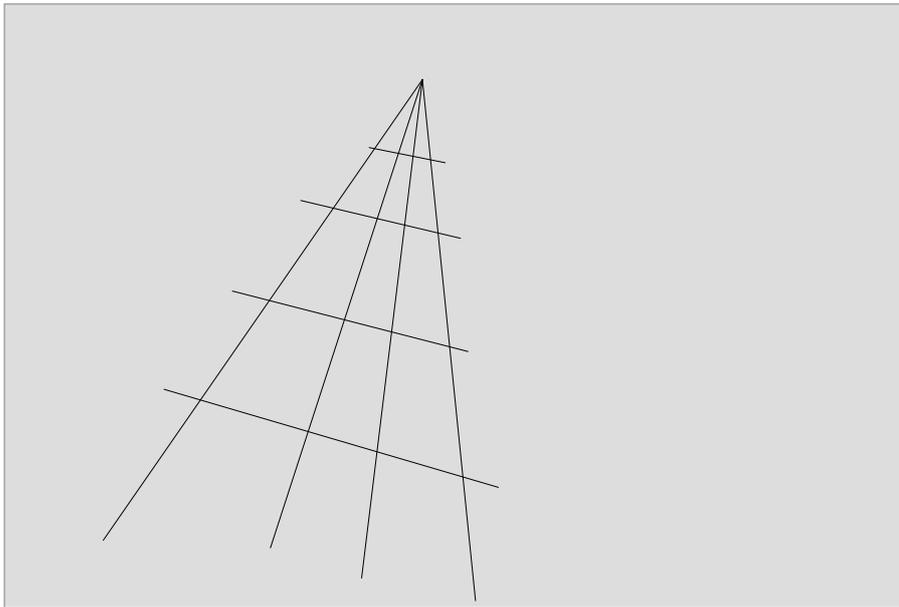
Arte: It seems to me perspective is just one more technique for painters to create a strong illusion of volume and especially of depth. Let's look again at the painting of Canaletto that we showed earlier. Canaletto knew the geometric principles of linear perspective, so he applied it in his picture of the Venetian canal in a grand, spectacular way. A viewer literally sees into the far, has an impression of a very far and wide open cityscape. Yet, this is all flat canvas.

Zeuxis: True, Arte. A presentation of lines that seem to converge to a point forces illusion of depth very strongly upon the viewer. Even when the lines do not represent familiar objects, the effect is powerful. That is why even in abstract paintings, as well as in pictures with object matter, inclined shapes and receding lines give strong illusions of depth. In the first of the following drawings no effect of space is created, whereas some feeling of space and depth is real in the second.

Zeuxis makes two drawings: plates 87 and 88. He explains to Arte that in plate 87 the shapes have no spatial effect to viewers, but the forms of plate 88 do. They seem to be elongated to a vanishing point to a viewer.

Plate 87
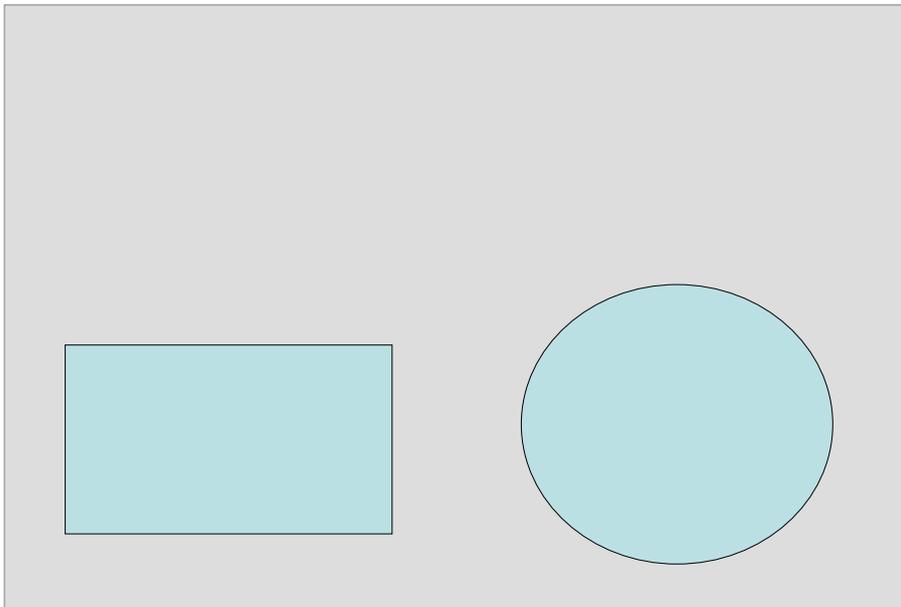
Plate 88
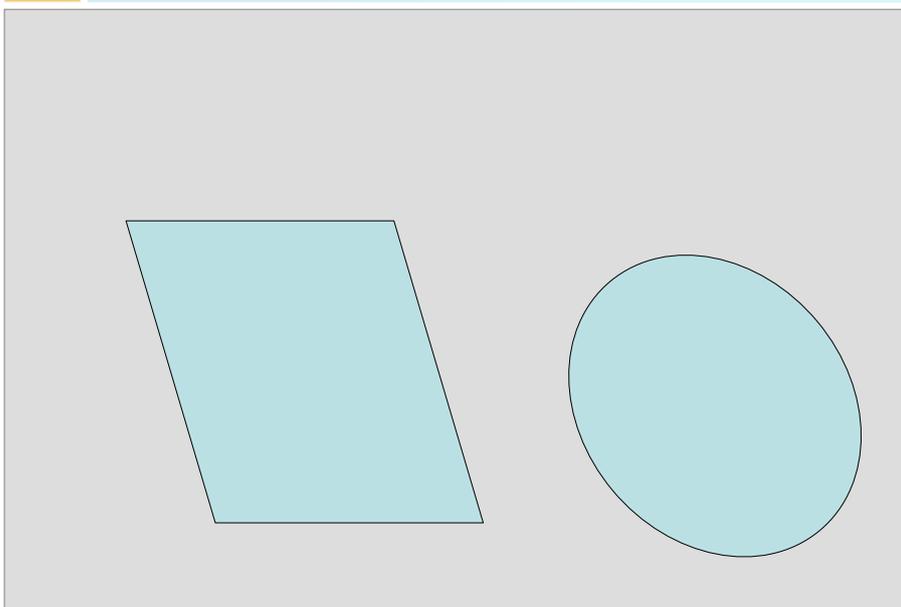
Arte: I am astonished how with just simple shapes such illusion can be created. Painters sure can show exactly what a viewer might expect!

Zeuxis: A painting with linear perspective always means a picture in which the painter has taken a pronounced viewer-centric attitude. The picture matter is subordinated to the viewer. The distortion of objects is shown in order for the viewer to perceive more realistically. In early medieval pictures, in which no perspective was used, the scenes existed for themselves. The objects and persons that were drawn seemed to be in a self-sufficient world, and the painters showed this world as it was, for itself. Distance

was held between the depicted world and the viewer. The world existed and the narrative existed, could be shown, but did not draw in the viewer into the scenes. The pictures were of course mostly of religious content and it was quite normal that this religious world could be viewed as completely un-linked to the viewer.

Zeuxis shows a Romanesque picture now to Arte.

➔ The Ark of Noah; the drunken Noah. Abbey of Saint-Savin. Saint-Savin, France. Around 1100.

Zeuxis: For instance, in the nave of the church of Saint-Savin, the ark of Noah has no perspective. It looks like a flat drawing, for which the interest lies only in the concept of the boat loaded with animals. Presenting the animals and the boat in illusionistic perspective or even in realistic dimension was not important for the Saint-Savin artists, nor was a sense of space and depth important for the narrative. Still, the painters did have notions of perspective as can be seen in another scene in the nave, in which the story of the drunken Noah is shown. Here, Noah is lying drunk in an elliptical almond form, inclined obliquely, a couch that may be round, but shown in an elementary distortion of perspective.

Arte: I understand, Zeuxis. It seems to me that only when perspective is shown in a painting, is the viewer really invited into the scene of the picture. The world is then obviously entirely subjected to the viewer; the world of the painting exists because of the viewer. Thus, perspective creates a powerful link between the viewer, the painting and the painter.
With the discovery of the rules of perspective, painters no longer had to seek how they could represent reality, but how humans directly perceived reality. They did not try to show anymore the nature of the objects, but only how objects were seen. So they came nearer to the natural way of how humans see objects, which is closer to the real world, and yet by doing that they had to use illusion. Because of this reasoning, I understand how it took such a long time before painters accepted or even discovered the concept. I would like to know more about how perspective illusion is drawn, what is the technique?

Linear Perspective with one Vanishing Point

Zeuxis: In what I said previously, I described the basic concepts of linear perspective with one vanishing point. Architects, and occasionally painters also, can use a ground plan of a building to draw a perspective of a building. In such geometrical constructions only one vanishing point is really needed to construct all the lines of the walls of the structure. The heights of the lines of the walls can be determined by setting the heights at the endpoints of the walls, and so perspective is created also in the lines that do not directly recede to the vanishing point, but in the vertical lines as they diminish in length shown.
Remark that also the reclining lines of the roof in the example of the figure below come together to a vanishing point that lies high above.
This kind of perspective happens when a viewer looks at a scene constantly in one direction, and when the front part is parallel to the viewer. The viewer looks only at one point, and that is the vanishing point.

In paintings that apply linear perspective with one vanishing point only, either all lines converge to that point, or part of the lines are horizontal and parallel to the lower border of the frame, whereas all the other lines converge. Such perspective is always extremely powerful and creates grand illusions of depth. The main reason is that the attention of the viewer is not distracted from the perspective. The viewer does not have to look at two or more directions of space. There is only one effect of creation of space in such pictures, only one depth to perceive, so that effect is obtained in the most direct and obvious way.

Zeuxis projects Canaletto's view of Venice again.

➔ Antonio Canale called Canaletto (1697 – 1768). Venice. The Grand Canal from Campo San Vio towards the Bacino. The Royal Collection. London, around 1730.

Zeuxis: We already looked at a good example of linear perspective in paintings and one of the best is the painting of Canaletto.
The Italian "veduti" masters were unequalled in the creation of depth by using linear perspective with just one vanishing point.

Suddenly, Zeuxis makes Canaletto's picture disappear and he shows another Italian painting.

➔ Giovanni Paolo Panini (1691-1765). The Pool at Bethesda. Thyssen-Bornemisza Collection. The Villahermosa Palace. Madrid. Ca. 1724.

Zeuxis: Look at the "Pool at Bethesda" of Giovanni Paolo Panini. In this picture, we see Jesus at the Pool of Bethesda, healing the sick at a pool covered by five porticos. Remark the horizontal lines of the building in the background. The columns form a strong linear perspective, and all their lines converge to one vanishing point situated in the middle of the open arch in the background. Panini opened the entire view to that point, so that the view of spectators can go unhampered to very far in the landscape.

Arte: Oh my! This kind of perspective is intricate, and must be very difficult to draw. No wonder painters preferred to look at nature when they were imitating it. It must take a lot of time and a very photographic imagination for a painter to render a faithful picture of a cityscape he or she once saw and is now drawing by heart in the studio of a workshop. This must be a near impossible task, Zeuxis!

Zeuxis: Painters tried various mechanical means to help them in the process. Leon Battista Alberti used a thinly woven veil. The veil acted as a projection screen. The painter looked at the scene through the veil. He saw a picture of the real scene on the veil, which he copied on the canvas. Other painters like Canaletto but also Johannes Vermeer used a "camera obscura", a dark chamber. This was a closed, square box with a narrow round opening in the front. The image of the landscape passed through the hole and was projected at the back. There could be a translucent vertical screen there, or a mirror that sent the total image up to a horizontal translucent screen. The painters saw a flat picture on the screen that could be copied directly on the screen to have the right proportions of perspective, or that could be copied patiently on a canvas.

Zeuxis starts making a complete perspective drawing of a house and that takes some time. Arte comes nearer and looks over his shoulder to see plate 89.

Plate 89
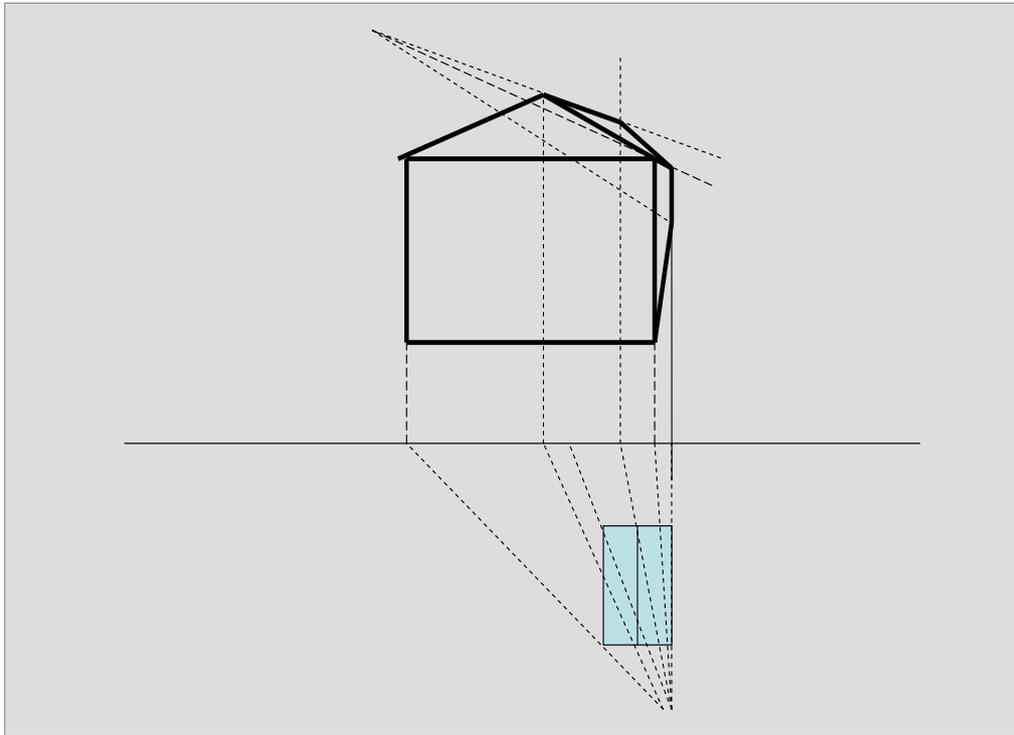
Zeuxis: The shadows cast by a light source on objects form lines that also converge to a vanishing point. That vanishing point is however not the same as the one of the lines of the objects. The vanishing point of the shadows will lie on the opposite side of the light source.

Zeuxis projects Berckheyde's view of the Dutch church square again.

➜ Gerrit Berckheyde (1638-1698). The Large Square of Haarlem. Le Musée d'Art Ancien. Brussels.

Zeuxis: Look for instance again Gerrit Berckheyde's painting of the "Square of Haarlem". Berckheyde showed dramatic shadow lines, and these recede to a common point on the left of the painting, as the light comes from the right.

And Zeuxis then shows Arte Gino Severini's landscape.

➜ Gino Severini (1883-1966). Landscape in Civray. Private Collection Rau. Germany. 1909.

Zeuxis: Gino Severini painted shadow lines even parallel to the horizontal border of the frame, and thus obtained an equally dramatic effect. Viewers sense the light straight on the right from the scene.

Zeuxis: When you look at this perspective drawing, Arte, you will remark that you can play with two features. You can place the horizon line lower or higher, and you can change the position of the vanishing point from left to right. In doing that, you change the lines of the house, and you change the view from which you look at the object. Try it out and see what position you prefer.

Arte draws a few quick sketches of various positions of a cube, in relation to the horizon line, and she moves the vanishing point over the horizon.

Arte: This is fun, Zeuxis, and it really creates an illusion on paper of what we see with our eyes in the real world.

Zeuxis: True, Arte. But even the real world of three dimensions as truly seen by our eyes can be an illusion, though sometimes the space illusion is created by man to prove that our senses often deceive us.
Perspective used in paintings is a means to imitate nature and to inspire strong illusion of depth. But we must be aware of the relativity of what our senses perceive, because even in nature they may deceive us. Man can exploit the relativity, for instance in architecture and not only in painting.
One of the most famous examples of deception in architecture is the Borromini Perspective in the Palazzo Spada in Rome. Francesco Borromini built there between 1652 and 1653 for Cardinal Bernardino Spada a colonnaded corridor. [128.] When a visitor stands in the Spada palace's patio and looks through the corridor, he or she sees a long series of columns and an arched throughway leading to a garden that ends far away on a Roman statue. The statue was added by Prince Clemente Spada (1778-1861). [128.] The complete corridor is a work of illusion however, for the length of it is only about nine metres and the statue is hardly taller than one metre. Borromini achieved the deception of four times the actual length leading to a statue of twice its real height, by converging the colonnades, rising the mosaic floor and lowering the ceiling's arches towards the end, all tending to a hypothetical vanishing point. The guardian of the palace museum will do you a pleasure by going into the corridor to show the trick to the astonished viewers; the man grows larger and larger until you can see the Roman statue between his legs when he stands on the fake hedges at the end!
The Borromini Perspective in the Palazzo Spada is a three-dimensional essay in tricks of perspective, which reflects today the interests in illusions of this kind of the Cardinal Bernardino Spada. Francesco Borromini realised the architecture with the help of an Augustinian father, Giovanni Maria de Bitonio, who had realised other such perspectives in Bologna. The Cardinal probably wanted to impress on his visitors the idea that the senses deceive, and that the grandeur of our human works is but an illusion in view of the grandeur of the Divine. [128.] The concept and Borromini's corridor certainly make us remind that painting is illusion. But when you think of all the magnificent paintings collected by the Cardinals in Rome, I would conclude – contradicting Plato - that they also are a divine illusion.

Illusions created by perspective to inspire a sense of space where space does not really exist, are as old as humanity. There are many magnificent examples of this concept, but I will mention only two and both are in the city of Rome (that town is on my mind anyway after talking of the Borromini Perspective, Arte).

In the Palazzo Massimo alle Thermae is the Roman National Museum. On the second floor of that museum, you can find ancient Roman frescoes that date from the first century B.C. They were found in a villa built near Rome, on the Via Flaminia. The villa belonged to Livia Drusilla, the wife of Emperor Augustus. Livia had her summer dining room, called a triclinium, decorated on all walls with garden scenes. Livia's hosts had the illusion to dine in the middle of a green garden. The frescoes are just marvellous. There are all kinds of shrubs in the garden images, flowers, trees and birds. The trees bear fruit and all plants bloom. The painters showed a small marble garden wall that at places had to curb around a tree, and there they used perspective, though still with parallel lines. Another fence, a reed fence, with openings that invite into the garden, was painted lower, to give an impression of being closer by. It is easy to imagine the wealth and fineness of Roman villas with this example, but very few of these frescoes that were once so glorious have survived!

The second example, Arte, could be the Hall of Perspectives in the Villa Farnesina alla Lungara in Rome. This hall was painted in the beginning of the sixteenth century with frescoes by artists of the workshop of the architect of the villa, Baldassare Peruzzi. On the walls in the large room are frescoes that show colonnades in perspective, which open to views of Rome. The spectator that comes into the hall has the impression that he or she were walking now in a loggia, open to the free air. One looks through windows to the villages of Latium and to wide panoramas of Rome. Here also, the lord of the house, the rich Agostino Chigi, wanted his hosts to be stunned, and he maybe also wanted to breathe more, to have open views to his beloved Rome, even though the hall has a few real windows with nice views.

So, Arte, humans love perspective. They love tricks of the mind, and they love to fool their own senses. Let's exercise.

Arte hears out Zeuxis and continues to make sketches of houses and landscapes using a vanishing point.

Linear Perspective with several Vanishing Points

Arte: But, Zeuxis, something is not fully right here! Linear perspective with one vanishing point is the technique to represent a scene when the viewer looks constantly in one direction only. In reality, a viewer will look to the left, to the right, then upward and downward. Our eyes change the points of convergence in the far. We take in a whole scene at once but with information of successive views of the same scene. We construct a mind-image that includes more information than from just one direction of vision. It is this whole view that stays in the mind as the picture of a scene. Thus, linear perspective with one vanishing point only does not really conform to our usual perception of the natural world.

Zeuxis: So right, Arte! This kind of technique sometimes presents images that are unnatural and exaggerated. Painting is an illusion of reality, and although the technique of linear perspective with one vanishing point is mathematically correct, a

feeling of natural lacks in many instances. Painters have tried to make the illusion of looking at a whole scene with views from the left and the right more natural than a mathematically correct view. One means to obtain this effect is linear perspective with two or more vanishing points.

Zeuxis makes another drawing to show Arte how a painter can also make pictures with two vanishing points. That is plate 90.

Zeuxis: Hereafter is an example of a cube represented with two vanishing points. Now no sides are parallel anymore to the viewer, so that all lines recede to the two vanishing points. Paintings in which such effects have been exploited are very rare however. These pictures give a feeling of a viewer that is far from the scene, an effect that painters have rarely emphasised, since they usually prefer to implicate a viewer in the picture, hence draw him or her nearer.
Remark again how in such constructions of lines you could modify the position of the horizon line, so that the object lies above or beneath the horizon. And you can at will vary the position of the two vanishing points to the left and right. So you can really draw very many perspective sights, play with these parameters, and take the picture that suits you best.

Plate 90
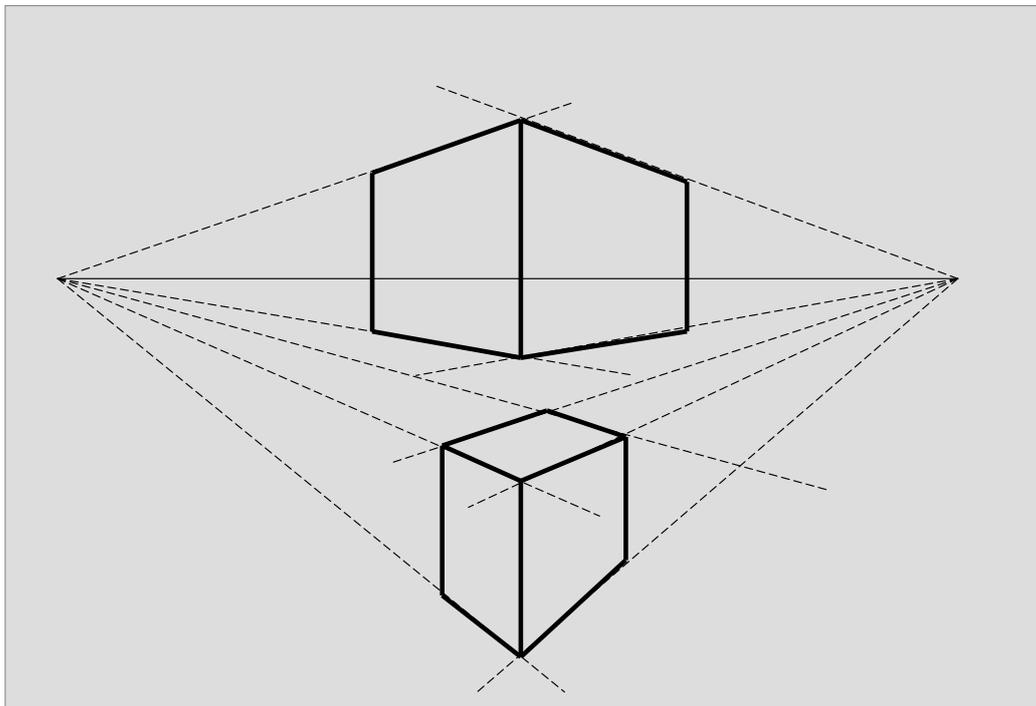
Arte: We can look right and left but also upward and downward. So we could imagine a perspective with three or four vanishing points.

Zeuxis: True again, Arte. Let me show you an example again that we saw before.

Zeuxis gets Dali's picture again on the screen.

➔ Salvador Dali (1904-1989). Christ of Saint John of the Cross. The Kelvingrove
   Art Gallery and Museum. Glasgow. 1951.

Zeuxis: An example of a picture with three vanishing points would be a painting that
showed a scene from far above. Such a painting is Salvador Dali's picture called
"Christ of Saint John of the Cross". We see a vanishing point that lies very deep, and
at the same time the line of the horizontal beams of the cross converge to a point on
the far horizon line situated way in the background, higher than the cross.
Paintings with three vanishing points are extremely rare and it took an artist out for
very original and rare views to have the imagination to take a theme so well known as
the Crucifixion to see it from a perspective that was still real, but far from natural.

Arte: Salvador Dali's picture had a bird's eye perspective, but a viewer can also look
upward, for instance to a high-rise building and see the vertical lines converge.

Zeuxis: This then is sometimes called a "worm's" perspective.
The next drawings show the two effects of a deep and a high perspective. Paintings in
which four or even more vanishing points are shown do not exist, as far as I know. No
natural structure on earth goes as deep down as it stands high. Still, we could imagine
an alien world of imaginary architectures that we could admire from a standpoint that
showed the flowing lines both in the high and in the deep.

*Zeuxis makes another drawing in plate 91 and he also projects a strange view of a
madhouse.*

➔ Ludwig Meidner (1884 – 1966). The Corner House. Museo Thyssen-Bornemisza.
   Madrid. 1913.

Zeuxis: Examples of "worm's eye" perspective can be found in views of corners of
streets with high buildings. One of these is Ludwig Meidner's "Corner House".
Although this is an Expressionist picture in which the sharp slanting lines clash to
form a ghastly horror house, Meidner did introduce effects of perspective. He set the
viewer very low so that the vertical lines of the high building converge far high.
Meidner did this to impress the viewer by an oppressive, menacing and nightmarish
view.

Plate 91
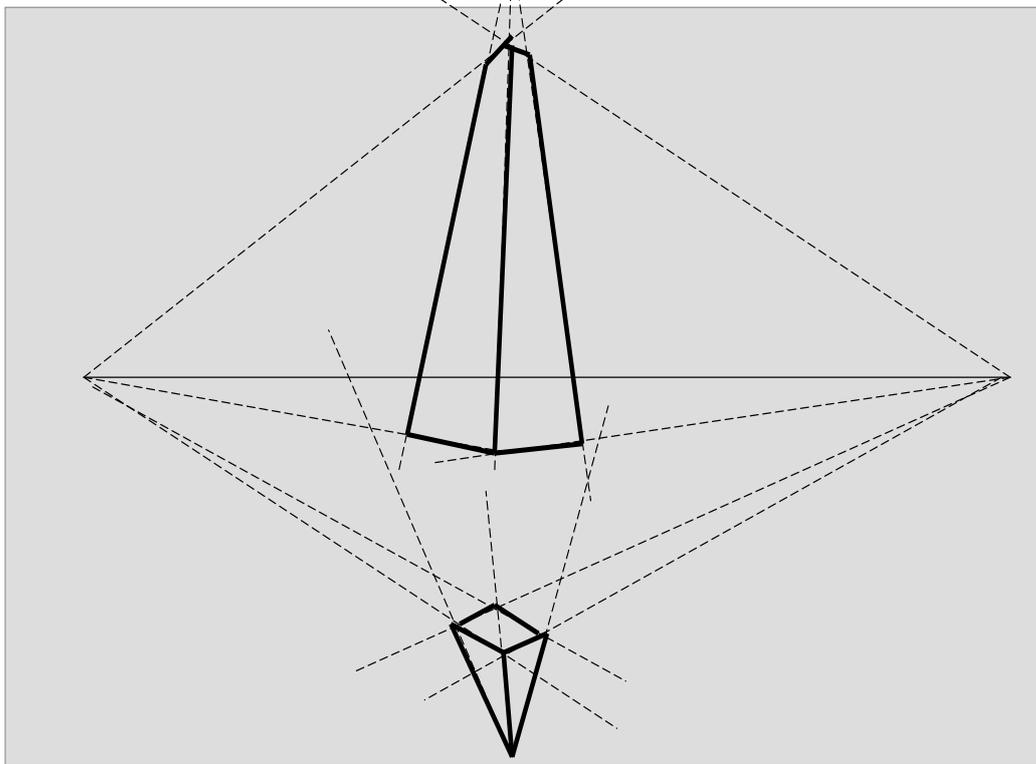
Zeuxis: My previous drawing showed four vanishing points, Arte!

Arte: Wow!

Zeuxis ignores the irony and projects another picture on his screen.

→ The Glorification of Saint Roch. Jacopo Robusti called Tintoretto (1519-1594). Scuola Grande di San Rocco. Venice. 1564.

Zeuxis: Worm's eye perspectives have also often been applied in ceiling frescoes. Jacopo Tintoretto thus painted a great oval in the centre of the ceiling of the Sala dell' Albergo in the Scuola Grande di San Rocco of Venice. The Scuola was dedicated to Saint Rochus, so Tintoretto showed Saint Rochus glorified in the heavens. As a spectator, you stand below the oval and look from downwards on a standing Saint Rochus. The worm's eye view is here not applied to buildings, but to the figure of the Saint.

Arte: Something puzzles me, Zeuxis. All the drawings we made suppose that I am standing or sitting and looking straight in front of me. I grant you, I may look down or up, but we moved the vanishing points only along a horizontal and along a vertical line! Why not move them sideways, or along a circle?

Zeuxis astonished: That is an astute remark, Arte. Of course, we draw with perspective illusions of nature.
The Renaissance artists and mathematicians discovered perspective because they needed a tool to create better illusions of reality. They were not just imitating nature, for even with perspective they had to take care and avoid too harsh distortions so that viewers could still easily recognise the objects or figures. Essentially, they were after enhancing the perception of reality of scenes. So they, and most painters after them, imagined the normal view of spectators. And spectators usually stand or sit and look straight up and down, which is perpendicular to the horizon, and from right to left, which is in parallel with the horizon.
But yes, as you remarked, a painter or a viewer can also turn his or her head sideways. One sees buildings obliquely then. The same drawings and schemas as we made apply then too, but the picture will be awkwardly skewed, and very few painters have made even fewer pictures this way.

Arte with dreamful, half-closed eyes: I imagine myself in an airplane, moving through the skylines of a modern city and I imagine my airplane turning and turning, flying down and curving around the skyscrapers, offering me dazzling perspectives of sideway views.

Zeuxis: Well, hmm, bring your imagination back to the ground, dear.
I do know of one painter, though, who dared to offer such views: an Italian futurist painter called Virgilio Marchi (1895-1960). He painted in 1919 a view of a building seen from a turning airplane. In that picture the futuristic building is seen skewed to the left. But in their vast majority, painters have stayed on the ground and looked up and down, from right to left and vice versa, but only in those directions. After all, that is how humans look at things in nature fairly usually. Painters experiment, but in the end, they always come down with their feet on the ground.

Aerial perspective

Zeuxis: The techniques that I explained so far to create depth are techniques of lines and of shapes. There exist also techniques of colour to create a sensation of depth in scenes. This technique is called aerial or atmospheric perspective.
I have explained earlier that we can feel colours psychologically as warm or cool, and we have called this the temperature of colour. We like warmth close, whereas we know that warmth becomes cooler at a distance. Therefore Western painters put warm colours close to the viewers and cool colours further away in their pictures. Further away generally meant higher and towards the horizon line.

Arte: How is this effect called?

Zeuxis: It is called aerial perspective.
Aerial perspective is a technique for creating illusion of depth in a painting by modulating the colours of the objects and the scenes. These colour transitions simulate the observed effects of the atmosphere on the colours of objects seen at a distance. Hence this technique is also often called "atmospheric perspective".
Effects of distance are of course diminishing heights of objects, which happen gradually with distance. But colours also fade in the far to dull grey or bluish hues.

Light of short wavelengths, which is of blue light, is scattered most by the atmosphere. Hence the colours of distant objects tend toward blue. We already remarked in this text that distant mountains had a bluish tint. Light of long wavelengths, thus red, is scattered most. So distant and very bright objects, like the sun, appear redder because the light has lost much blue, as the blue light is scattered more. The contrasts between colours of distant objects diminish. With distance, the objects become blurred, details on the surfaces of objects are almost superimposed or disappear altogether Objects increasingly come to be seen one in front of the other. All such effects can be imitated in paintings to indicate distance between the viewer and the objects.

Zeuxis shows Gino Severini's picture again to Arte.

➔ Gino Severini (1883-1966). Landscape in Civray. Private Collection Rau. Germany. 1909.

Zeuxis: A good example of the use of colour to enhance the impression of depth is in Gino Severini's "Landscape in Civray", of which I spoke earlier. Severini painted yellow and red strokes among the warm colours in the foreground. In the background he used green and blue and violet hues, and since these are colours that enhance impressions of distance, Gino Severini emphasised by the change in colours the impression of depth. Close parts seem closer still because painted in warm, attractive colours, and parts that seem further away from the viewer are in colder colours that seem to want to put a distance between viewer and landscape. Finally, Severini kept his sky very clear and light blue, practically the most non-committing colour there is, and then this bright sky even contains white streaks of clouds. This sky really feels cold and far.

Arte: Such changes in temperature of colours can indeed also be observed in nature. Colours of distant forms become greyer and bluish. They become paler, while foreground colours and features appear more intense in hue. Colours become weaker, paler, and less intense in proportion to the distance from the viewer of a natural landscape.

Zeuxis: That was one reason why Gothic and Renaissance painters mostly painted far mountains in pale blue, thus enhancing the psychological effect of the cooler colours to indicate distance.
The sky is deep blue right above the viewer but paler blue over the horizon.
We know that this is an effect of the moisture and pollution particles in the air, so that light is more scattered as it passes through more air. Blue light has the shortest wavelength and is scattered most, so the deep colour of blue disappears at a distance. Blue light seen close to the horizon is scattered more, and passes through thicker layers of air than the blue light we see from straight above. So the blue over the horizon is lighter, and less pronounced than the blue overhead.
Distant bright objects appear redder, like an autumn sun over the horizon, because the blue is scattered more. Red light has the longest wavelength and is scattered the least, so red hues are preserved. Distant objects thus have lighter, paler colours than close objects. Such effects can be used by painters to indicate distance and hence to create impressions of depth in pictures.

Zeuxis project's once more Dali's painting.

➔ Salvador Dali (1904-1989). Christ of Saint John of the Cross. The Kelvingrove Art Gallery and Museum. Glasgow. 1951.

Zeuxis: The effects of aerial perspective are very obvious also in the Dali picture of Christ. Behind Jesus, high in the sky, colours are black, whereas downwards paler blue hues appear. The image of the boat beneath is painted in detail, but in less detail than the muscles of Jesus's shoulders, and the mountains far beneath have lost all detail and become blurred in colouring. Salvador Dali used several techniques together to give the viewer an impression of great distances.

Arte points at the Dali picture on Zeuxis' screen: I bet that painters could combine all techniques of linear perspective, aerial perspective and foreshortening, as did Salvador Dali to perfection. Even then, Dali was after a surprising new view with his image of Jesus Christ, and he obtained his effect also by showing dramatic foreshortening and strong aerial perspective.

Zeuxis: On to a next concept, Arte. Perspective is a powerful technique to create illusions of space on a flat canvas. There are other techniques of illusion.

Illusions of volume

Zeuxis: Representing volume on a flat canvas is an illusion. Hence all painting is creation of illusion. Painters have remarked the concept, and have known the concept for centuries. It should not come as a surprise that a few painters have tried to show the illusion in a very clear and clever way. They have used the illusion for the illusion's sake.

Zeuxis shows to Arte a surprising picture on his screen.

➔ Cornelis Norbertus Gijsbrechts (ca. 1610-1678). Trompe l'oeil Painting. A Letter Rack. Statens Museum for Kunst. Copenhagen. 1668.

Zeuxis: One such painter was Cornelis Norbertus Gijsbrechts (ca. 1610-after 1678). He was a painter of Antwerp, but he worked in various countries such as Denmark. Gijsbrechts was a specialist in so-called "trompe l'oeil" pictures, in creating optical illusions of volume. He made pictures that gave the illusion to the viewer as if he or she was not standing before a picture, but before the real object.
In order to enhance the illusions, he had to give uncommon forms to his panels, which then followed the forms of the objects he painted. These trompe-l'oeil pictures often also combine not just the canvas but also other materials. Gijsbrechts made a picture called "A Letter Rack". This shows a red ribbon rack in which many letters are stuck. A few of the letters pass beyond the traditional canvas, giving an illusion of real letters pasted on the panel.
Depicting letters in trompe l'oeil is much older than Gijsbrechts however.
One of the first such trompe l'oeil pictures that have been preserved was made around 1490-1495 in Italy, in Venice, by Vittore Carpaccio (1460/1465-1525/1526).
Carpaccio made a painting of two women looking out from their balcony onto the

lagoon of Venice. The painting has been sawn in two, and one part with the view of the lagoon is now in the J. Paul Getty Museum of Santa Monica (Los Angeles), whereas the lower part is in the Correr Museum of Venice. The panel of Los Angeles shows on the back side a red string, tended tightly by two nails, over which white, folded letters hang. Strings and letters are painted, and are but an illusion. The panel was probably the door of a cupboard, and the inner picture invited to hang real letters there.

➔ Vittore Carpaccio (1460/1465-1525/1526). Trompe l'oeil Painting. A Letter Rack. The J. Paul Getty Museum. Santa Monica (Los Angeles). Ca. 1490-1495.

Zeuxis continues: A way to depict an object on a flat panel is to use a geometrical, mathematical means called a projection. In a projection, all the corner points of an object are projected in parallel on a flat paper. Then, the points are interconnected but only the lines visible from the direction from which one projected the corners are drawn visible. The other lines disappear behind the former.
The projected image in two dimensions generally renders a realistic image of the object, as seen from the front or from above. One can play with the algorithm by which one has made certain lines disappear in favour of the others, and by applying this process arrive at strange, unnatural representations that are truly illusions. One can give an impression to viewers of three-dimensional constructions that at first glance do not violate laws of projected representations, but that have queer results for the general view.

Zeuxis: A master in creating such illusions was Maurits Cornelis Escher (1898-1873). He was a Dutch painter and engraver, who made drawings that exploited fully all kinds of optical illusions, including illusions of volume.
One of his best-known works is a building with four staircases. People are walking up the staircases. By some trick all projection the people all walk up, and yet the staircases are linked, so that the figures go up all the time, which is of course impossible.
By breaking the rules of mathematical projection of a three-dimensional object on a flat surface, and more particularly by breaking the rules to show visible lines and hide invisible ones, Esher created powerful illusions that were surprising and deranging for viewers. The trick is not obvious. Esher changed only to visible lines some lines that are normally invisible, but it takes a vivid imagination and a keen eye to know what lines should and could thus be changed.
Painters have exploited optical illusions and all kinds of optical tricks like Escher. One other of these is the so-called "mirror painting", in which a picture is seen through a tilted mirror, and the image on the oblique mirror is faithfully copied on canvas. The result is a distorted image that makes no sense. The picture needs to be seen through a likewise tilted mirror to appear.
Look at the picture hereafter of a cube in which all lines, also the ones that are normally invisible, are shown in full. When a viewer looks repeatedly at such an image, the cube will change position. This is called a "Necker cube".

Zeuxis makes a drawing of a Necker cube, in plate 92.

Plate 92
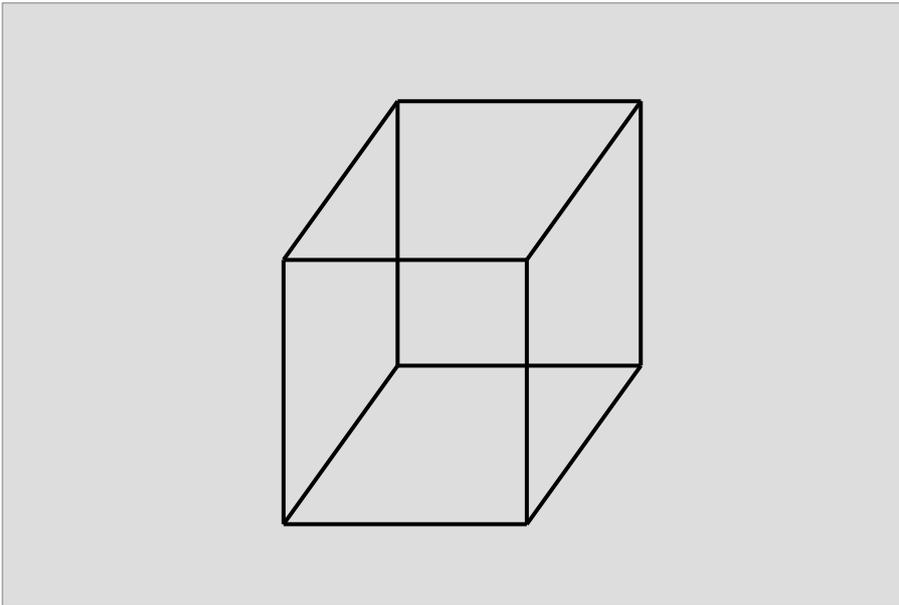
Zeuxis: There exist many such optical illusions, also merely on lines. The enumeration of all optical illusions is however not the subject of this book. I only show a drawing of the "Hering illusion" hereafter. The two thick horizontal lines in the rectangle are indeed horizontal, but they are perceived as being bent.

Zeuxis draws now plate 93, the Hering illusion.

Plate 93
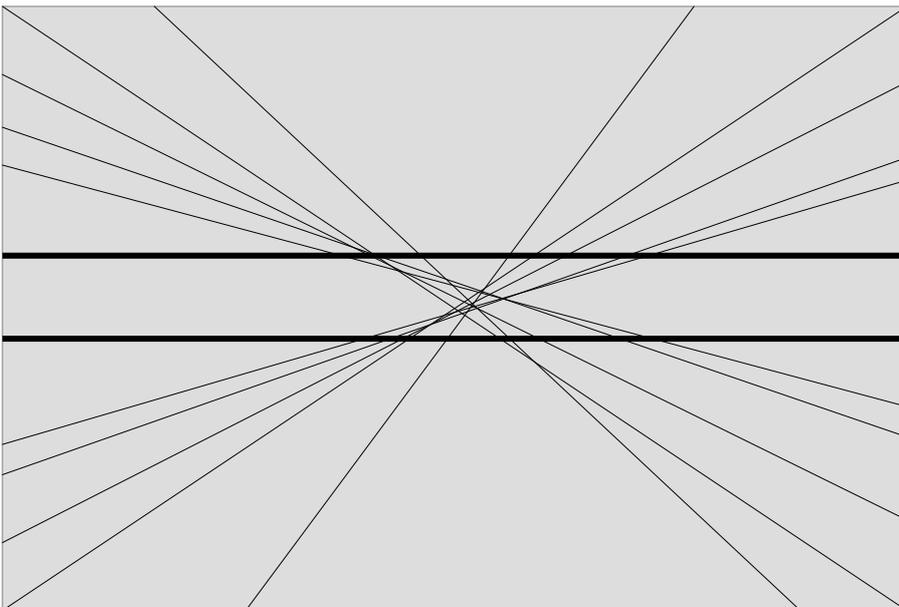
Zeuxis: Linear perspective gives powerful illusions of space to viewers. The technical means to obtain this perspective can be applied in a contradicting way to create world-

views that derange spectators. This can be realised in various ways. Painters can for instance have the borderlines of monuments, buildings and figures of one side of the painting converge to a point on the horizon that lies much higher or lower than the corresponding horizon line of the other side. In views constructed of several vanishing points, skewing the vanishing points can thus show very strange effects. This procedure always creates a dream-like world. Surrealist and Meta-Physical artists exploited such effects eagerly.

Zeuxis: We have almost finished now, Arte. But before departing, I need to talk to you just briefly on another subject that we have avoided so far: the texture of a painting.

Texture

Arte: Well then, please explain, Zeuxis!

Zeuxis: By texture, we designate various elements of painting. Texture is how the painters use the coarseness of the canvas or panel. By the term "texture", we also designate the roughness and thickness of the brushstrokes of the painters. Texture is also a term used for the qualities whereby a colour surface to reflect light.
The painter can use thin paint and lay that down in equal thickness, lightly on the canvas in but one or in very few layers. The canvas may have been prepared with sub-layers of paint, so that the upper paint is distributed very equally over the surface and remains totally flat. The brushstrokes are then barely visible. Ancient and modern painters alike used this technique. Duccio di Buoninsegna painted this way already in the thirteenth century on panels of wood, on which he prepared several sub-layers of substances to obtain a very smooth surface. Roy Lichtenstein in the twentieth century used the very light and fluid acrylic paints on linen canvases, which distributed very evenly on canvas.
The painter can put one layer of paint upon the other but always lightly. The subsequent layers can then be used for instance to imitate effects of shadows, since each layer will gradually darken or deepen the tone of the colours. Special colour effects can be obtained from using several superimposed layers of oil paints in which pigments are only lightly mixed. Jan van Eyck worked in this way on certain areas. The effect was "glazing", and it gave a sense of delicate, slightly perceptible sense of depth in the painting.

Arte: The painter may also leave the linen almost as it is or only put thin preparatory sub-layers on the canvas. When he then paints also in thin layers of liquid paint and in slight brushstrokes, the texture of the linen remains visible and the painting receives a tactile quality. This is especially the case when coarse-grained linen is used. Tiziano made pictures this way in dark tones in his later years.

Zeuxis: So you have remembered Titian, Arte, dear? And studied pictures behind my back! Good so. Now, let's continue.

Zeuxis: A colour surface can be rough or very equal. Such a surface reflects light to various degrees. A matt surface does not shine. It is dull because it does not reflect light so well, but may be suited for soft hues.

Shiny surfaces reflect more light. They also are more luminous and will create more contrasts than matt surfaces. They have a remarkable property to seem to create impressions of depth, maybe partly through mirroring effects.

Painters can use thick paint, and in places even several layers of thick paint. They can work the paint before it has dried or even while it is drying, with brush, knife or fingers, so that the brushstrokes or the lines of the knife or of the finger-strokes remain visible. The painting then sometimes shows the sensual tactile work of the artist very visibly. Pieter Paul Rubens worked like that, although he often combined techniques of texture. He could leave delicate light paint for areas of flesh of figures, like on the neck of a woman, and clear rapid brushstrokes in her robe, then several thick layers topped with visible lead white in her feathered hat. Such white strokes always stand out as if in relief.

The English painter John Constable (1776 –1837) remarked how light was caught on the leaves of trees in forests, most notably at the border between forest and open meadows. Under certain natural lighting conditions of the sun, parts of the leaves reflect the light, and these parts are thus highlighted, whereas other parts remain in shadow. Constable imitated this effect in his paintings by putting small strokes of bright paint on the leaves of the trees. Thereby he obtained a tactile effect of thousands of leaves reflecting the sunlight, and a feeling of the relief of the leaves.

Rapid, light and yet visible broad brushstrokes are a style characteristic of other artists like Henri Matisse. Matisse was primarily a colourist, and most of his paintings have no line but only colour, many very lightly applied in broad strokes that often leave the underlying white also somewhat visible.

Many modern painters tried specifically to explore the texture of a painting. They glued pieces of paper, thick or thin, on the canvas, and left some of these parts visible, or they painted in thick layers of paint over the paper. Pablo Picasso and Georges Braque started to glue all sorts of materials on their canvases: paper, textiles, ropes, and so on. Other artists, like Jasper Johns, used waxes to bring more elements of relief in the painting. Still later, particularly during the Pop Art period, real objects could be glued in the picture so that it became a kind of bas-relief. The differences between painting and sculpture thereby started to disappear. These techniques are currently commonplace, but still remain oddities. Painters have mostly stayed faithful to their flat medium.

The works called "collages" consist merely of glued pieces of paper, pictures from newspapers or magazines. Some of these pieces may be painted over, others left in place as such. Paint may be applied to enhance certain effects of the images, or not. These experiments went of course to the limits of the medium, which is always the canvas or board. They were just one more way to go beyond the traditional medium of the flat, painted surface sometimes with an aim to create a new art and always to explore the medium. Whether these techniques can still be called painting is an open question. But they still deserve the qualification of art.

Arte: That's it then, Zeuxis? Do I now know all there is to the art of painting?

Zeuxis: You will never know all, Arte, just as I do not know all. There is always more to discover. But we have discussed the essentials!

Arte: What then will we talk of next, Zeuxis? You cannot leave now that we have become such friends? Besides, I may know something about paintings, but I still do not know how and when a painting is really good art. I know all the particulars, I

know some of the techniques of design, but I still do not know when to call something beautiful. Do not leave now, please talk to me still.

Zeuxis: Time of departure is near, Arte. But I will always be there for you to call me. You will not call me often anymore, though. I know your mind now, girl. You have learnt enough on painting. I feel your mind wandering, out to other curiosities. You cannot stay with one subject, and you are right at that. The world is so marvellous, with so much to discover. You will have to call other teachers. But I will not depart yet. Yes, I will talk to you about beauty. But you may well be astonished, for beauty is just for you to find, by you alone.

Zeuxis disappears, leaving a sad Arte, who now sags with her head in her hands.

Fauvism

An exhibition was organised in Paris in 1905 that contained a hall filled with paintings of pure, very contrasting colours. The paintings were made with much enthusiasm and passion. They used such violent colours that a critic called the painters "Les Fauves", for "wild animals". That name continued to be used. The Fauves stayed together as a group only for a short term, from about 1905 to 1908.

Nabis

The Nabis was a group of French artists who worked at the end of the nineteenth century. "Le Nabis" means "The Prophets", as "Nabi" means "prophet" in Hebrew. The group was formed in 1888; the name may have been first used in correspondence of the painter Paul Sérusier.
Gauguin and Van Gogh's pictures in pure colours inspired Nabis. The Nabis painters said that objects in painting were nothing more than coloured areas on a flat canvas. These painters sought decorative effects with colours on an otherwise flat space of the canvas. As such they are often cited as belonging to the "Art Nouveau" movement. The Nabis technique thus was the juxtaposition of large areas of one colour. They can be regarded as precursors of Fauvism.
Members of this group were mainly Pierre Bonnard, Maurice Denis, Aristide Maillol, Félix Valloton, Paul and France Ranson, and Edouard Vuillard.

The Fauvists were colourists before anything else. They did not draw before applying paint, and did not shrink away from using unexpected directions in their pictures. In later periods however, Fauvists returned to coloured lines brought on the canvas in fluent and very visible brushstrokes. The Fauves used colour as almost the only formal element of painting.

In Fauvist pictures composition and forms had a subordinate role to colour. Yet, forms gradually became more sophisticated and more curved and accentuated by lines without coloured surfaces (such as in Henri Matisse's pictures). The Fauves had no common style beyond the use of colour. Colour was their form.

Fauvism manifested itself in the contrasting bright colours, dynamic brushstrokes and by the expressive strength of the paintings delivered by these colours. Colours were used in unexpected combinations, and the Fauvists also modified the natural tones of colours to exaggerated tones of special brilliance. Paint was sometimes lavishly applied, sometimes thinly, but always in broad areas. The Fauvists applied colour in a very personal, subjective way. Colour became even more an aim than for the Impressionists. They used sharp colour contrasts and visible brushstrokes. They also gave unexpected colours to objects, such as blue for trees.

Fauvist paintings present a joyful, playful world of strong emotions in colours. They showed great freedom of expression in subjects and means. They used mostly scenes of everyday life, but their figures and shapes were subordinated to colour and played more a decorative role than a role of content. The Fauvists were not interested in the

details of their landscapes or figures or other subjects. The expression counted first. They remained figurative, and human figures were still often represented. They painted landscapes, nudes, portraits and still lives.

The Fauvists exaggerated drawing and perspective.

Fauvist painters were André Derain, Kees Van Dongen, Henri Matisse, Maurice de Vlaminck, Raoul Dufy, Albert Marquet, Louis Valtat, Henri-Charles Manguin, Jean Puy, Othon Friesz, and briefly also Georges Braque and Georges Rouault.

Fauvism can be considered, like Divisionism, as an evolution to the extremes of Impressionism. Fauvists used harsher, ever more brilliant and unexpected colours than Impressionists in ever broader and more visible brushstrokes. In their paintings, the Fauvists used the same content, forms and composition as the Impressionists, but often and towards the later periods of the movement, the representation of the idea in simple forms and colour only became more pronounced.

A Parisian from Montmartre

Kees van Dongen (1877-1968). Musée André Malraux – Le Havre. 1903.

The portrait shows a pale face over a white bust. The painting is bright and the colours splendid; the colours take the viewer straight in. In any museum a picture like this would strike you instantly among other paintings, catch your eye by its garish hues. The whitish yellow hits the eye as it is set against the background of black, and the pinkish flowers of the wide hat, worn with dash by the Parisian beauty, break the normal balance of the emphasis on the lower part of the picture.

Kees van Dongen's portrait uses only colour as the sole formal element of the painting. We see no lines but the contours created logically by the transitions of the colour surfaces. These contrasts are always violent and opposing. There is yellow confronted with black and grey. The whitish yellow is accompanied by green, and also red colours are juxtaposed with another green hue. The brown is painted against the red and white, and red conflicts in the luxurious hat.
Van Dongen used all but natural colours in all of this. The face of the Montmartre lady is not painted in the pink, pale fleshy colours of a young woman. We see harsh yellow and, where the light is, even white patches; the shadows of the face are green. Green is not the complementary colour of yellow, so this green chiaroscuro is far from normal. Van Dongen simply used the green to present a darker tone. More shadow is around the eyes, and here van Dongen placed violet colours, darker even than the green, but neither complementary to green nor to yellow. The painter used deliberately the wrong colours for the shadows, knowing that anyhow painting is but an illusion, and the chosen hues suit as well to show volume in the face as other, more natural colours. He introduced deliberately colours of which he knew that they were not harmonious, colours that contrasted fiercely and fought in the face. Still, with

these he chiselled the face in a few brushstrokes. The only natural colours might be in the painted lips of the mouth, but the red there is also really too bright and too attractive to be natural hues. Remark how, with a few touches of the brush, van Dongen depicted the slightly opened mouth.

Under the face are the same colours. There too is the whitish yellow. Even if the viewer's gaze would be caught by the bright colour of the bust, the pyramidal very traditional composition would always lead the eye back to the face. To enhance the brightness, van Dongen surrounded the head and bust with dark tones of black and grey. This also was a tradition in painting, as it realised what Michel-Eugène Chevreul described to be the livening of whiter hues against darker tones. This is one of the effects of the simultaneous contrast of colours.

We hardly see the thick brown-red hair of the Montmartre lady appear above her head, and then van Dongen pushed the hair in the wide Parisian hat. The painter here inverted the pyramid with a wide dash of red and green colours representing roses, so that the picture renders an innovative view. Here, the colours are vibrant and the brushstrokes circling. Whereas in the lower part of the painting we find more stern directions, the round forms of the flowers in the hat provide the dash of the provocative. The double pyramid was not so innovative for a composition, since Pieter Paul Rubens for instance made a wonderful portrait of his wife with a wide hat, but of course the broadness of the colours form the difference. The inverted pyramid brings the viewer's eye back to the face, and in the face to the deep, exciting, dark eyes.

Van Dongen painted the eyes of his model black and large. This was one of the common characteristics of eyes of female portraits by this painter. Here it makes the woman look into the far, forward, but always past the viewer, not aimed to take in the eyes of the viewer too.

This is a portrait of a distinguished, respectable lady of Montmartre. The colours of the shirt are not flamboyant. Van Dongen could have painted here blue and red colours, but he chose a uniform white and used some yellow as shadow. This gives the viewer an impression of distance, but also of respectability. The lady's shirt even has a high collar, subtly suggested, and the collar is firmly closed by a brown wisp of a masculine cravat.

The woman has full red lips, but the upper lip is thin, suggesting determination and decisiveness. At the same time, the open mouth is inviting. Here is an intelligent woman with a will of her own and a mind of her own. But this lady also likes to dance, be wild at times, as suggested by the frivolity of the flowers in her hat. After all, this is a Montmartre lady and no one is very serious in Montmartre. Kees van Dongen was thus able with only a few colours to draw clearly the psychology of a Parisian lady. How different is this picture from Gustav Klimt's Adèle Bloch-Bauer, yet both ladies were strikingly outrageous for their times!

Kees van Dongen's real name was Cornelis Theodorus Marie van Dongen. He was Dutch, born in 1877 in Delfshaven. He studied painting in Rotterdam, but after a visit to Paris in 1897 he decided to live there and installed himself in an apartment in 1898. Later, he moved to the building called "Le Bateau Lavoir", where several other avant-garde painters lived, among them Pablo Picasso. Van Dongen painted in Paris, but also worked much for magazines as an illustrator. He met many other artists in Paris and saw the great variety of painterly styles that clashed in Paris around the change of

the century. His gallery was the Kahnweiler Gallery, which was dedicated to many other avant-garde painters. He knew Henri Matisse, Pablo Picasso, Juan Gris, Georges Rouault and Frantisek Kupka. Around 1907 van Dongen linked with the painters of the German movement called "Die Brücke". He exhibited much in Germany, in Berlin and Munich before the First World War. Indeed, the German Expressionists, and mostly the painters of the Munich movement "Der Blaue Reiter" worked much like the Fauvists. They also applied vivid colours like the French "Les Fauves" to which movement van Dongen vowed. Wassily Kandinsky, Alexei Jawlensky and Gabriele Münter started their Expressionism in the harsh colours of the French Fauves. Between the two world wars, van Dongen stayed loyal to his colourful style and he was a well-known, much sought after painter of female portraits.

Kees van Dongen was much a Fauve. The name was given during the "Salon d'Automne" in Paris in 1905. When painters who all, like van Dongen, showed violent colours, exhibited together at this Salon, they were much criticised. Henri Matisse, Maurice de Vlaminck and André Derain hung paintings of a new trend in art. A critic at the 1905 exhibition gave the name of "Les Fauves". It came from the title of a statue shown at the exhibition with the title "Donatello au milieu des Fauves". The colours of these artists were indeed wild, always contrasted violently, and were garish and rarely natural. Henri Matisse painted naked women in bright red; Derain painted the Charing Cross Bridge in the purest blue, and Raoul Dufy showed the Marie-Christine Casino of Le Havre in whitest white. Colour had been brought to the forefront since a long time by the Impressionists and the Divisionists, but for these artists the content of real landscapes and subjects with natural hues still dominated. Colours were imitated as they were in nature, and were only slightly adapted to the mood of the pictures. Of course, with time, these artists also had remarked that colours could be used that differed far from the natural tones.

The Fauves fully exploited colour for colour's sake. They showed for the first time how unusual, unnatural hues could be applied on canvases, and yet they arrived at strong, quite recognisable content. They used strong and few brushstrokes. Chiaroscuro, depth and space were not a must for these painters. Often they left their pictures unfinished in places. This all emphasised the idea that anyway all painting was illusion, so natural colours were after all not so necessary, and content could be recognised with any colour. Van Dongen thus obtained very recognisable forms in his portraits of women through colour alone. Yet, he arrived equally at very strong expression of psychology. He proved by his colour language the strong suggestive character of colour alone and in that he joined the German artists of "Die Brücke" and "Der Blaue Reiter". The Expressionist aspect of the Fauves, a French movement, has not been very much underscored in art history, probably because the Fauves are seen as a normal evolution of the attention given to colour by the Impressionists. The Fauves also were French, whereas Expressionism is usually regarded as primarily a German phenomenon.

The Fauves and the colour Expressionists of Germany opened the road to further experimentation with colour. Experiments in which content would be abandoned for colour only, would almost simultaneously emerge in the French Orphists. Wassily Kandinsky made paintings in his first years at Murnau that were very much Fauvist pictures before he reached abstraction.

A precursor of Fauvist painting had been van Dongen, as in the "A Parisian Woman of Montmartre", dating from 1903, a couple of years before the famous exhibition of 1905, in which the Fauvist movement was recognised.

Lesson Seventeen – Art

Artemisia and Zeuxis are sitting inside Arte's house. They enjoy a nice, but sombre view on the garden. It is raining outside. A heavy rain pours down and the skies are all clogged up and closed. Summer is past. Winds soar and autumn has come to rest the flowers and bushes and trees. Leaves have fallen, covering Arte's garden with dead leaves. Arte looks at the brown and deep red colours scattered over her green lawn. She remains pensive and thinks of the departure of Zeuxis.

Zeuxis: Are you ready, Arte, for a lesson on art and not really anymore a lesson on the design of pictures?

Arte: Sure, Zeuxis, go ahead. Please be slow.

Zeuxis, surprised: Are you tired? Shall I come back later?

Arte: Oh no, Zeuxis. Go ahead.

Zeuxis: The visual arts are a system of communication. We can analyse this system using the terminology of communication theory. This analysis then can clarify the processes that govern the appreciation of art.

Arte: That is quite a solemn statement, Zeuxis! I remember you mentioning Tolstoy, who also said that art was communication. Please explain.

Zeuxis: In communication systems the elements that create and govern the processes are the sender, the message, the medium of communication and the receiver. In the visual arts considered as a communication system, the sender is the artist. He or she produces a work, which is his or her message. The means of transmission of the message is the exhibition of the work in galleries of museums, or in any other place where a public of people can see it. The form, the medium of the message is painting.

Zeuxis draws plate 94 to explain visually to Arte the elements of a communication system.

Plate 94
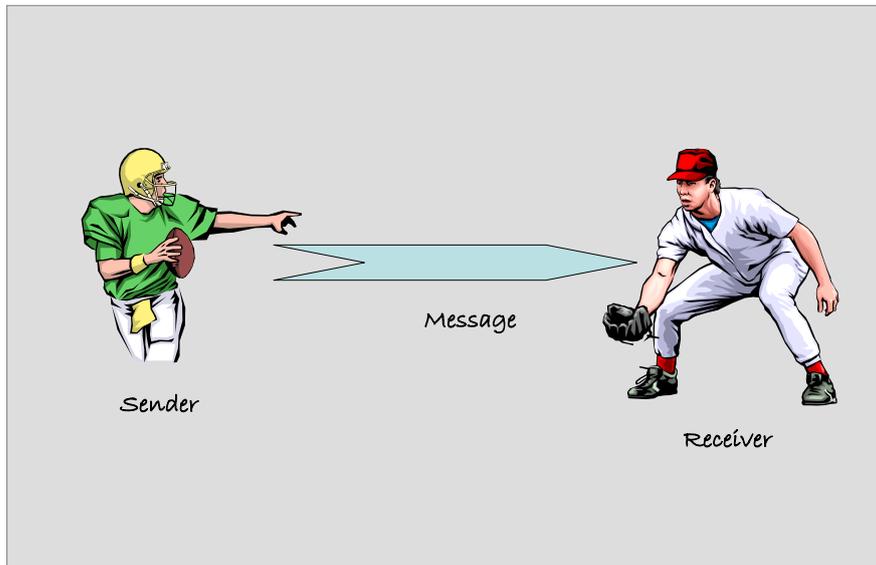
Arte: I read a book once in which a painter wrote that this talk about communication was all bullshit. He seemed to argue that the artist usually does not think of his work as "communication", and that he or she just works for fun, for money, or for his or her own pleasure of creation. Are you sure that painting is really communication, and what then do you mean by "communication"?

Zeuxis: Painting is definitely communication, Arte. In all my centuries I have not seen yet an artist who did not believe and want to be appreciated dearly, to be liked and to be approved, to be applauded for his work. The artists go a long way to evoke reactions in viewers. Man is a very social animal. Artists all aim to please, to inspire, to be loved or even to be feared for their work. Artists have their fellow- humans always very much on their minds when they create. And that statement is true even in their anti-reactions, when they brag that art and creation exists only for the expression of the artist's feelings and for his or her most individual emotions. Even then they seek eagerly the reaction of their public. Refusal by that public leads them into deep depressions.

Zeuxis: Since you asked the question, I have to modulate however my definition of a communication system, at this point already. The information contained in a message can be measured. It can be measured in terms of the number of questions to be answered by "yes" or "no" that can be asked to determine the contents of the message. For pictures that could be an impressive number of questions, but that number would be the total information expressed in "bits", elements that can take the value zero or one, two states, according to the answer "yes" or "no".

Arte: Hold on a minute, Zeuxis. I asked about communication and you talk about information. Information as I understand it, is something told, knowledge. Paintings do not bring me knowledge, do not teach me something I did not know before. Moreover, more than often I may find in a painting something quite else than what the painter may have put in it. The painter means something, but how am I to know

always what he or she has meant? I am more than puzzled now. Some paintings may of course hold content and present a narrative, and that may learn me something I did not know before. But many others hold no content. How in the world can you talk about information when it comes to paintings?

Zeuxis: Right, Arte. All however depends indeed on the definition of information. I define information as a change of the state of the mind in the receiver. A painting evokes feelings, emotions, and these change the state of mind of the viewer. This transition of state of mind can be expressed in bits. You are in one state of mind, look at a painting, and that look changes your state of mind. I call that "information".

Arte: I feel hungry, Zeuxis. So I eat a biscuit, and that changes my state of mind because I was in a state of mind of being hungry before, and after having eaten the biscuit I am not hungry anymore. So that is information? Zeuxis, where are you leading me? Isn't this absurd? Do you want me to give you other such examples of that absurdity?

Zeuxis: We are talking about a system, Arte, in which there is a sender, the artist. In your example there is no sender, so no system. Still, if you are hungry, another communication system is working. Some of your organs sense the hunger and send that information over your neurons to your head. When you eat, the same organs send a signal of satisfaction to your head, and that information is treated there. I would say that yes, in that example also, the cause of the change of the state of mind is information, or the immediate result of the message or signal. In the same way, a painting that is presented to you changes your feelings, bringing you emotions, changes your state of mind, and I define that as information. In the strictest sense of information being new knowledge, of something you did not know before, your state of mind also changes from ignorance to knowledge. That change is also a transition of the state of mind. And the cause of that can be measured in bits. You might even say that one flip is one bit, but also the quality of the emotion would have to be expressed in bits, which could be a not so difficult task. Now of course, you do not have to follow me in that definition of information, which is mine only. The most important is that there is exchange in a system, however you call that system. My best word for it is "communication".

Arte: All right, all right, Zeuxis. So the artist sends me a painting and whatever he or she has felt while making the picture does not even matter much. It changes my state of mind and since the artist exposes the picture it enters the "communication" system anyhow, if we call the system you talk of by that word. All right, I am willing to follow you with that name. So let's continue to talk of "information" and of a "communication" system; but you are stretching my imagination!

Zeuxis: Stretching your imagination is what I am after, Arte, all along. To completely stay within information and communication theory, I might introduce you to the notion of noise.

Arte: Oh Zeuxis, what the hell can sounds have to do with paintings?

Zeuxis: I am not talking about sounds. By "noise" I mean again another concept than the concept of sounds that this word usually means. After all, I can use words for

other concepts, can I not? "Noise" is what for me deters a message, the message's content, the information. Noise diminishes the information. By noise, the meaning of the message may even be totally destroyed, as the information detained by the message is blurred more and more. I argued, Arte, that a painter, when he or she shows a picture, always has intent of communication, which is to change your state of mind, even when he or she originally made the picture for his or her own intent. When the artist offers the painting to a public, there is intent to share and hence a message, as the minds of the viewers will change states. But the painter may hide the message of the picture, or the message may be only partly understood by the viewer, or even completely misunderstood, at the receiving end, at the audience's side. This then could be called the equivalent of noise and this "noise" may break down the information content expressed as knowledge, even though the picture still changes the state of mind of the viewers. Nevertheless, the painting and the artist, as well as the viewer, remain part of a communication system, because the painting is shown and shared with the public. You remain free to not call this system truly a "communication" system, depending on your definition of "information", but a system there certainly is, a system which – as I need to talk later of – is a system with feedback mechanisms and thus called a cybernetic system.

Zeuxis: So, "noise" is a term, a word used to give a name to the breaking down of information. Information can be broken down at the sender, during the transport of the message, and at the receiver. It is broken down at the artist's side when the painter hides his meaning, willingly or unwillingly. The original information content can be diminished or changed when the painting is being exposed. For instance, a picture of a tree hung upside down has quite another meaning than a picture of a tree that shows the foliage at the top and the roots at the bottom. And, of course, a viewer may miss the original meaning of the picture, in which case communication breaks down at the receiver's side. The intention and meaning of an artist is most often conveyed in the title of the painting, and the title directs the change of the state of your mind, but also the title may be missing, have no meaning at all or conveying a false message other than the original, or the title may even have been given deliberately by the artist to hide the meaning and bring the viewer to an unintended meaning. In this case however one may ask what the real message of the work was: was it not then to deceive the viewer? That also is a kind of communication.

Zeuxis: If a painter only paints for himself and destroys his or her work before it is seen by someone else, I grant you that there is no message and hence no communication. When a painter completely hides the meaning of his painting and the emotions he or she wanted to evoke, but yet presents it an audience, then there is no communication in the sense of knowledge transmission, but there is communication in the sense that your state of mind changes anyhow. I would state that often even the fact of hiding the message is often a message by itself.

Zeuxis: So, Arte, your questions on what I meant by "communication" and "information", were very relevant.

Arte: Thank you, Zeuxis. So, let's accept your definitions and proceed from those.

Zeuxis: Well then. Communication is the transmission of a message. The message contains information, even though the information may have been blurred or

misunderstood. And the viewer's state of mind changes by him or her looking at the painting, which I mean by information. All paintings of avant-garde art that protest against established art are very pregnant with the information of the protest. Painters that express their own feelings do exhibit and sell their work. They do not destroy it. That should be proof enough that they want to share their feelings with an audience. When paintings hold much narrative content, such as readily shown scenes from the Bible, the artists bring over the literary content of the stories, and that again contains much information. It would only be difficult to talk of information exchange when the painter made an abstract work that has to be seen as an object merely. The painter then just would give pleasure to the viewer. In this case however, artists always seek effects in the viewer and evoke emotions. Such effects carry a message of respect, of wanting to pleasure the viewer, or of revolting the viewer, and so on. Yes, Arte, painting is part of a communication system. It is not just that, but it is always communication in some form and to a certain extent.

Arte: Zeuxis, for me the basic question for such a communication system is when in that system the notions of "art" and of "beauty" are created. When is a painting a work of art and what is beauty, and also who decides on these qualifications and according to what rules is it then decided what are art and beauty?

Zeuxis: The philosophy of beauty is called aesthetics. Scholars have been studying aesthetics and publishing their opinions on that subject since more than two thousand years. That may have been so because the concepts of art and beauty are so difficult to define and because the views on art and beauty have changed constantly. By analysing art as a communication system, we can situate the notions of art and beauty and present a proposal for their definition.

Arte: All that is fine, Zeuxis, but when then is art art?

Zeuxis: Donald Judd and Joseph Kosuth had a simple answer to the question of when a piece of work was art. Kosuth wrote: "A work of art is a tautology in that it is a presentation of the artist's intention, that is, he is saying that that particular work of art is art, which means is a definition of art. Thus, that it is art is true a priori (which is what Judd means when he states that 'if someone call it art, it's art')." Art is a tautology that defines itself. This is a perfectly workable statement. An artist creates something because he or she has a need to express his or her emotions or inspirations, and a need to propose this expression to other humans in the system of communication. The artist may construct a work primarily because of the pleasure of creation, but ultimately there is always present the desire to communicate, to present the work to the appreciation by viewers. The artist decides to present his work as a work of art. He or she decides on the qualification "art".

Calling something "art" does not mean however that the entire world now should applaud the work and like it. Calling something "art" and liking a work, are two entirely different notions and the first does not cause the second. The act of liking, of appreciating a work is an act of the receiver of the communicated message, that is the viewer. In this act the artist is not physically present, can have no immediate influence and take no immediate role. The artist can try to influence the viewer, but the viewer is free to like or not the work of art. In principle, the viewer considers only the message, the work of art. When the viewer likes the painting, he or she can agree with

the qualification "art" or want to reject it. But in rejecting he or she can only state his or her liking; the qualification "art" cannot really be withdrawn.

Arte: OK, Zeuxis. One can of course consider controversially this definition of the term "art" in polemics, but I will use the term stated that way, as you taught me now, Zeuxis.

Zeuxis: Thank you, Arte. So, once the piece of art finished and presented to the viewers, the work may be appreciated or not. The viewers may have emotions of pleasure or of interest, be pleased, surprised, and delighted by what they see. We have remarked in the previous chapters that the appreciation of the viewer who looks at a painting can take many forms, and that many different emotions may interest the viewer in the work of art. We wrote of the phases of Impression, Discovery and Recognition in the process of appreciation by a viewer, and we discussed what feelings could be evoked in the viewer at the sight of a painting. The viewer may feel very different emotions, or intellectual interest, and derive pleasure from that. This pleasure, which often contains recognition of the message of the artist, is the very aim of the work of art. Therefore, a work of art stands separate from any other aim, even though it may be used for other means, which is almost always not the case with paintings however. If the work of art will also be used in practical life it may be called artisanal work, or as decoration, but it retains the quality of art.
The work of art may be moral or not; it still remains art if the artist says so. This point is one of the most controversial that has occupied philosophers of aesthetics. For most people, a work of art must serve morality and teach viewers higher aspirations of spirituality and societal values. Yet, the painter can decide on making a picture that is immoral. But even then, when an artist creates a piece of work and calls that piece "art", this qualification of course does not mean that a viewer must appreciate it. The viewer then may say that in his or her opinion the piece of work is not pleasurable, reject it on the basis of his or her own philosophic ideas, reject it on moral grounds, but the qualification "art" can still not be withdrawn, as it is the artist who decides on this.

Arte: So I decide on what is beautiful and nobody else can claim the arrogance to tell me what I should like?

Zeuxis: Right! Whether you like a painting or not is entirely your individual appreciation. Since the liking is as much decided by the evocation of emotions, and since emotions that lead to pleasure can be so manifold as there are individuals on the planet, each viewer has his or her individual and mostly intuitive set of values to decide on the fact of whether he or she likes the painting, that is how he or she derives a kind of pleasure from the contemplation of the painting. One person may like a painting and the other person may dislike it. It may become possible that no viewer at all likes the work of art, or viewers may only start to appreciate art long after the death of the artist. It is even possible that no viewer, not ever, appreciates the work of art. In this last case the work of art disappears from history, will very probably be destroyed soon, and the name of the artist is forgotten in the common memory.

Arte: So I affirm my absolute, undeniable and unalienable right to interpret and to evaluate a painting according to my own judgement.

Zeuxis: True, Arte. But you also have a few duties. You must search for the real intention of the artist. It is rare for an artist to declare and fully disclose on his or her particular piece of art. Often also, the idea that a painter started with evolved during the work and the final piece of art presented may come to mean and present something entirely different from the idea of the beginning. This point is not always acknowledged by the painter. Still, the explanations given by an artist remain the closest to the real intentions of the painting, and it is more valuable than the conclusions of a viewer or a critic. But even when the intentions of the artist are known, another meaning and significance can be laid in the picture by the viewer. This evaluation is justified as much as the artist's intention. We prefer the original intentions of the artist, of course, and will seek out this "truth", but we will allow for other meaning and significance, as expressed by viewers.
Some artists, notably Symbolist painters, have played consciously on the ambiguity of meaning and have made works that were intended by the artist to be interpreted variably by viewers. The only criterion that could be applied very broadly to an audience's opinion is that the arguments must remain plausible and justifiable in the terms of the interpretation and evaluation of that audience.
Paintings support and evoke very different ideas, feelings, interpretations and hence evaluation. That is the fallacy, the limits but also the richness of art.

Zeuxis: Remember the notion of noise, Arte? "Noise" may distort a message, so that the receiver understands something else than what the sender intended. The information contained in the picture only partially arrives at the viewer then. The viewer utilises his or her own imagination and that imagination may modulate the original meaning of the message. The painter may even have made a picture that allows the viewer to interpret it, to have emotions of his or her own, without intention of the artist to prefer one emotion over another. Nevertheless, the communication system with sender, message, receiver and noise, still stands even then.

Zeuxis: Liking and appreciating art is a matter of emotions primarily. The intellectual interest of painting can be more or less explained so that the viewer can be assisted, can be taught in that aspect. The aspect of evoking pure emotions in a viewer at the sight of a painting cannot be entirely taught however. It seems to be an innate quality that belongs to the human nature. Emotions may well up spontaneously, and grow powerfully in an individual at the sight of a painting, whereas another person may not be moved at all by the work. The same person may be in a more receptive mood for art at one time than at another moment. Appreciating a work called art by an artist is thus a very individual affair. But even when a viewer does not like a particular work, the work remains art if an artist called it so.

Arte: The appreciation by a viewer is not on "beauty" alone, however, whatever the meaning of that word. You explained me in the previous lessons that appreciating a painting consists mainly of three stimuli in the viewer. The first stimulus is the amount and the force of the emotions evoked in the viewer at first Impression. When these emotions appeal to the viewer instead of being emotions of horror or of rejection, then a work of art is appreciated in the first crucial moment of learning to know the piece of art. As a second stimulus, the viewer can admire the artisanal and compositional skills of the painter in what we have called the Discovery phase. The last stimulus lies in the Recognition of the ideas and inspiration of the artist, as well as in the information about the artist's self, his or her life and history.

Zeuxis: In all these descriptions of the appreciation of a work of art I have not used the word "beauty", as the word appeals in various and many ways to viewers, in ways that have nothing to do with possible aspects of "beauty". It is perfectly possible for a viewer to like and feel pleasure at a picture that looks "ugly" at first sight. How then can we define that word "beauty"?

"Beauty" is a quality of the appreciation by the viewer of a piece of art. It is linked to the viewer, and to the individual viewer alone. Every individual person can define his or her concepts of beauty, and mostly, these concepts come intuitively.

One person can define beauty as the quality of a work of art that is created by the gentle harmony of the lines and shapes of a painting, by the harmony of the composition and the use of colours more or less according to Chevreul's findings on harmonies of colour, even though we know that the appreciation of colours remains extremely individual. For that same person beauty means also that the content of the picture might be either absent – in abstract art – or nice and sweetly picturesque. Beauty then often is a general term used to indicate impressions of joy, cheerfulness, brightness of hues, lyrical moods, and for instance to qualify the detailed rendering of natural landscapes.

Very beautiful - or sublime- could mean that the picture has a high moral content and inspires ideas of heroism, of power or of spiritual transcendence. That could be my own definition. But you, Arte, may have another and better definition for yourself. Every individual may use different criteria in the definition of beauty. Art is what the artist says is art and viewers may like a picture or not, but "beauty", certainly not in the sense of "sweetness", is not a conditio sine qua non for the qualification of what is to be "art", or for the necessity of liking by the viewer.

"Beauty", as defined here, takes a secondary place in the general appreciation of art. When people like art, many more feelings and impressions may grasp the viewer than the mere prettiness of the representation. Beauty in harmony is but one possible reason why a viewer can like and appreciate a work of art. By principle, there are no definite rules for appreciating art. The definition of the word "art" lies at the sender's side in the communication system (so, with the artist). The liking or appreciation only lies at the receiver's end (with the viewer). And the one cannot be imposed by the other.

Viewing as a collective Act

Zeuxis: In the past lessons, I attempted to define art and beauty for you, Arte, as the individual viewer perceives it. I stated that art was independent from the viewer's opinion. Let us now relativise this statement. Not just one sole viewer looks at art. Viewing is a collective act. And since many viewers look at the work of art, there is information exchange among viewers of their individual experience.

Viewers talk among each other about their act of appreciation. The exchange of information can be a private or a public act. The interactions gradually converge to a collective opinion, and this opinion interferes in subtle and in overt ways with the act of appreciation by the individual viewer. More importantly, the appreciation can be sent back to the artist (as a new message, sent in the reverse direction) and interfere with the artist's views on his or her art. This then is a feedback process towards the artist of the appreciation of the viewers, which may influence the artist and have an effect on his or her production. Such feedback processes are common in human and

more generally in all organic processes, which become by the feedback regulated processes that evolve towards stable systems instead of towards changing, revolutionising, perpetually innovating systems of interaction.

So in the system of communication that we analyse, exchanges of information take place between artists and viewers, between viewers and other viewers. Information exchange also goes back and forth between the viewers and the artists. These information exchanges influence the artist and thus shape his or her art. They can be analysed for their consequences on the evolution of styles in painting. By virtue of the feedback, the communication system can become a sort of regulated process, which is called in systems theory a cybernetic process.

Zeuxis draws plate 95 for Arte to illustrate the mutual influences between artists and viewers.

Plate 95

Artist
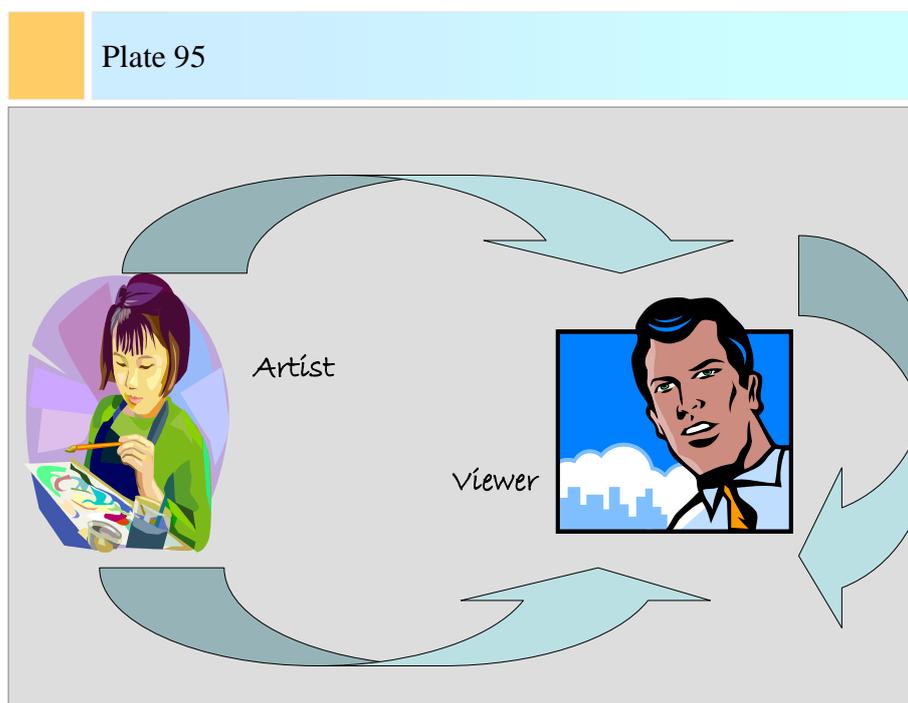
Viewer

Zeuxis: We first look more closely at the information exchange between viewers. Some of the viewers will express themselves publicly and explain in writings and also verbally, why they like a work of art or why not. When such viewers receive credibility in a society, we call them art critics.

All art critics build their own individual set of criteria, of values, of rules by which they appreciate art. These criteria are subjective and personal, but the art critic will openly expose them in publications. They may become so generally accepted in a society, through their acceptance by a public eager to be taught, that these rules may grow to become *the* rules. Although individuals of the society may feel otherwise than the art critics, the public may openly accept the opinion of the art critics as their own. Art critics are teachers and as such they can have a very positive influence. They can propose to the painters means for augmenting their message. They can explain to the painter why – in their opinion – he or she may have lacked in skill. They can show the painter why his or her work is not appreciated. Art critics can applaud the work and in

doing so bring the piece of art to the attention of the public. Art critics have an important role in the process of appreciation of art.

By using the communication media, critics try to persuade their audience of the validity of their arguments. Formulating critic is also a mode of communication, directed always at an audience. A critic's inherent aim is to state his or her opinion on a work of art, to judge it, and to convince others of the points made. By persuasion, even if the critics would deny the statement, critics try to force upon an audience a certain attitude towards a work of art. But we know that there are no universal criteria for aesthetic judgements. So the critic must persuade by other means to press his views on an audience.

Arte: Is then criticism only persuasion?

Zeuxis: An audience cannot just be persuaded by any statement. The statements must be plausible and the more statements feel right, the more forceful will be the judgement of the critic. As Anne Sheppard formulated it, "The question is not what the individual pieces of evidence a critic appeals to but his total web of evidence." [G107.] Still, no universally agreed upon set of rules exist to define the web of evidence. But in the face of much plausible evidence, it is more difficult for an audience to resist to the compelling arguments.

I plead of course for the formulation of opinions without influence on each individual taste, without that element of force, but the power of the communication media and the power of humans to aspire to a common understanding are great and compelling. The public hears itself in interaction among peers, and it hears the opinions of the art critics. The art critics however reach a very broad public; their opinion is broadcasted in books, by radio or television, so that their influence is much higher than the influence of the common, individual viewer in the interaction of appreciation. All these interactions among the viewers of the public gradually build a consensus on the criteria for liking an art style or for rejecting it.

We may deplore this coming to a consensus opinion, but it is a fact throughout the history of centuries, as the processes of mutual influences are part of our nature. Every individual should learn as much as possible about the elements of the form of painting. But every viewer should ideally establish his or her personal criteria and be proud of that. If these match the values of the art critic, then that is all the better. There will always be subtle influence while the art critic teaches every viewer new ways to appreciate works of art, to open up new views on the form of painting. Instead of this ideal, we cannot but remark that societies of individuals converge to a common appreciation of art.

Arte: Thus, inside a society and due to the information exchange between its people, a consensus on criteria for the liking of works of art develops, not only by a few forerunners that speak out on art, but also by many other persons from that same public. The artists of course have an equally important role in this process, as they also speak out, write about their work and about their inspirations.

Zeuxis: The consensus about what kind of art pleases in a society depends upon many factors. Individuals can be powerful actors by their charisma, but also the social, economic and political situation can exert a strong influence. I have shown to you, Arte, how the various elements of form have evolved in styles. Each style, especially in the first centuries of the history of painting, lasted for many decades or even

centuries. This then was the period of stability when consensus had developed and reigned. We will not analyse, even though we will give some indications, due to which reasons and forces the art forms changed from one style to another. That is of course another interesting subject for art historians.

Arte: But Zeuxis, do not viewers also influence artists?

Zeuxis: In the process of mutual influences, another type of influence is indeed between the viewers and the artists. Viewers act in essentially two ways on artists and these two ways have the same basis.
A common consensus develops among viewers, due to the expressed opinions of the people that speak out on art. Artists, as members of the same society, are usually very sensitive to how viewers react upon their works. The artists created their work as a means of appealing to viewers and as a means of communication. Rejection of that communication by viewers is hard to take for any human (the artist) who naturally is inclined to be accepted, understood and even loved by his or her countrymen. As the viewers collectively and individually develop their criteria of appreciation, the artists take more – or less – of these opinions into account. In the history of the past centuries, there have been periods in which artists fully developed their art and delivered work that conformed to the generally accepted views of the public. Academies of art were established by governments, in which the common criteria and values of the form of painting were taught, and most painters worked indeed according to these as these were the schools in which they could learn the basic of their artisanal skills. Or as Ernst H. Gombrich expressed this, "A style, like a culture or climate of opinion, sets up a horizon of expectation, a mental set, which registers durations and modifications with exaggerated sensitivity". [G106.]
In other, transitional, periods of history artists deliberately revolted against such influences and tried to evolve their art independently. If many artists take such a course, the artistic revolt becomes the norm. Then the artists themselves influence society in their turn most powerfully, as they break the established consensus views. Artists have consistently tried to evolve views of art. They tried to be original and innovating in form, which usually simply meant that the artists proposed new forms of art, new styles, and new inspirations. When these do not conform to established consensus, and all change and innovation means exactly that by definition, then the artists are commonly called the "avant-garde"'. Avant-garde is always a synonym for a transition in art. It means dissatisfaction with the art form that existed and the desire to innovate and to change. "Avant-garde" is thus a word that cannot only be applied to certain East-European and West-European painters of the years between 1910 and 1930. Avant-garde artists have lived and worked in any century.

Zeuxis: Humans generally do not like change. Humans build around them a cocoon of beliefs and of views of the world. When that cocoon is shaken, when forces try to break up the cocoon and modify its shape, then the human goes through a period of stress. People do not like stress. Most humans are by their nature conservative; they desire to preserve their cocoon. They do not like to be changed. They can change, and will, but then they prefer to do so exclusively by their own initiative. In that way they keep their freedom and the control over their cocoon. Avant-garde artists shake up existing cocoons of beliefs, and to the humans of a society that represents an external force. The public generally resists such force unless it is a force of the public itself. Such periods, in which avant-garde artists led a process of change, are transitional

periods of tension in art and in society. Avant-garde artists receive support only if society desires to change and then perceives the avant-garde only as the forerunners of that change. Even when an avant-garde is revolutionary, the transitional waves that pass through society will damp out, and a public may slowly adopt the avant-garde views.

Avant-garde ideas may become so strong that they are adapted by the society. The avant-garde art then becomes the modernism of the epoch, after the transitional period has passed. All art forms that we have presented with examples in our lessons have been avant-garde art and then, with time, these modernisms became established art forms. In their turn, each evolved further through the actions of a new avant-garde. Tintoretto and Caravaggio were the avant-garde painters of Baroque art; Kasimir Malevich, Frantisek Kupka and Giacomo Balla were the avant-garde of radical abstract art, and so were Giotto di Bondone and Masaccio for Renaissance art.

Arte: Can one predict when a change in style is imminent?

Zeuxis: Sudden transitions in art and also in culture are often the results of individual work, of one artist breaking with accepted continuity and creating new visions that are more or less rapidly and more or less enthusiastically taken up by other artists, critics, and then the society as a whole. It may happen, and has happened, that several artists propose alternative changes, several roads to different directions, among which only one is chosen and becomes successful in the history of art and society. The reasons why a particular direction is chosen communally by many artists, and why a particular artist or group of artists are followed, lie in the tensions that have built up in the culture of the society at the moment that the artist or artists start to show their work. It is often easy, especially in hindsight, to point out these tensions, but it is usually extremely difficult to prove, even in hindsight, why such and such tension in society and in art could bring forth in an inexorable, decided way, such and such new direction. Still, a few historians and art critics have attempted in certain instances to provide explorations.

Erwin Panofsky explained how scholastic thought of the Middle Ages, at the beginning of the twelfth century, engendered Gothic art. He also showed how, of course, Abbot Suger of Saint Denis was the actor of change in the art. Panofsky could explain how all the elements of medieval thinking found their realisation in Suger's suggestions for the building of his cathedral, which later led to the development of ever more splendid and monumental churches that culminated in the flamboyant International Gothic style, also in miniatures and in painting.

Zeuxis: Clement Greenberg exposed in a more general way that when a society in the course of its development is not anymore capable to justify the necessity of its particular forms, it breaks with the traditional modes of representation on which artists rely to communicate with their public. The artist is then not capable anymore to predict the reaction of the public on the symbols and references that he or she uses. Greenberg wrote that an artist could avoid controversy on the really important questions of art and hide in virtuosity, in the splendid handling of formal details, in academicism. This hiding continued until an actor of change proposed to break with accepted ways, with tradition, and proposed a way out. What or who then occasioned the change, the tensions in society or in the individual artist, is difficult to discern, more so since society may have no notion of what direction to go to.

Now that I mentioned Greenberg, there is another idea of his that I would like to comment upon! He called "avant-garde" in an article written in 1939, the transition to abstract painting of the art of the beginning of the twentieth century. This avant-garde evolved to considering a painting as an object in itself, rejecting the idea that a painting should represent objects or a narration. Greenberg used the name "avant-garde" only to this movement. I argue here that there have been many avant-garde transitions, of which Greenberg's was only one.

Greenberg wrote furthermore that whenever there was an avant-garde, there existed also an "arrière-garde", a rear guard. In his original paper, the rear guard was academicism. He called this kind of work "kitsch". And there was nothing in between. Greenberg later revised his radical categorisation of the works of painting just in these two classes. I do not believe that there is just in a certain period avant-garde and kitsch.

The avant-garde represents the new art that in the future may become the established art. The established art is the art that is most easily appreciated by the public of the times, even if only by the public of the art critics and the more enlightened viewers. In established art wonderful works may be made that have as much if not higher value than some or most of the avant-garde work. While Russian avant-garde was being born, Ilia Repine made fine paintings. Kitsch then is the worthless imitation of established – or of avant-garde – art, devoid of original inspiration. But fine art reproduced in large quantities is not kitsch, simply reproduction of fine images.

Zeuxis continues: The power of the artist to propose alternatives is so great, that he or she shapes the new directions. These directions are sometimes taken up in a blind way, whereby society accepts eagerly any direction or transition in its avidity of innovation. In some periods of history however, we can observe how several paths are proposed and how gradually only that one emerged, which corresponded best to the aspirations of society, or which was proposed by the more powerful artist. The power of the artist lies not only, however, in his or her strength to propose a new style, a new way of representation in the pictorial arts. The power of the artist also lies in the means of communication he or she has with society. If the style of Michelangelo led to Mannerism, the great movement that evolved from the Renaissance, and not - or less - Jacopo Pontormo's visions, it was as much due to the power of Michelangelo's artistic genius as to the status he had gained in his connections with the Medici and the Popes, as well as with other grandees of Italy. The continuous feedback process of communication, influences and interaction between artist and society was then strongly at work.

Arte: Zeuxis, there is a very simple way of influencing that viewers have. They can buy or refuse to buy works of art!

Zeuxis: So true indeed, Arte, and that was a remark that your society certainly understands well. The most direct way by which a society, which means for the art of painting the society of viewers, enacts on artists, is by economic means, which is by its purchasing behaviour. Painters need to sell their work in order to be able to create. They may have independent means, as was the case for some of the Impressionist painters, but artists from wealthy families remain the exception. The exceptions also have remained those artists that had other paid activities, a job in society, next to painting, and who created art despite other occupancies, other paid activities. Most artists need to sell their work in order to live. Selling works of own-created art is a

very normal way of production and retribution. But art can only thrive plentiful where the money is, and where painters can find a market for their work. Until the twentieth century therefore, art thrived in centres of wealth, and these centres can be easily determined.

The Flemish Primitive painters of the fifteenth century concentrated on Bruges, because Bruges was then the richest city in Western Europe. Very few of these painters were actually born in Bruges. But here they found a market, buyers for their work, and thus here formed an "Association of Saint Luke" of master-painters where students could learn the art. Renaissance art thrived in Florence and Venice because these were the richest regions of the Mediterranean. Baroque art reached its apogee in Rome because the Popes concentrated funds from the Catholic Church in the Vatican. Genoa, Naples and Venice were other centres of wealth and thus of art. In the North, Antwerp became the new centre of art in the sixteenth century because Antwerp had taken over the role of most important sea-port of Western Europe from Bruges, as the sea-bay to Bruges silted in so that it became ever more difficult for ships to reach the town. In the nineteenth, and much more so in the twentieth century, the art markets spread over the entire world. A painter could now work anywhere in the world and try to sell his paintings in any market. Of course, money and art-lovers still need to be present. It is not enough to have a centre of capital to have a market. But art-lovers in impoverished regions of our earth cannot buy even if they would want to, so markets cannot develop there. Markets only develop in centres of economic wealth. It is by the buying process that viewers influence most directly painters. Painters will to some extent deliver what has success in a market, and that means generally the established, stable art, the art of the societal consensus.

Avant-garde art sells usually badly in the beginning, and then painters are paupers. We remarked time and time again however, that painters were able to withstand economic pressure. These painters produced avant-garde work and continued to do so persistently.

The first Impressionist painters like Camille Pissarro, and even at the beginning Claude Monet, as well as many others, were willing to live in dire poverty to realise their ideals and their proper views on art. Such character among artists is not an exception, and it is of course through this spirit of perseverance and sheer obsession of the avant-garde, that art advances and transmutes. These artists had the steadfastness of personal commitment to their new visions of art, which in the end brings forth new movements in art, in confrontations with established views. The first Impressionists thus were banned from government sponsored official art exhibitions, and art critics generally mocked their new ways of representation. So, although it is a truism to state that the public, that is the viewers and buyers as well as the art critics, generally influence artists, it is also true that such influence must be relativised.

This kind of influence has been strong in the early centuries of the art in Europe. Gothic, Renaissance and even Baroque painters worked mostly on commissions. These artists had to deliver what was asked and expected of them. Their incentive for innovation was real, but these artists could only innovate as far as they might expect that the commissioner would accept. If he or she could only just have the commissioner accept this, a painter might add a nice landscape in a portrait, even though before his time landscapes were rare in portraits. But the artist could not have it accepted to use un-conventional, hard colours, and paint not straightforwardly nice features in the faces of his figures if that was not the consensus of the moment. Rosso Fiorentino tried just that in Florence, Rome and Venice in the sixteenth century, and even though times were changing and the Renaissance was in need of innovation, his

paintings were refused. Rosso Fiorentino did not meet with success, and he had to leave Italy for France, where King Francis I was either more open to innovation or simply too eager to take in any Italian artist, whatever the latter's reputation.

It has happened in history that regulated society, for instance in political dictatorships, have directly influenced to completely control the art production of a culture. An example of this was the Socialist Realist art imposed by the Russian regime under Stalin. The Russian Communist government took direct control of the artists' associations and condemned avant-garde art. The National Socialist party in Germany after 1935, under Hitler's dictatorship took the same kind of control, as suffocating for artists that wanted to innovate in art, as the control of the Stalinist government. These are examples of the most direct influence, which evolved simply to total control, of part of the "receivers" of the messages of art, that is the viewers, on the "senders", that is the artists. In the end, the society of all viewers, as well as the artists, protested against this control, since it was a fundamental restriction of freedom of appreciation.

Zeuxis: The exact contrary of such art fully controlled by the forces of society, also happened in history. During the nineteenth century in France and Germany, artists indeed imposed their individuality and the emphasis of the value of art for art's sake. The Romantic period of the middle of the nineteenth century was a breakthrough period in this respect, as its artists emphasised their proper creativity and their independence in that creation from any influence whatsoever. Romantic artists considered freedom in expression a virtue for their art. The artist isolated himself or herself from society and created a mystic symbiosis with nature. Later, the Symbolists, at the end of the century, evolved this even further so that the artist was, as one poet wrote, a "God in the depth of his own thoughts".

In our twentieth century, innovation became almost more appreciated than established art. It was the avant-garde that was praised and bought. This may well be one of the reasons of the recent diversification in art that we have seen especially since the 1970s.These points of view have since been fully accepted in societies, notwithstanding what we have stated earlier on the process of a collective appreciation on art and the accompanying unavoidable influence. The refusal of influence can become the norm, and the accepted consensus of expression of a society too. This is probably also why, in the last decades of the twentieth century, the forms of painterly expression have been so varied.

Avant-garde revolutions are transitional periods. We analysed previously the processes of influences that return to the artists. The feedback of information, the purchasing behaviour, and the other controls, all succeed in building the consensus that leads to a period of a maturing, socially accepted art style. During this period academies thrive, and master painters teach students the style of the moment. Little innovation then takes place; painters and viewers complacently appreciate a particular style of painting. Genius artists can work during this time. Genius does not mean avant-garde necessarily. The period of stability lasts until a new avant-garde arises, or until society itself detects the need for change because its own ideas of living are in need of evolution. Artists have been very sensitive to capturing this need for change of society, and we find often artists creating a new avant-garde in the very beginning of a mutating society.

Zeuxis draws a new picture for Arte, in plate 96.

Zeuxis: My previous analysis can be represented in a schematic way. The schema shows the influence of the artist on the collective and individual appreciation by his or her work and writings.

Plate 96

Influence on Artists by collective Appreciation and Purchasing Behaviour

Mutual Influence

Artist

Art Creation and the Work of Art

The Idea

Viewer

Noise   Noise   Noise

Influence of Artist on the Public
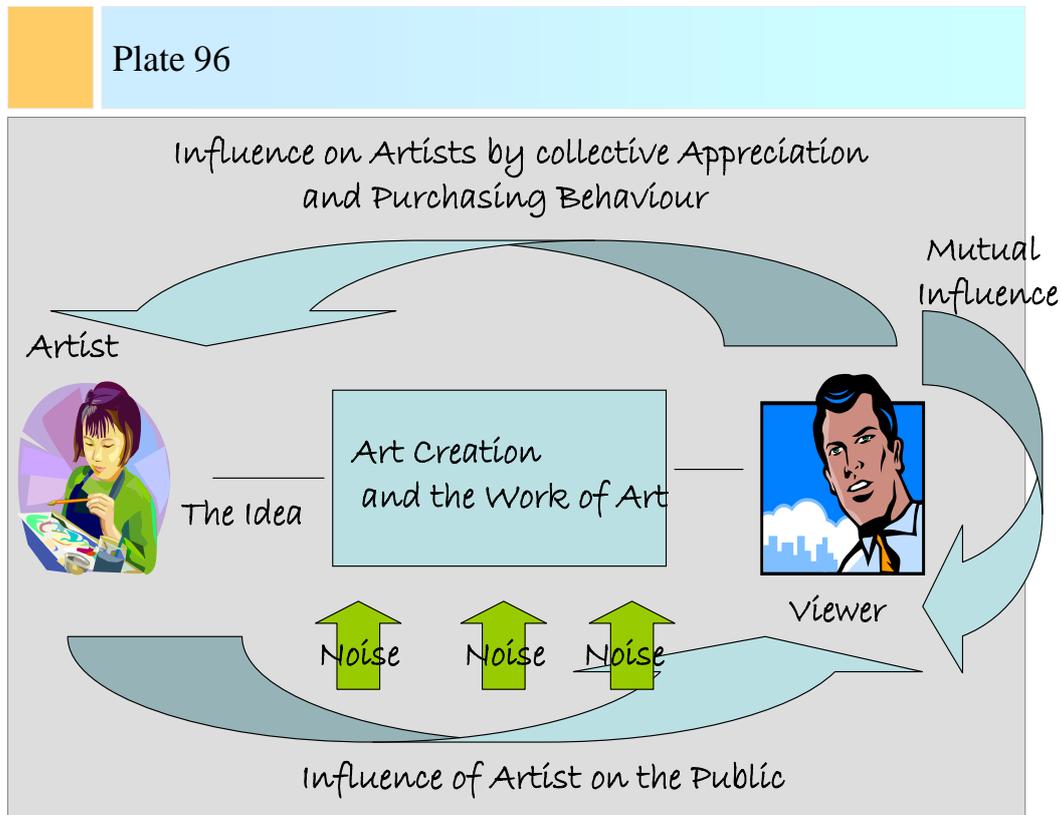
Zeuxis: The analysis of art as a communication system with feedback in the exchange between artists and viewers thus exposes the processes of evolution of art. Now we will have to concentrate our attention on the elements of the art of painting that are evolved. We will look at what means the artists have used to evolve their art, and of course these means are the original subject of our lessons, Arte.

Styles in the Art of Painting

Zeuxis: In our first lessons we have seen that paintings consist of lines, shapes, and composition in areas. Colour, content and illusion of volume and perspective are other dominant elements. Western painters have expressed their inspiration and the way they reacted to their society, or wanted to change their society, by using all these elements in various ways. I presented some of the styles in my letters, without being exhaustive, and in approximately chronological order.

Arte: I read your letters on the various styles, Zeuxis, but you have not reached my own times yet in your writings!

Zeuxis: I will come to that, Arte. First, we need to look back at what you have learnt. The following synthesis necessarily remains very sketchy and high-level. It would be easy to find many counter-examples for this kind of categorisation of styles. Many if not most painters regularly transgressed the art style of their times and experimented with other ways of representation.

Zeuxis: In all the styles I taught you about, individual paintings can emphasise just one of the style elements or apply them all.
We can find paintings that use only vertical or horizontal lines.
There are paintings that consist of primarily simple, large coloured areas.
There are paintings in which we see only the basic shapes like circles, squares and rectangles clearly shown in simple colours, combined in surprising images.
Most Tuscan pictures of the Renaissance are all about line and design, about clear forms and clear, balanced composition. In fresco art also, lines had to be drawn so that the areas could be filled in with colour easily.
Other art styles preferred the dominance of colour, and of areas that smoothly passed from one colour hue into another.
Later in evolution, painters emphasised only colour to express their emotions.
Painters can use the flat canvas and stick to that medium, or enhance the texture of the paint.
Pictures can be categorised in figurative and abstract art, according to whether they contain subject matter or not. Emotions of violence, of love, of surprise, of admiration are sometimes easily obtained from paintings that show known scenes to viewers. We know how content always enhances a picture in the mind, but pictures without subject matter can induce rich emotions too.
Abstract art first analysed natural forms in its elementary shapes. Then colours and shapes vaguely gave an impression of mind-images of the natural objects. Later still, abstract art evolved the painting to an object that could be admired for itself and not anymore for its imitation of nature or of objects.

Arte: Such variety could have been not reached at once, Zeuxis! The variation must have grown over time, as new means must have been discovered to enrich the arts.

Zeuxis: So right, Arte, and it is a fascinating story to follow this evolution to ever-richer means evolved, how generation after generation added a new aspect, whether it was knowledge or art. This happened sometimes in a slowly progressing way, sometimes in a rapid, revolutionary vision by the insight of a few geniuses or of one genius, which we have called the avant-garde.

Zeuxis: I have proposed you an overview of the various arts styles and tendencies that have succeeded each other in the history of art. We have used generally accepted definitions and names of the styles. We indicated which style elements changed to the period or movement. If you have been attentive, you could look over this evolution in order to better understand the trends in art, and you may have remarked how each evolution was an evolution in one or more of the elements of painting as we analysed them in the first chapters of this text.

Zeuxis: The styles that appeared, I presented illustrated by one or a few paintings. The choice of these pictures is always difficult. It is a vain effort to represent thousands of paintings that were made more or less to a coherent set of style elements in a few

pictures. In using a typical example for a style we would negate the individuality of the artist. Rare are the painters that entirely applied form according to the reasoned and defined styles as recognised by art historians. Historians have sought in their categorisation the common characteristics of paintings whereas it is individuality that must be lauded. I have preferred often to show paintings that were at the fringe of the movements, to denote the variations within a style and to show evolutions to the particular style. I also preferred sometimes to show paintings of lesser artists. Indeed, many paintings of the most famous artists are very well known and documented in elaborate detail in many works. Furthermore, it needs to be recognised that the style trends overlap and interplay, and that should be very apparent in the many examples.

Arte: I remarked that, Zeuxis. But you have not finished teaching me the modern styles! I remarked also that the new styles always seemed to want to be cataclysmic new, not just a slow and easy evolution.

Zeuxis: Edward Lucie-Smith wrote at the occasion of an exhibition on Neo-Academicism [B22]: "Patterns of innovation do not on the whole evolve smoothly … they tend to progress in a series of violent jerks."
Transitions can be thus usually traced back to one or a few artists who better than others could grasp the end of an era and dramatically, in obvious ways, point to new roads in art. This has been the avant-garde of the period, the innovators, and the revolutionaries of art.
We will pass briefly over the transitions initiated by this avant-garde from one style and school to another. These transitions have to some extent already been hinted at in the previous explanation of the various styles. I explain here further how each new art form evolved one of the elements of painting, evolved in line, in forms, in composition of forms, in colour, in coping with the illusion of volume and in space and content. We will illustrate the evolution in art with examples and analyse these works according to the process proposed in this book, by separating the aspects of the work and our reaction to it by Impression, Discovery and Recognition.

Zeuxis: In the lessons on the design of paintings we talked about pictures. I hoped that I also have let the paintings talk, Arte! Each painting has a fascinating story to tell.

Zeuxis stops talking and looks expectantly at Arte.

Arte: That is then how our lessons continue, Zeuxis? You want me now to learn by myself from the pictures alone?

Zeuxis: Well, Arte, there is still a lot to read about art and about paintings. But yes: we are at the end of the road. I shall teach you no more.

Arte: Oh, Zeuxis, do not go like that! You have become my friend, have you not? Why should you leave? We can continue to go on discussing art. I long to talk to you about the pictures. I want to travel to all the cities where I can find museums and discover so many works, and be surprised and delighted, not alone, but together with you!

Zeuxis: You can travel, Arte, but do try to paint and search for your talent, like the other girl called Artemisia did. Bliss is in the searching. Your life will be easier – at

least I hope and believe so. Life is a flux, in which things come and go. I need to leave because you want me too. Your mind wants to learn other subjects but painting. It wants to learn life, and I need to make place. But I will never forget your patience, your inquisitive mind, and your love of having stayed with me. I go now, Arte, but I still have a few chapters to write to you: indeed, the story of the art of the last century up until the present time. Bye! Think of me! Think of me in every painting you see!

Arte: Bye, oh, bye, Zeuxis! I love you truly!

Zeuxis disappears and the last letters appear on Arte's table. She cries a little, but she takes the papers and reads for the last time the words of Zeuxis the painter.

Cubism

Cubism was a revolutionary movement in painting created by Pablo Picasso and Georges Braque. Cubism was founded with Picasso's painting "Les Demoiselles d'Avignon" of 1907, though this was not a Cubist picture yet in the full sense of the term. The trend was clear at an exhibition of Georges Braque at the Kahnweiler Gallery in Paris in 1908. The term Cubism was used as of 1911.
There were three major phases in Cubism.
The first phase is called Analytic Cubism. This was the learning and experimentation period of Picasso and Braque who analysed objects and figures into their constituent forms and re-arranged them on the canvas.
The second phase could be called Hermetic Cubism. This was the mature form of the investigations and experiments of Picasso. The figurative elements were now barely recognisable and Cubism practically reached abstraction. For Picasso, this was the culmination of the Cubist experiments.
The third period is called Synthetic Cubism. In this phase, the objects were assembled again from their constituent parts to become often barely recognisable objects, but recognisable all the same. Synthetic Cubism proceeded from abstraction to return to representation. This period was mostly Juan Gris' painting style.
Analytic Cubism worked mainly before the First World War, from 1907 to around 1911. Hermetic Cubism dates from 1911 and 1912 in Picasso's pictures. Synthetic Cubism was a later art style, and painters worked mainly after the war in this way, from 1912 on. Cubism ended around 1925. Juan Gris died in 1927.
Cubism was not a phenomenon that was limited to Western Europe. Cubist painters also abounded in Middle Europe, such as the group called "Skupina" in Prague, Czechia.

Cubist art was an art of design, of re-thinking of the basic qualities of form and line. Thus it was an art that emphasised much more line and form than colour. Straight lines were mostly preferred instead of curved lines, but curved lines could be used as well to obtain the effects of analysis.

Cubists used dissected objects, and they built their compositions from the separated parts. They re-composed the object from its constituting elements. The forms of the objects were simplified in a geometrical way of representation. The artists reduced natural forms to geometrical shapes, and they reconstructed their images from these shapes. The geometrical, constituting forms needed not to be set in the right place in order to re-from the object. The individual forms could be scattered over the canvas in a seemingly random fashion.
The Cubists exercised this analysis and synthesis not just with forms but also with all the features and properties of the object, such as its texture, its thickness and volume, front and rear views.
Cubists also used collage techniques to bring immediate reality in their works. Thus they put newspaper clippings on the canvas. These were instances, fragments of reality, used to draw attention to the real world that was not in the canvas, and to the material properties of the work of art.
Ernst H. Gombrich said of Cubism, "Cubism is the most radical attempt to stamp out ambiguity and to enforce one reading of the picture – that of a man-made

construction, a coloured canvas … Cubism has sometimes been explained as an extreme attempt in compensation for the shortcoming of one-eyed vision."

Colour was not important for the Cubists. They were concerned with modes of representation. Many pictures were painted just in one colour, or with very few combinations of one colour.

Cubists were not concerned with content as a means of communication to the viewer. Cubist paintings presented images of real objects that were analysed in their constituents. They analysed the constituting elements, separated them from the object as a whole, and showed them in abnormal relations to each other. The elements of a face for instance were presented as viewed from various directions, from front and sideways. These views were then blended or superimposed in the same image. Cubism was a realistic and figurative art. It still dealt much with the real representation of objects, but through its process arrived rapidly at almost abstract pictures.

The Cubists did not want to create an illusion of objects in space, as was the traditional way of representation. They displayed the separate elements very obviously in the flat space of the panels. Thus these artists emphasised the flat space of the canvas. This new view led the artists to new experiments on the relation between form and space, and that proved crucial for the development of the visual arts in the twentieth century.
Cubists rarely applied chiaroscuro so as to give volume to the objects. Faces of figures for instance were not given volume by chiaroscuro, but side and front views were superimposed to tell viewers that volume existed in the real world, but should only be represented in schematic, indicative forms on the canvas. The Cubists were interested in objects such as a piano or a violin or in figures, but they were interested in the intrinsic qualities of that object alone. They were not much interested in the place of the object in space, thus rarely used linear or aerial perspective. Precursors of Cubists art like Paul Cézanne however, still much interrogated themselves on effects of aerial perspective. Later phases of Cubism reached almost abstraction.

Painters of this style were Pablo Picasso, Georges Braque, Juan Gris, Fernand Léger, Jean Metzinger, Albert Gleizes, and Auguste Herbin.

Cubism was a formalistic and intellectual art. It was primarily concerned with the re-thinking of the representation of objects. Picasso and Braque tried still to keep balance between representation and abstraction. But in tearing objects to pieces and placing these on other than expected places in the canvas, so that the original object and its constituents were sometimes only barely recognisable, the Cubists opened the road to abstraction.
Cubism was a key experiment in painting and sculpture because, it re-considered the interactions between objects, figures and their representation.
Impressionists and Fauvists had been interested in landscapes and in objects for their colour appearance. Cubists, as a reaction to this view, looked primarily at the shape of the object and at the lines by which an object was shown on the canvas. Cubism was mostly a revolution in form, because it was a return to line and shape. Objects were analysed in lines and basic forms (hence the name of "Cubists"), then painted as such but with the separate lines and shapes of the object set in unusual places of the frame.

Cubists also looked at objects as the primitive painters and as African sculptors, who used forms as they knew they were in physical reality, instead of as they saw them with their eyes. Hence, Cubists could paint various views of a face in one image together.
The dissection of Cubism often left bits and pieces of lines and shapes that could be seen individually without thinking of the original object. This opened the way to abstraction.

Still-Life: Dead Birds

Pablo Picasso (1881-1973). Museo Nacional Centro de Arte Reina Sofia – Madrid. 1912.

Picasso's still life shows muted brown colours that make us think of wood. We see chaos of broken black lines and these seem to delineate surfaces, but not on all sides. The surfaces are not adjacent. They seem to cover each other. Here and there is a figurative element. We find a drinking glass, pieces of a newspaper. There are several cut bird legs that seem tragically to claw. This makes us rather feel as if a macabre crime has been going on with live animals for victims. But overall, the painting is very confusing, and it resembles the vision of a madman looking through broken glasses.

What is the key to this painting? Our first impression is of disorder, and since few colours can be perceived and few details, there is also not much really to discover in this picture. What is the key? What was Pablo Picasso proving with these images? How can we understand the picture – if there is something to understand. There may be no key, no logical process of construction of this picture from other images, and no process that makes sense. And yet, maybe there is. What could be the process then?

One could propose that Picasso took pictures of dead birds, plus pictures of other objects of daily life such as newspapers, a drinking glass, a round table and that he cut these pictures up in several pieces. He might then have put these pieces one on top of the other in a random fashion, and simply painted the result. We are sure it was pictures that were cut up and not the objects themselves, because volume of the objects is absent. This kind of process could also have worked in the mind of the artist. The pieces could have been imagined, and the process of re-assembling at random the virtual pieces has only happened in the imagination. All the parts of the pictures of the dead birds need not be present then. Other parts could have covered up parts. Indeed, we only see certain individual elements of the birds and of the other objects. Thus reality can be shown divided, torn, and various picture-spaces are placed one on top of the other. Even the pieces, which in the mind still have dimensions and real borders, can be painted as not covering each other entirely but as being at sides closed and at other sides open-bordered, transitioning into each other. Thus, we see fractions of reality juxtaposed and superimposed. The openness of the flat areas that are assembled in a random way indicates that space is not ended, not definite. Space is something mysterious since it can be simulated on the canvas. But the simulation is not always necessary since paintings have a language of their own.

So the space remains open, not completely defined. This arrangement of space is not in a natural order as we are used to, but in a totally re-arranged, re-shuffled way. Yet within the breaking up of space, the objects, the birds, still come to the mind of the viewer.

Picasso said in 1923, "we all know that Art is not truth. Art is a lie that makes us realise truth, at least the truth that is given us to understand. The artist must know the manner whereby to convince others of the truthfulness of his lies. If he only shows us his work that he has searched, and re-searched, for the way to put over lies, he would never accomplish anything".

We see thus at least three legs of birds, maybe a hint of a head in the middle, and single feathers here and there. In our own mind we can reconstitute the dead birds from these elements, even if most of the elements are missing. Now feelings start to come in too in the viewer. Death is always bewildering, and it sometimes shatters the mind of those that remain in total incomprehension at its seeming absurdity. Death is also an ordinary event nevertheless, as are the ordinary utensils of daily life. So Picasso added pieces of a newspaper, with the beginnings of the Spanish word 'journal' on it, and also other pieces of magazines in several places to the separate images of the dead birds. We see a horizontally placed drinking glass and two pieces of what could be a round table, probably the table on which lay the original pictures. Here Picasso was quite figurative, since in the light brown of the table we think we are able to discover the texture of the wood, and thus we think we recognise a table plane. Of course, the divided pieces of the images must have been laid on a table. Was that Picasso's kitchen table? We must remember that these are all mind-images.

Although the whole picture seems to have been randomised, we discover symmetries and directions in Picasso's painting. The two pieces of the round table are drawn apart symmetrically from around the vertical middle axis of the frame. Between these two parts are rather vertically oriented pieces of images. The vertical lines dominate here. In placing the images of the dissected objects, the pieces have not been completely scattered at random but placed one on top of the other in the general direction from top to bottom. The central part of the painting contains the strong vertical lines, next to the table pieces. These lines go through all the way from bottom to top and divide the panel exactly in three. So there is a deliberate composition in the apparent chaos as of a traditional triptych.

Vertical dominating directions and symmetries plus a hint of composition always induce feelings of tranquillity and of balance. Indeed, despite the dynamism of the scattered separate picture views, a general feeling of equilibrium is preserved in the "Dead Birds". Overall also the colours quietly change in tone but keep in almost the same hues. Moreover, the individual pieces are not torn up to pieces of jagged corners. All have straight contours as if broadly cut out with scissors. Thus, reality is not torn, but represented in separate planes of reality that are superimposed in their multitude. The fact that the pieces are not torn also points to a deliberate organising agent of the process instead of random tearing. There are few slanting lines, which could promote a nervous ambience and feelings of tension. This technique adds to the quietness of the painting of Picasso. The round forms of the table on both sides are balanced and pronounced. They keep the central scattered parts firmly together, and also indicate some deliberate design. Nothing is falling apart after all; the pieces are

set together in some ordered way. The various planes of vision of the objects are well fixed on the one-dimensional canvas.

Pablo Picasso's painting "Naturaleza muerta (los pájaros muertos)" is definitely a "phase three" painting. We might experience some direct emotion at first glance, but then it could only be an emotion of being puzzled. We do discover a few scattered figurative, natural details here and there and we can remark that the variations of the same brown hues are at least harmonious. But without the explanations by art historians of the reasons of Pablo Picasso's experiments in vision we would never be able to find such a picture interesting.

Pablo Picasso and Georges Braque invented cubism. Picasso painted a picture at the end of 1906 called "Les Demoiselles d'Avignon", in which he started to show reality simultaneously from various sides on the same canvas. His figures were reduced to almost geometric and simple forms, to their assembly of essential volumes. Picasso planted the noses of the figures as seen sideways, whereas the faces of the figures were parallel to the viewer. This representation of reality was a view that was new in Western art, and that Picasso might have learned from African masks and statues. Perspective as we know since Gothic and Renaissance periods did not exist anymore and also volume and depth shown in chiaroscuro was absent. Soon, Picasso and Braque recalled how Paul Cézanne had already emphasised he had primarily sought in his later pictures to find the cones, cylinders and spheres of nature. Picasso and Braque broke up images of objects, at first only glided the pieces apart, one somewhat skewed as relative to the other or higher than the other. Then they superimposed the pieces. They displaced the separate views, and let out deliberately parts of the object. They puzzled the surprised viewer by letting him or her discover the separate, original figurative elements.

The two painters theorised on their experiments and each picture was a new experiment. Picasso opened the contours of the planes of vision as in his "Dead Birds" so that a viewer is even more puzzled as he or she cannot really make out the individual planes anymore, as all flow into one picture and yet remain separate. Picasso, as in "Dead Birds", always emphasised in dark, strong lines two or three sides of the individual planes just enough to let the viewer think that yes, these are indeed individual pieces of one reality. By 1912 Picasso's and Braque's representations had become very personal, very free combinations, very theoretic and very cerebral. The original subjects remained more and more elusive. This phase of Cubism is hence called "hermetic Cubism" and Picasso's "Dead Birds" is a good example of this style.

How can we enjoy such a painting? We have to recognise that most of the joy lies not in aesthetics but in a pleasure of intellectual interest and recognition of the aims and inspiration of the artists. Once a painting such as "Dead Birds" is understood as an evolution in art history, and understood as an experiment in spatial vision of reality, we can admire the picture. It will not arouse strong emotions in us. It is not an energetic picture despite the breaking up of planes. It is a quiet, intellectual exercise. Paintings like this are admired because they are among the first experiments of painters to surpass traditional views on objects. Picasso and Braque proved that if we only chose the medium of painting to show coloured areas on a canvas, we can also change their reality in strange ways. Finding this needed an extraordinary feat of

imagination. The complexity of "Dead Birds" was only arrived at gradually, starting with "Les Demoiselles d'Avignon".

The Cubism of Pablo Picasso and of Georges Braque remained an experiment. As an experiment, this art was limited to a duration of a few years, for when the experiment was proven, the point was made and the search exhausted. After the ending of the hermetic period of Cubism in Picasso, he looked once more to other representations and he abandoned the jagged superimposed division of planes of vision. A younger artist, Juan Gris, continued to experiment in the Cubist way however. He took abstract forms and combined these. He thus reconstituted figurative forms to represent a kind a metaphysical reality. Pablo Picasso however, found now stranger ways of looking at reality, by deforming objects and forms. He did revert to a more figurative representation. He still broke his images into separate parts, but only placed one of these on the canvas so that the objects were more easily recognised. He would not however revert to traditional perspective and natural volumes.

When we look at Pablo Picasso's "Dead Birds", we are very close to abstract art. Withdraw the very few figurative elements of the birds' legs, the newspaper and the drinking glass, and you will have a totally abstract picture. That would be the next evolution in the art of painting.

Expressionism

Expressionism was an artistic movement that lasted from about 1905 to 1930. Expressionism started first in Germany. The name was given during an exhibition in Berlin in 1911. Expressionism meant personal subjectivism. Expressionist artists developed representations that expressed their deepest emotions.
For the Expressionists, pictures were supposed to show the emotions of the individual painter. For many German artists, Expressionism was also a movement of political protest against the dire conditions of the very poor in their country. The artists presented all the fears and anxieties of the period of just before World War I in their work. The movement also had important followers in Flanders (Constant Permeke, Gustave Van De Woestijne) and France (Georges Rouault). Many German painters were killed or wounded in World War I.
There existed in Germany various schools or groupings of artists that called themselves Expressionists.

Die Brücke:
"Die Brücke" was a movement of art founded in Dresden and that lasted from 1905 to 1913. The movement was officially dissolved in 1913 in Berlin, when the members broke up over writings of Ernst Ludwig Kirchner called "Chronik der Brücke".
Its painters and founders were Ernst Ludwig Kirchner, Erich Heckel, Karl Schmidt-Rottluff, and Fritz Bleyl. Later Emil Nolde, Pechstein, and Otto Müller joined these. These artists had a desire to act in a powerful way. They used bright colours and primitive forms. In 1911, the movement left Dresden for Berlin, and Max Pechstein joined it. Die Brücke was then extended when Emil Nolde and Max Pechstein left the Berliner Sezession to build the Neue Sezession. Other painters were Kees van Dongen, Cuno Amiet, Franz Nölken and Otto Mueller.
The painters of "Die Brücke" painted with more intense emotions than Les Fauves. They also brought exaggerated deformations in their representation of the human form. They represented often humans, but for instance in sharp angular lines.

Der Sturm:
"Der Sturm" was the name of a gallery held by Herwarth Walden in Berlin, founded in 1910, where many exhibitions of Expressionists were given. Der Sturm was also a magazine. Oskar Kokoschka and Paula Modersohn-Becker are its best-known figures.

Der Blaue Reiter:
'Der Blaue Reiter' was a school in Munich, founded around Wassily Kandinsky in 1991, at the occasion of exhibitions in the Thannhauser Gallery organised by Kandinsky and Franz Marc. An almanac edited in 1912 was called "Der Blaue Reiter", and this is used as the founding date of the movement.
Members were Wassily Kandinsky, Franz Marc, August Macke, Alexei von Jawlensky, Paul Klee, Gabriele Münter and Marianne von Werefkin.
These painters gave dominance to colours like Les Fauves. They did not enter the brutal depiction of reality like "Die Brücke", but showed a softer expression of their inner spiritual world. They used warmer tones, more harmonious compositions. They explained their art in often very cerebral texts, like in Kandinsky's writings on art. They appealed to the viewer's soul in sensual feelings.

The painters of "Der Blaue Reiter" arrived by their research into the rules of harmony in art to abstract painting (Wassily Kandinsky). For Kandinsky, painting was purely an expression of inner sentiments and inner states of the artist, but that expression was based on formal elements that remained recognisable in the composition, and the expression could be described.

Die "Neue Sachlichkeit" or Verismo:
This was a movement of Expressionism founded in 1920. The director of the Kunsthalle of Mannheim, Gustav F. Hartlaub, who organised the first exhibition of these artists in 1925, gave the name around 1923.
These painters introduced strict realism in figures and form again. They made strong, violent, realistic and shocking works. Their subjects were rude and tough scenes of middle-class city life, of brothel scenes, of cruel crimes, and of the war. The artists looked at this world with apparently an objective eye, but they aimed at very subjective impressions in the viewer hoping to interest the viewer in their social engagement.
There was a "leftwing" group in Berlin, Dresden and Karlsruhe (George Grosz, Rudolf Schlichter, Christian Schad and Otto Dix), who proposed a direct critic to the political and social situation of Europe, and foremost of Germany.
The "right-wing" artists of Munich were more Romantic in their images (Alexander Kanoldt, Carlo Mense, and Georg Schrimpf).
The most representative painters were Max Beckmann, Georg Grosz, Christian Schad and Otto Dix.

Expressionism in general

Many Expressionists preferred colour to line, but many artists also limited their representation to coloured or heavy black lines. Lines certainly did not disappear, but were often emphasised. A few hard, black lines could be very expressive. Expressionism favoured the irregular and the asymmetrical.

Expressionistic paintings show much vitality and freedom in forms and composition. These artists sought new means of expressions, new forms and arrangements of figures on the panels. They presented their subjects from unusual views, but they always presented them in realistic though often distorted and suggestive forms, not in a broken or schematic way as the Cubists had done. Expressionists often deliberately broke symmetries and balance in order to call into the viewer emotions of distress and unease. But that technique really depended from artist to artist and important painters also sought balance and harmony of forms. Expressionism strives for the complex.

The Expressionists used the expressive power of colours and the strong feelings that harsh colours inspired in viewers. This supported the tension in the paintings. Expressionist painters used harsh, unrealistic colours in powerful brushstrokes, and strong dark outlines. Van Gogh may have been a precursor of the movement and he may have inspired many artists.

Expressionists painted scenes from real life. But they painted unusual scenes, unusual presentation. They avoided normality. They painted landscapes, portraits, and scenes of figures and also still-lives, and used even devotional subjects as long as strong

emotions could be depicted. They later discovered that abstract pictures could serve at least as effectively as figurative art to express emotions in a powerful way

Expressionists did not much emphasise realistic representation of volume and space. They could distort realist perspective and they used this technique knowingly, as long as that served their aim to express emotions and induce strong emotional reactions in viewers. But they knew the techniques of linear and aerial perspective, and used it or amplified its effects when necessary for their objectives.

Expressionist painters were Max Beckman, Vincent Van Gogh, Erich Heckel, Alexei von Jawlensky, Ernst Ludwig Kirchner, Oskar Kokoschka, Franz Marc, Edvard Munch, Emil Nolde, Max Pechstein, Georges Rouault, Marc Chagall, Egon Schiele, Karl Schmidt-Rotluff, Chaim Soutine, Constant Permeke, Graham Sutherland, and many others.

Expressionism was a trend in the arts with various sub-movements of different evolution. There is thus a great difference in style between for instance the themes and ways of painting of the "Blaue Reiter" painters – who evolved much from the Fauvists -, and a painter like Oskar Kokoschka – who also used much colour -, and the painters of "Die Neue Sachlichkeit".
The "Blaue Reiter" movement is an evolution from Impressionism and Fauvism, still much dedicated to special colour effects. Instead of giving a sweet impression of the wonders of light on landscapes and objects, Expressionists were concerned with their own emotions inspired by their subjects. Whereas the "Blaue Reiter" painters were still involved in colour, the artists of "Die Brücke" looked at the hard reality of the social differences in the classes of German society of just before the First World War. The "Brücke" painters sought their subjects in these tensions. Expressionism became the art form that epitomised at first German and then European society, from before and in World War I.

Aigues-Mortes (1925). Toledo (1925). Prague (1934). Annecy (1927). Market in Tunis (1928).

Oskar Kokoschka (1886-1980). Aigues-Mortes, Toledo, Prague and Annecy in: The Jenisch Museum. Vevey. Market in Tunis in: The Courtauld Institute Galleries. London.

Aigues-Mortes

The town stretches wide and far before the eyes. It is a mass of lines and harsh colours. There is red and green and yellow, and very pronounced black lines. Walls, some of which loom high, dark and menacing, surround the town. The sombre lines are the work of men, and although the sky is of the purest blue, and although the light is yellow on the right, the black tones seem to push the town lower and deeper. This is Aigues-Mortes.

Aigues-Mortes is a medieval fortified town of Southern France. Here is the end and the beginning of Europe. The alluvial delta of the Rhône River in which lies the town, is the end of the large plains that start in the wideness of Russia and the Ukraine and then narrows from Germany to France, before stopping at the Pyrenees. All invasions from Asia to the Mediterranean crossed and followed these plains until water or mountains stopped them.

Aigues-Mortes stands as an enigma in the vast marshes of the Rhone delta, the Camargue. The salt water of the Mediterranean flows into the Rhône estuaries over the flat lands and recedes again. The salt settles quietly, and salt is the main riches of the town since old. Out of the plain, all around Aigues-Mortes, protecting the small houses, rise the fortified walls of the thirteenth century, miraculously preserved, with their round towers and massive gates.

Aigues-Mortes is where history survives. It was built from 1246 on by French King Louis IX, who then ruled only over a part of contemporary France and not over the Southern Provence region. Royal France had no Mediterranean port of herself, so Aigues-Mortes was created to serve as a port and access to the Mediterranean. The town was built on order, and thus in a rational way. Its urban plan was to be a rectangle with streets in straight lines. It was an artificial town created by mind and purpose. A formidable tower commands the town, the Constance keep, main and last defence, a tower with walls more than six metres thick, a prison also, where political opponents to the Kings of France were isolated: the Templar knights, and later also Protestant Huguenots. Oskar Kokoschka painted Aigues-Mortes from the roof of that tower.

Aigues-Mortes was built for the crusades. In 1244 Jerusalem was lost to the Frankish Crusaders, taken by the Turks. Louis IX hired a Venetian and Genovese fleet of more than 1500 ships and left for Cyprus with an army of 35000 soldiers. He attacked the Turkish Empire from out of Egypt, besieged the Egyptian fortified port Damietta, went for Cairo, but was defeated there and had to retreat to Damietta.
Louis IX and his army, decimated by typhus, had to surrender to the Sultan of Egypt in 1250. The Mamluk Turks however fought the Egyptian Sultan, and deposed him. They freed Louis IX for an enormous ransom, and for the return of their seaport Damietta. Louis IX left for Syria, where he remained for four years consolidating the Frankish kingdoms there. These Frankish kingdoms of the Near Orient are forgotten now, but yes, they existed, an anachronism in what was for Europeans an exotic part of the world. Of these kingdoms only the incredibly large fortified citadels like the "Crac des Chevaliers" remain. Louis IX returned to France in 1254. He embarked on a new crusade in 1270, the eighth crusade, but his expedition was deviated to Tunis where the King died the same year. Christian Syria, founded in the eleventh century, 1098, consisting of the Armenian Kingdom of Cilicia, the proud counties of Edessa and Tripoli, as well as the Principality of Antioch would live on till the 1290s, then disappear, to be engulfed in the Muslim world again.

Oskar Kokoschka came to Aigues-Mortes in 1925. The town that had such a rich early history, in which he found the romanticism of medieval times. The crusades fascinated him. Louis IX and Richard the Lionheart had been here. So many memories of history. Too many memories to grasp, they turn all around in one's head to a chaos. The chaos of impressions is in the painting. Aigues-Mortes is at the same

time alive in red, and dead in black and grey. Its walls and towers grow out of the green and white, salted plains.

Kokoschka painted a view of Aigues-Mortes as seen from the Constance tower. He painted the roof of that tower a brown-yellow, and that colour contrasts fully with the blue sky overhead. Kokoschka used few brushstrokes to paint that sky. His aerial perspective is limited to a whitish glow above the horizon and to a deepening blue above. Kokoschka only rendered the impression he had of the town, in few and rapid brushstrokes. This is expressive painting, in which is expressed how the painter felt about the view. He just saw the colours, the now clashing black contours of the walls and the harsh pure colours of Southern France. The town and the Camargue alluvial plains enfold beneath. History is here: a figure in a tunic wearing a jar reminds of the link with the other side of the Mediterranean. And the Mediterranean is in the sky, deep blue, turning to green and then into the disappearing yellow light of the southern sun.

Tunis

Tunis was where Louis IX died of the plague after having nursed the crusaders that suffered from the same illness. Kokoschka went to Tunis. He painted a marvellous canvas of the market in the town. The market is bustling with hooded people, chaos and too many impressions again. The white walls surround the central market, in which the shops are brown ochre of colour. A lone palm tree tops it all. But there is light everywhere, no black and grey as in Aigues-Mortes. Tunis is very bright colour. The sky is blue, but there are more green hues. Tunis is here and alive, a living sign also that the Europeans, who came here as conquerors, did not arrive in a depleted, backward land, but in a rich culture of active people. The contrast with Aigues-Mortes where no human is seen, except the Arab of the other side anyway, is striking. Aigues-Mortes is dead, as its name indicates a town with only a history and no present. Tunis however is very alive.

Toledo

Of 1925 also dates Kokoschka's view of Toledo. The crusades were the continuance of the Spanish reconquista, the re-conquering of the Roman and Visigoth territory and culture on the Arabs. Toledo is the most Spanish of towns in Spain. Burned by the sun, turning around its river.
The painting is all in red and ochre as the panes of the roofs of the houses. The town and the hills are one. Joyful green patches of fields appear. The sun scorches all, and the sky is not blue anymore but all light. Again, as in Aigues-Mortes, the view is from above. But here the view is wider and more far into the horizon, more open and thus more peaceful. There is joy in this painting, loveliness, sameness, and closeness.

Annecy

Annecy is also a town rich in history. Here is where the reign of the powerful Dukes of Burgundy ended when the Swiss armies defeated Duke Charles the Bold in the

sixteenth century. His body was found naked and frozen, half eaten by dogs, under the walls of the town.

Annecy is a French town on the borders of a lake, near the Alps mountain chain. It is almost a Swiss town, but with the softness of France. Annecy is all sadness. So is the painting. Yet, this is the best landscape of Kokoschka. This is a marvellous painting of Kokoschka, almost a textbook impressionist painting. Some of the forcefulness of his paintings of Aigues-Mortes and Tunis has disappeared; the immediate splendour of Toledo has left. In their place come the blue tones. The waters of the lake, the mountains and the skies are coloured with the same soft, delicate hues in which the town is hidden. This is blue-grey Annecy in November, in autumn fogs. The foreground is harsher again, with a dead tree stump and a sole narrow trunk pointing to the light above the mountains. It is a realist painting, but all is emotion, and the vision of Kokoschka is transformed by his wandering thoughts.

Prague

The picture of Prague is very different from other town views of Kokoschka. Prague is flamboyant, as flamboyant as the colours of the sky. A very mysterious town grows organically out of the forests of Bohemia. This is a vibrant picture, like the one of Tunis, but this town is distant, inaccessible, and mystic. Prague is the end of a journey, as if the pilgrim Kokoschka had been travelling through the thick forests and then suddenly received this surprise vision of a town that has conquered and opened the forests. Prague is a town that probably remained closed for Kokoschka, far and away, not understood, yet a haven hidden in the forests, the end of a journey also for the artist.

Prague remains itself, very European, magnificent always, born out of nature, that is one with nature and of course that dominates the land. It looks formidable. Its high Saint Guy cathedral towers top the hills of Hradcany. Lower is the Mala Strana quarter and the Moldau River. Still farther on is the new town, so Prague lingers on and on, a long smear in green nature. As in the picture of Annecy, we find a tree in the foreground, but the Prague tree is well alive in green and red.

Kokoschka

Aigues-Mortes, Prague, Toledo, Annecy. The patterns, the structures become clear. The Kokoschka towns are seen from an elevated point, a tower or promontory usually in the town itself or close by. The views are curved. Two visions are superimposed. The first vision is the realistic one, the town as it can be photographed. Kokoschka never was an abstract painter, so he painted the towns more or less realistically and not merely the idea he had of a town. He did look at the scenes while painting. But he had a second vision, and that second vision transformed the first. This is how Kokoschka saw the town in his mind, with his feelings and the impressions he had of the unfolding scene. For Aigues-Mortes it was death and transitoriness, for Annecy blue gloom, for Toledo the Spanish brilliance of all pervading light, for Prague the surprise and the mysticism of a rich history of centuries that did not die. Kokoschka always expressed his second vision on top of the realism of the scenes. The structure, the curved view, the two visions were instinctive to Kokoschka. They were repeated until the end of his life, seldom changed.

Oskar Kokoschka was born in 1886 in Austria, in Pöchlarn, a little town on the Danube west of Vienna. He started to work in the Wiener Werkstätte, an artistic workshop dedicated to the Symbolist, decorative Art Nouveau, in which the major Austrian artists like Gustav Klimt were associated. Klimt supported him, as well as an architect Adolf Loos who was his first Maecenas. Loos took Kokoschka with on travels to Switzerland and Berlin. In the Berlin of 1911, just before the First World War, Kokoschka encountered Herwarth Walden, the director of the dark expressionist magazine "Der Sturm". Kokoschka discovered expressionism, and part of his work from that period on, especially his portraits, is fully expressionist. Still later, Kokoschka met the painters of the art movement "Der Blaue Reiter", a movement originally founded in Munich, who were less expressionists than colourists, and he worked also with them.

In Berlin Kokoschka learned to know Alma Mahler, the widow of the composer Gustav Mahler, and he fell madly in love with her. Kokoschka could not stay long in one place. He was restless, as he would be all his life. The couple visited Italy, Venice, and Naples. He made many passionate paintings and drawings of Alma, expressionist paintings of Alma and himself. But the relationship ended in 1914 and the disappointed Kokoschka engaged in the Austrian army[C1].

In August of 1915, Kokoschka was severely wounded at the Russian front. But he returned to the front, now at the border with Italy, where fierce battles took place between the Austrian and Italian armies. He made many war drawings of the front lines of the Isonzo River in Italy, where he worked in a group of painters-reporters. After the war, Kokoschka taught at the Academy of Dresden in Germany[C1]. Dresden was a town in Eastern Germany, also with a tradition of artistic schools. In the beginning of the century the Expressionist movement "Die Brücke" was born there. Dresden marked a new, bright period for Kokoschka and slowly he reverted from Expressionism to an own style. He met a girl in Dresden, a student singer, Anna Kallin, and took her with him on new journeys through Europe[C1].

Kokoschka left Dresden already in 1923, and between the period of 1923 to 1934, restless as ever, he continued his frequent travels all over Europe: Switzerland, the South of France, Paris, London, Lyon, Bordeaux. He also saw Tunisia, Algeria, Egypt and Palestine. He remained three years in Paris, went through a period of depression, mainly in 1927, during which he painted the Annecy view, and then returned to Vienna. In 1934, just after the death of his mother, Kokoschka lived in Prague, where he became a friend of the President of the Czecho-Slovakian republic Thomas Masaryk. Both were admirers of the Bohemian scholar Comenius.

In Prague also, he met Olda Palkovska, a law student, and married her[C1]. From that period, 1934 to 1938 date his many views of Prague, the capital of Bohemia. The Second World War threatened, so Kokoschka and his wife Olda left for London just before the German Nazi army entered Czechia. They stayed in Great Britain and mainly in Scotland, with a Czech industrialist family, until 1953. From that period date wonderful landscapes of Scotland and even more wonderful colour drawings of flowers. These belong to the most intimate delicate pictures of Kokoschka. Directly after the war, Kokoschka and Olda made many journeys to the South of France, Spain, Switzerland always, Rome, Florence, Greece, and Jerusalem.

In 1953, Kokoschka and his wife finally settled in Switzerland, in Villeneuve on the Léman Lake[C1]. He also painted the landscape of the Léman Lake in 1957. He visited other artists in Switzerland, among which the musician Pablo Casals of whom he made a portrait. Kokoschka continued his travels: Venice, Berlin, New York.

Oskar Kokoschka died in 1980 at the age of 94 in Montreux, Switzerland. So, his life spanned the twentieth century in which he saw and participated in two world wars. Some years later after his death, his wife Olda Kokoschka created a foundation in the Jenisch Museum of Vevey, Switzerland.

Kokoschka is probably the ultimate wanderer among European painters. He travelled much, saw many landscapes, met many different people, and met different schools of painters. He sought out artists, musicians, and scholars. Why this restlessness? Was it because the destruction of Europe and the tensions in politics everywhere affected him so much that he was nowhere at ease? It seems typical that only at the end of his life did he find quietness and remained more in one place. And then this place was still in Switzerland. He even stayed in the part of the country where French and not German was spoken.

Switzerland is typical the European land that was a refuge amidst turmoil, a haven for political refugees. Switzerland attracted artists from all over Europe like a magnet. It was the stretch of peace hidden in its mountain valleys. It had remained neutral in the wars; all allies had used it, and it had been spared. Thus, Kokoschka resembles the Europe of the twentieth century.
Europe was very complex, passionate in ideas, in constant struggle with itself, finally completely at war and ending its world supremacy, then exhaustedly and blindly groping for a peace that did not come because after the wars the political antagonisms changed but remained. The antagonisms were now even accentuated between the capitalistic but democratic West and the communist East; the long cold war succeeded the real wars, and did as much damage to the minds of people. Maybe Kokoschka was not restless, maybe he only sought his own particular peace, could not find it except somewhat in certain southern parts of Europe, around the Mediterranean, where so many memories of earlier history were conserved. The Mediterranean attracted him because of its history, and probably also because he recognised it was the cauldron and source of European culture. Finally, he hid in the mountains of Switzerland.

It is interesting to look from above at European geography, in the way Kokoschka viewed his landscapes. One sees then the enormous plains that start at the Pyrenees, cover Germany and widen over Poland into Russia. The oceans and seas enter Europe everywhere: Italy, Scandinavia, Greece, and Holland, even Spain are almost peninsulas surrounded by water. The waters permitted easy communication, and also ensured more isolation of cultures. The Mediterranean countries are mostly protected by mountain ranges. The mountains should have guaranteed somewhat more peace, and maybe Kokoschka liked the Mediterranean because of its separation of the rest of Europe, its differing climate and flora.

Kokoschka was indeed an expressionist and remained so. The movements "Die Brücke" and "Der Sturm" have deeply influenced him. Die Brücke, or the Bridge, was founded in 1905 in Dresden by student architects and adhered to by German painters like Max Pechstein and Emil Nolde. Kokoschka always kept to the subjects of the Bridge: man and landscapes, expressed with a maximum of simplicity in lines, and always dominated by the feelings felt at the immediate moment. The painters of Die Brücke wanted to grasp the spirituality beneath what they saw and show that in their

paintings, exactly as Kokoschka continued to do in his portraits and paintings of towns.

Expressionism was even harder, darker, deeper, and more radical in the movement "Der Sturm" founded in Berlin around the gallery and magazine with the same name, which were owned by the art critic Herwarth Walden.
Communism entered the scene here; Walden, in the end, in 1931, emigrated to communist Russia and disappeared there.
"Der Blaue Reiter" was an art movement of Munich, founded in 1910 by Wassily Kandinsky and Franz Marc. These were colourists, influenced by the French Fauvists. Kokoschka may have lent his colours from "Der Blaue Reiter"; he never reverted to the black and grey predominant tones of many German and Flemish Expressionists, but kept a bright and varied palette of colours. One of the main painters of "Der Blaue Reiter" was Heinrich Campendonck. Campendonck was a teacher at the Academy of Dresden at the same time as Kokoschka.

The painters of "Die Brücke", "Der Blaue Reiter", its predecessor the "Berliner Sezession", and "Der Sturm" suffered dearly in the World Wars. Franz Marc of Der Blaue Reiter was killed in 1916 in the battlefield of Verdun; August Macke of the same movement died in 1914 in Perthes, France. Max Pechstein, Erich Heckel, Max Beckmann, Otto Dix and Egon Schiele were soldiers in the First World War, and so was Kokoschka. Beckmann and Dix fled Nazi Germany. Max Beckmann suffered a nervous breakdown at the war front. Emil Nolde was forbidden to work, but continued underground. Kokoschka also fled Prague just before the Nazis invaded Czechia.

It is often thought that the German expressionists were a product of World War I. But as we have seen, most expressionist movements started before 1914. Expressionism is much more a product of the times that also produced the wars, of the mentalities and motivations of the pre-war period. Expressionism was born in Germany out of a new tendency in society. The antagonisms between labourers, middle class and nobility came to a final culmination. New values were sought after in that Germany. Maybe this passionate search could only surface in a society of people that never compromised. There was less hypocrisy, less refinement in hiding and subduing issues in German society than in any other European society.

Kokoschka was born and taught in expressionism, and he remained working in this style. He closely knew and participated in the expressionist movements, although each did not last for more than five years. He was deeply influenced by them, or simply had like these painters the same character as shaped by the life and times before and after the First World War. He painted his towns as simple landscapes, authentic, as they were, in a realistic way. His towns were transformed by the idea or the impression he had, and more than the real scene his mind-scene appeared on the canvas. Although he came close to transform the landscapes so that they were almost deformed - Aigues-Mortes is a good example - he never turned abstract like many painters of "Der Blaue Reiter".

Kokoschka remained himself, wounded by war and love when he was young, turned restless, homeless, nervous and quick, maybe in search for a final explanation of a

world in derision. The explanation could of course not be found, also not in history. His story is much the story of the greater part of Europe in the twentieth century.

Finally, Kokoschka found rest. In Switzerland, a mountainous asylum of marginal artists, of rich industrialists and bankers looking for anonymous money, of emigrants who had to flee their countries and had the luck to have sufficient means to live there. A Switzerland of which many doubt that it was ever a part of Europe. But Switzerland was the only haven of rest in a Europe that had destroyed itself. In that Switzerland, he found the high points from which he liked to look at landscapes. Kokoschka lived intensely fully aware of his own consciousness that was a he himself wrote the source of all things and of all conceptions. He was aware of inner visions and "this awareness of visions is the viewpoint of all life as though it were seen from some high place; it is like a ship, which was plunged into the sea, and flashes again as a winged thing in the air".[G86] Kokoschka wrote this in 1912, as a young man of twenty-six years, but this vision remained in the soul of his landscapes.

Early Abstract Painting

Abstract painting is a form of art that does not represent recognisable objects. It does not imitate nature. Its name was given in contrast with pictures that represented natural scenes, scenes with landscapes, objects and people, which are therefore called figurative paintings. Abstract art contains no content matter.
Artists such as Wassily Kandinsky and Kasimir Malevich created abstract art in Russia in the beginning of the twentieth century (around 1910). Other movements worked at the same time in France, in the Netherlands and in many Middle European countries. Early Abstract art evolved in many schools and trends, which reached abstraction from several directions. We present a few important movements hereafter.

Suprematism

Suprematism was practically a one-man movement in painting, founded in 1913. It was based on the ideas of the Russian painter Kasimir Malevich (1878-1935). Malevich gave the name UNOVIS, which meant "new art" to the Academy of Vitebsk where he worked, and which he had taken over from Marc Chagall. He refused the traditional images of figurative art. He painted only in elementary shapes such as the straight line or the square or evolution of these shapes, such as the rectangle and the trapezium. These forms were not to be found in nature, and Malevich considered these elemental non-biological, geometric shapes as representing the supremacy of mind over nature. The white background of the canvas represented the cosmos. The compositions of the elemental shapes were for Malevich man's longing and search for the mystery of the universe.
Malevich wrote that art should be free of influences and that art was by definition meant to be totally useless. With this view, Malevich came in the 1920s in conflict with the utilitarian views of Russian Communism.
Malevich painted such famous pictures as "Black Square", and finally his "Suprematist Composition: White on White" in 1918, by which he declared having reached the ultimate point of abstraction. After this picture Malevich returned to figurative painting.

Constructivism

Constructivism was a form of abstract art, founded in Russia somewhat later than Malevich's Suprematism, in 1913. Constructivism was more a trend in design than in painting. Its theorists proposed the idea that art had to paint the objects of modern technology and industry. Artists had to support the physical and intellectual needs of society. These ideas remained in line with the ideology of Russian Communism, based on utilitarianism and on the promotion of art for the proletariat. Constructivism was principally applied for public monuments, which were to be constructed from elements by the new industrial materials and processes. The same principles were however used in painting.
The movement was also called Proun. This word was derived from Malevich's Unovis. Proun then could mean Pro-Unovis and thus "for the new art".
Constructivism was founded in Russia, but was later applied throughout the whole world and also much later than the Russian Revolutionary period.

Painters and sculptors were Naum Gabo, Laszló Moholy-Nagy, Eliezer Lissitzky, Alexander Rodchenko, and Vladimir Tatlin.

De Stijl

"De Stijl", or the "Neoplastic Movement" as it was originally called, was a Dutch art trend founded by Theo Van Doesburg, Piet Mondriaan and the architect Gerrit Rietveld around 1917. Other artists that joined were Bart Van Der Leck, George Vantongerloo and Vilmos Huszar.

"De Stijl" was the name of a magazine in which the artists of the "Neoplastic Movement" explained the principles of their art. De Stijl was influenced by the Neo-Platonic philosophy of the Dutch mathematician Schoenmaekers and by the architectural concepts of Hendrik Petrus Berlage and Frank Lloyd Wright. The origins of the movement were philosophical, and based on the idea that art had to reflect the order of the universe. "De Stijl" implied that a certain, defined style was to be used in painting, sculpture and architecture. The style consisted of clear lines (horizontal and vertical only), primary colours and elementary shapes (triangles, rectangles, circles, cubes, etc.). This was called a "plastic grammar", and hence came the name of neo-plasticism.

Three phases can be discerned. From 1916 to 1921 was the experimental, pioneering period in Holland. From 1921 to 1925 was a period of maturity and of internationalisation. From 1925 to 1931, the art transformed and finally disappeared around 1931. The movement virtually stopped with Van Doesburg's death.

The artists of "De Stijl" believed that art had to strive for total harmony, order and clarity. "De Stijl" proposed very geometric, strict lines and shapes and assembled its images from square forms. Straight vertical and horizontal lines with pure primary colours were used. The pictures were devoid of biological forms, and the painters and architects emphasised economy, functionality and elementary forms.

Bauhaus

Walter Gropius founded the Bauhaus in 1919 in Weimar. It became in the 1920s a centre of modern design art in Germany. According to its theorists, art and design were to be integrated in daily life. The philosophy of the Bauhaus was socialist inspired. Walter Gropius wanted artists to create pieces of art that were practical and not expensive. The Bauhaus style was simple, geometric, and rational. In painting it was a school for decoration and design.

The German Nazis closed the Bauhaus in 1933, because it came to present for them a source of communist intellectualism.

Painters that worked at the Bauhaus were Paul Klee, Wassily Kandinsky, Hans Albers, and Moholi-Nagy.

Orphism

Orphism was a tendency towards abstract painting that lasted in Paris from 1911 to about 1914. The movement received its name by Guillaume Appolinaire in 1912. Appolinaire called "orphic cubism" the art form that evolved from Cubism to completely abstract forms.

Orphism relied on form and colour only to communicate meaning and emotion. Orphists tried to express various states of consciousness through non-figurative

painting. The artists sought to represent the inner world through undulating images. Circular forms were the basic structures of Orphist painting. Orphists expressed a mystic intuition of the inner nature of objects. They started first from figurative images, and then evolved to abstract shapes. Their evolution to abstract art was a means to reveal the content of the inner consciousness of the artist.

As Orphism, we also consider a movement called "Synchromism". This was a style that was contemporary to Orphism, and that was very similar to it, but its painters claimed it to be an independent evolution from Orphism.

Synchromism painters were Stanton McDonald-Wright (1890-1933) and Morgan Russell (1886-1953).

Orphist artists were Fernand Léger, Francis Picabia, Robert Delaunay, Sonia Delaunay-Teck, and Frantisek Kupka.

Futurism

Futurism was a radical, noisy rejection of traditions, values and institutions in the Italy of the beginning of the nineteenth century. The Italian artists wanted to be part of the avant-garde of the new artists in Europe and were looking for own directions. The poet Filippo Tommaso Marinetti (1876-1944) invented it in 1909, and he wrote about its principles in a manifesto published in the Parisian newspaper "Le Figaro" first, then in Milan.

The first manifesto of Futurism was co-signed by the painters Umberto Boccioni (1882-1916), Carlo Carrà (1881-1966), Luigi Russolo (1885-1947), Giacomo Balla (1871-1958) and Gino Severini (1883-1966). The movement originated in Milan. Later, Umberto Boccioni declared a "Manifesto of Futurist Painters" in 1910, and various other manifestoes would follow.

Marinetti and his followers decreed that art should break with the past and celebrate the glories of modern speed and industrial realisations. Thus, the impression of dynamism, universal vibrations, and speed were central in their work. Modern machines, transport and communication fascinated the Futurists. They wanted to represent dynamism and rapid movement, speed, the influence of nature and the environment on objects (which Balla called the "compenetration of plans"), vortices, in sharp lines and angles. The Futurists often imitated the effects of motion in their pictures by painting the same object several times next to each other.

A work of art had to be aggressive, new and bold in form, with bright colours. The first technique of the Futurists was Divisionism, as they had learned from Gaetano Previati. The pictures had to show broken cubist forms, which had represented motion through abstract patterns. Idea was put before style, and the growth of technology was to be expressed. Futurist paintings were among the first abstract pictures.

Futurism culminated around 1925 and ended with the end of World War II, when Marinetti died. Members of Futurism were Umberto Boccioni, Luigi Russolo, Carlo Carrà, Giacomo Balla, Gino Severini, Roberto Marcello Baldessari, Mario Chiattone, Virgilio Marchi, Enrico Prampolini, Benedetta Cappa, and others.

Vorticism

Vorticism was mainly an English art trend. A painter, Wyndham Lewis, who edited a magazine called BLAST, founded it in 1914 in London. The poet Ezra Pound gave the name. Some of the artists of Vorticism came from the English Camden Town Group, founded in 1911. These artists came together in Walter Sickert's workshop in

North-London. Many of their subjects were taken from the labour life of London and rendered in the harsh colours of Vincent Van Gogh or Paul Gauguin.
Vorticism was influenced by Cubism, Futurism and by photography. Vorticism extended the emphasis on speed of Futurism into the depths of space. Vorticists created an intense perspective of abstract forms directed towards a concentrating point, a vortex.
Vorticist painters were Wyndham Lewis, Edward Wadsworth, Frederick Etcholls, and David Bomberg.

Cercle et Carré

"Cercle et Carré" was an international artistic group founded in Paris in 1929 by the critic Michel Seuphor and the painter Joaquin Torres-Garcia. Most of its members were geometric abstractionists or even Constructivists like Piet Mondriaan, Wassily Kandinsky, Fernand Léger, and Willi Baumeister. The group did not last for long, stopped already in 1930 and edited only three times its magazine. Most artists of the group went over to "Abstraction – Création".

Abstraction-Création

"Abstraction-Création" was a name given to an association of a melting pot of abstract artists, in Paris from 1931 to 1936.
The movement was founded in 1931, edited yearbooks called in French "Abstraction-Création, Art non-figuratif" and had as its objective to organise manifestations of non-figurative art. The movement was formed in Paris, but members and associated artists that adhered to the movement lived in many countries of Europe. It was a broad forum for many tendencies of abstract art. A similar American movement, called "American Abstract Artists" was founded in 1936, and this movement was active until around 1946.
The group "Abstraction-Création" consisted mainly of painters of diverse abstract styles (of geometric art as well as of expressive abstract art) who lived in Paris, but among whom were also many non-French artists. It assembled as well Cubists (Albert Gleizes), biomorphic abstracts (Hans Arp), Orphists (Frantisek Kupka), as painters of more geometric abstraction (group "Cercle et Carré" with Piet Mondriaan). Painters were Hans Arp, Frantisek Kupka, Jean Hélion, Albert Gleizes, Auguste Herbin, Naum Gabo, Georges van Tongerloo, Katarzyna Kobro and many others.

Middle European schools

In many Middle European countries avant-garde groups formed which had as its members writers, poets, architects and painters who were very much dedicated to innovation in art. These schools began with abstract and expressionist visual art, but soon evolved also into abstract art. We mention the groups Skupina, Osma (the Eight), Mánes and Devetsil in Prague of Czechia. In Poland came the groups Bunt in Poznán, Jung Idysz in Lodz, and Blok and a.r. in Warsaw. Ma was a group of Budapest in Hungary, Contimporanul of Bucharest in Rumania. Tank was a group in Slovenia. Many of the painters in these groups were pioneers of abstract art.

Early abstract art emphasised vertical, horizontal, slanting and jagged lines as well as the use of the psychological effects of colour. The abstract forms were usually well delineated, and designed to harmony.

Early Abstract artists emphasised simple shapes like the point, square, circles, and rectangle. Gradually, more complex forms were sought. The artists experimented many years with the arrangement of the elementary shapes and of lines on the canvas. They mostly sought to find the theoretical rules of compositions in these elementary forms and generally they aspired to harmony. But they also explored the processes of the breaking of harmony and balance, and its effects on viewers.

The first Abstract artists explored the psychological effects of coloured areas that were arranged in various orders on the canvas. They combined cool colours with warm colours, and they discovered the contrasts in abstract forms between large areas of complementary and secondary colour hues.

The content was purely abstract, non- figurative.

Volume and space were mostly left unexplored by the early abstract artists. This was an art that emphasised two-dimensional shapes. There were notable exceptions to this statement, such as the Vorticists and the Futurists.

The young abstract painting was one of the most dramatic changes in the arts. It was in essence only an evolution in the handling of content in that it refused any content. Thereby this art form broke a tradition of thousands of years of the visual arts. We stated earlier that the Cubists prepared abstract art, and the two reformers therefore must be Pablo Picasso and Georges Braque. Nevertheless, many different developments were contemporary to Cubism and these were all not derived from Cubism.

It is remarkable how the very first abstracts like Malevich, Kandinsky, Kupka and Mondriaan took this art so early about as far as it could go. All other subsequent painting was certainly interesting and still offered new views and new experimentation, but all these developments could not be called revolutionary anymore. Of course, once an artist leaves content behind, what remains on the canvas is merely a probing into combinations of lines, form and colour.
The twentieth century was the century of abstract art. It was the century of many art forms, but it will be remembered mainly as the abstract century by the sheer volume and the importance of the abstract work that was accomplished in its various experiments.

Flowering Apple Tree

Piet Mondriaan (1872-1944). Modern Art Collection of the Gemeentemuseum. The Hague. 1912.

All the paintings we present in this chapter were precursors or early examples of abstract art. All the painters died before, in or just after World War II. They thus do not belong to the second half of the century. They are all very well represented in Dutch museums, and our examples all come from two city-museums of the Netherlands dedicated to modern art. The paintings are abstract art, but they are among the first such paintings ever made, and some of them still have an underlying idea of an object or a figure. The paintings were made around 1912, with one interesting exception. Cubism had existed for only something like five years. The Cubist experiments were first only well known in Paris, so that most of the developments of the paintings we show happened independently of Cubism. We must bear in mind that paintings like the "Still-Life - Dead Birds" of Pablo Picasso were also made in 1912. The experiments of Cubism slightly preceded early abstract art, but the artists of which we show paintings here must also have been thinking of content-less paintings since a few years, so that abstract art developed alongside Cubism.

The references to real-life objects remain obvious in Mondriaan's painting, in Luigi Russolo's picture and also in Robert Delaunay's work. The paintings of Kasimir Malevich and of El Lissitzky are totally abstract, but these are also the later paintings. By 1915, all the painters we talk of in this chapter had reached full abstraction as an art form in itself. Two main names of abstract art, painters that have played dominant roles in the road to abstraction, are not mentioned here, and yet they would merit separate chapters. These are Frantisek Kupka and Wassily Kandinsky. We presented however one or other of their works in the opening chapters of this book.

Piet Mondriaan started painting figurative pictures. The Gemeentemuseum of The Hague has an earlier picture of Mondriaan representing a very figurative red tree painted against a blue background. The choice of colours is maybe weird, but this painting should in no way shock any viewer who knows also about the Fauvist style. The trunk only of this tree is red; the tree's branches are all black. The tree is painted without any foliage, as we see trees in a European winter, when the trees have shed off their leaves. The tree consists of a trunk and ample branches, which widen open and cover the canvas luxuriously in a myriad of black curved and jagged lines.

Mondriaan's "Flowering Apple Tree" contains still a memory of such a tree. We can distinguish the vertical trunk in the middle and horizontally from that trunk branch out many horizontal lines. The branches and the lines of the trunk are all black, as was the case with the tree in winter of Mondriaan's earlier figurative picture. Mondriaan now however painted all the lines in a curved movement, in forms that resemble the leaves of the tree. Moreover, he used a few green lines beneath. But Mondriaan seems to have remembered also some of the whiteness of the fogs and snow and frost of winter. His tree is again leafless but for the branches in leaf-forms. Mondriaan's painting can almost only be understood in reference to earlier figurative works, and we can see how the painter reached abstraction by retaining just a few essential intuitions of

forms of the real-life object that was the tree. The colours Mondriaan used also keep some reference to a feeling of nature, to the concept of winter and its barrenness and at the same time to the delicate whitish-orange hues of the blossoms of an apple tree.

In this painting of Piet Mondriaan, we find already an emphasis on vertical and horizontal directions, even though the lines are mostly curved and retain a sense of organic, living nature. Mondriaan would soon, from 1914-1915 on, radically abandon these organic lines. He would abandon the capriciousness and freedom of relations between natural forms. He would then paint over and over again variations of his now famous paintings that consist of thick black horizontal and vertical lines, between which he would generally put white and only here and there a rectangle of pure colours of red, blue and yellow. These straight lines represented the ultimate truth for him, and also the immutable aspect of space. The straight perpendicular lines indeed give an impression to the viewer of being forever and solidly fixed in an infinite space. Therefore, the lines indicate and evoke space, the more so as they intersect and are painted one above the other. But Mondriaan's space is not the growing and ever-changing space of nature but the transfixed space of the human idea of eternal harmony and equilibrium.

Mondriaan expressed this in 1919 as, "The immutable is beyond all misery and all the happiness of life: it is equilibrium. Through the immutable in us, we are united with all things; the mutable destroys our equilibrium, limits us, and separates us from all that is other than us. It is from this unconscious, from the immutable that art comes." G86.

Mondriaan's "Apple Tree" is an example of the process of abstraction at work, not unlike the process of Picasso's Cubism. But Mondriaan had already set one step further in the process, and would sooner arrive at a more total, purist view of abstraction. The process was entirely intellectual and formalist, not directed by emotions. In a sense, Mondriaan installed a new Academicism based on strict rules of construction.

Circular Forms, Sun and Moon

Robert Delaunay (1885-1941). Stedelijk Museum. Amsterdam. 1912-1913.

Whereas Mondriaan's painting shows his beginning reliance on horizontal and vertical lines, Robert Delaunay's work is all circling movement. Delaunay took the sun and the moon, both circles, as the basis for his work. We sense while looking at his painting, that abstraction was already proceeding completely away from any figurative representation, since the reference to the sun and the moon is only a reference to a vague inspiration. In Delaunay's work, the sun might be to the left and the smaller moon to the right, partly hidden as the moon usually is. The concept of sun and moon could be found in the brightness of the colours in the two core circles. The centre of the sun is whitish pink, and the moon is a pale yellow.

In between these centres, Delaunay painted a warm transition of various shades of red, and around the sun also widening and darkening blue circles. The moon seems

closer to the viewer, as its yellow and red hues attract the view, whereas the sun seems to recede away from the viewer due to its blue and green circles. These last colours create a feeling of distance, and Delaunay also painted several circles around the sun as if in a receding movement. Such widening circles are not to be found in his picture around the moon. Here, the circles cover each other as if in a battle, and they do not convey a sense of movement but more a sense of a local conflict. The moon is closer to the viewer than the sun, whose intense bright light is more of a danger, farther away, and hence more mysterious. While Mondriaan's work is all in frozen colours, Delaunay's painting is all warm hues. For Robert Delaunay, the changing colour was the essence of life and of reality. The light of nature creates colours. So we find here in an early abstract work of Delaunay how this artist came to his later fully abstract work of coloured circles, which bore no connection anymore to themes such as sun and moon or to any other figurative object. Delaunay used circles and round forms always in endless permutations in his work, and so did mostly also his wife Sonia Delaunay-Terk. These round forms are not only the exact contrary of the straight lines of Piet Mondriaan, but also the contrary of the straight lines of the interceding planes of vision of the Cubists.

Robert Delaunay had found with his circling forms another approach to abstraction. He emphasised colour, but his hues are very different from the hard, disharmonious colours of the Fauves. Delaunay overall favoured warm, harmonious combinations of soft colours, and his work is characterised by shades of red, orange and yellow. The poet Guillaume Apollinaire called this kind of painting "Orphism", and that name has stuck. The earliest Orphist was probably Frantisek Kupka, whose "Amorpha, Fugue in two Colours" and a series of "Discs of Newton" of 1911/1912 are among the first abstract works of the Orphists. Kupka experimented in a series of images of circling motifs. Delaunay did the same with a series of "Sun and Moon" paintings. With circles both men tried to create inner feelings, vibrations in their mind similar to the vibrations of the circling movements on the canvas.
Like all early abstracts, Kupka and Delaunay and Mondriaan were trying to find a new spiritualism through a transcendence of nature proceeding into abstract forms. They were searching for combinations of forms that appealed to the mind more than scenes of reality and of nature. They hoped thus to reveal some aspect of the consciousness of people. The circles were not unlike waves that oscillated deep into man's mind, and there created feelings in a mystic way. Kupka and Delaunay were after such feelings.
Abstract art is now more and more associated with the materialistic modern world, so it may come as something of a surprise that the drive of the early abstracts was far more spiritual than materialistic.

Revolution

Luigi Russolo (1885-1947). Modern Art Collection of the Gemeentemuseum. The Hague. 1912.

The feelings of waves that vibrated into man inspired the Italian Futurists almost at the same moment and independently. A good example of this kind of painting is Luigi

Russolo's "Revolution". The Futurists represented movement, speed, agility, and the development of modern machinery that was always in motion, ever spinning around an axis, and turning on wheels. The Futurists arrived almost at abstraction by the representation of abstract patterns that were often the reverberations created by an object rapidly moving through the atmosphere.

In "Revolution", a group of people advances. They are running and gesticulate in a forward movement, all in the same way. The form of their group is that of a sharp triangular wedge that pierces through the air. The men are running; so Russolo painted their successive positions as if caught by a high-speed camera. The successive images are superimposed somewhat, and seen one next to the other. The people are a red force of energy, and that force reverberates through the air. Shockwaves are created in space. These waves are red too, and we see them propagate in the air, pushed forward as the running crowd creates them. Beneath the waves is a pattern of black rectangles on a dark blue background. This gives an impression of the ground plan of a town, so that the group of people and the ensuing vibrations seem to hover in the air like an aeroplane flying in the sky over a town. The shock of the mass of people opens space in front of them, and forces the space away. The shock is incandescent, so Russolo painted here bright green and yellow colours, to indicate the shock of the revolution.

Luigi Russolo's painting is not entirely abstract, since the silhouettes of the figures can still be recognised, but the patterns of the waves and of the background are abstract and we must note that the men of the revolution are reduced to their most simple expression as never shown before. This painting dates from 1912 also. The Italian Futurists had come very close to abstraction, in a school of thought that developed alongside Cubism and Orphism.

Supremus No. 50

Kasimir Malevich (1878-1935). Stedelijk Museum. Amsterdam. 1915.

The last two paintings I present on early abstract art were made by two major representatives of the Russian avant-garde art.
Kasimir Malevich started to paint in the Impressionist and Expressionist way. But he soon developed his own ideas of the theoretical importance of elementary shapes. He did not proceed from figuration to abstraction, but rather came directly to abstraction through a theory of the particularities of elementary geometrical forms. Squares, circles, rectangles, are all shapes that are the product of the human mind only. These shapes are not to be found in nature. Malevich though to find in these simplest of forms the supremacy of man over nature. His composition "Supremus No. 50" shows merely a number of rectangles, squares and triangles in a combination of several lengths and widths. It is thus an eminently Suprematist work.

"Supremus No. 50" is a tranquil, quiet, calm painting. Malevich brought on the canvas a number of horizontal, long, red rectangles, which seem to float in space. For Malevich the white-grey canvas represented the cosmos in which the individual

elementary forms existed. The red rectangles seem to be fixed in space however, by a long vertical rectangle in black colour. This black vertical shape brings equilibrium and stability in the painting. Moreover, the vertical rectangle is traversed by another, thinner yet equally black and long, almost horizontal rectangle. The two black rectangles form a cross, although not the cross we are used to from religious paintings. Malevich experimented with images of black crosses on a white canvas, maybe in an attempt to grasp something of the mysterious attraction of the religious sign as an abstract form. In his painting "Supremus No. 50", a permutation of the cross underlies the red rectangles and thus creates a feeling of depth in various phases of perception. It is tempting to think of Communism at seeing the red rectangles above the black cross, but any such connection is pure conjecture.

Malevich's painting is stable and tranquil, but not without joy. Chaos is around also, as separate, individual triangles and squares, shorter in length, hover around the main elements. This gives a sense of dynamism and movement, and of a background tension as would be present during a revolution. These individual non-connected elements add to a feeling of lightness in the abstract painting.
With such pictures, Malevich proved that purely abstract elements could create emotions and impressions in viewers as had not been thought possible before him, and thereby proving some assertions of his theories.

Composition Proun GBA No. 4

Eliezer Lissitzky (1890-1941). Modern Art Collection of the Gemeentemuseum. The Hague. 1920-1923.

Eliezer Markovitch Lissitzky, commonly called El Lissitzky, was more a product of the Russian Communist Revolution than Malevich. Malevich had developed his ideas many years before 1914 and was called in by the Russian revolutionaries as an avant-garde view that could supersede religious art. Lissitzky believed not only in the revolution but also in a Communist society that was to build an orderly future for the masses. This construction of society was to be ordered, calmly devised to a purpose and the architecture of that society as its art had to reflect the orderly progression. So, there are no small individual elements scattered over the canvas in Lissitzky's work, like we have seen in Malevich's painting. We see now a very precise ordering of harmonious, connected and superimposed simple elements, set together by a very geometrical and balanced mind.

There is a horizontal black rectangle as the lowest plane in El Lissitzky's painting. A grey rectangle of almost the same width is placed square on top of that black one. The result is like an instrument to measure off right angles. Then another harmonious variation of the grey rectangle, now a whitish long rectangle, covers the two former planes. Thus there is a progression from dark, more distant colours to the closer white. With these three forms, Lissitzky reached an almost perfect balance, and this painting thus inspires a cold quietness of the architect or mathematician. Finally, a decorative element is added in the shape of a narrow horizontal grey lath, underscored by a lower black line, as if to give the lath some thin volume. This narrow lath is again brought to

balance by a narrow vertical red line, and both are kept into place by a darker underlying rectangle.

El Lissitzky played diligently on the strong sense of stability and ease that is induced in viewers by vertical and horizontal lines, and he frequently balanced these lines by each other in his painting. His construction of rectangles is very harmonious in the progression of the various lengths and widths. The thin lath introduces some sense of lightness also in the picture, but it is as counter-balanced as are the other forms. This picture could be the ground plan of a building set before the open, grey space of a courtyard. Lissitzky's picture resembles the stacking of prisms of a building in architecture. Lissitzky's paintings indeed give an impression of this means of construction in a deliberate architecture, conformant to the name of the school to which he belonged.

We have now seen five paintings of early abstract works, and explained some of the means and principles by which abstraction was reached. Several different roads led to abstraction, some starting from figuration. These young abstract works have a spontaneity that is very appealing, and make of them an art that is still genius work and can be appreciated as universal art.

Surrealism

Surrealism was created in the years 1920 in France. Surrealism was born out of Dada. Its foremost theoretician was the writer André Breton who wrote "Le Manifeste Surréaliste" in 1924. Breton also founded a "Bureau of Surrealist Research". President of this bureau became Antonin Artaud. The name "Surrealism" originated probably in a preface to Apollinaire's play "Les Mamelles de Tiresias" of 1917. Surrealism was directed against the nihilism of Dada, and it declared its attachments to traditional art forms, and to bourgeoisie concepts of taste. One of Breton's goals was to integrate dream and reality.

The Surrealist paintings stimulated the subconscience of the viewers. The artists appealed to the illusion of our senses. Thus, Surrealists explored the possibilities of automatism, spontaneous creation, and the world of dreams. By the automatism they hoped to explore the human psyche, the true functioning of the mind, and the unexplored domains of the unconscious. They thought that the automatism would reveal the true, individual nature of the artist. Surrealism was the discovery of the unconscious by artists. Like early abstract art, it was in search for the sources of spiritualism in man.

Surrealism did not stop at the middle of the twentieth century; painters continue to be inspired by the ideas and the spontaneity of illusionistic representation until our days.

Dada

The word Dada has no meaning. Dada means a child's first words. The name expressed merely the simplicity of the form of art. Dada was an art movement that lasted mostly during the period of 1915 to 1922. Its centre was the "Cabaret Voltaire" in Zürich, Switzerland, a place in a coffeehouse where artists came together to talk about bizarre art forms such as nonsense poetry and noise-music.

The German poet and philosopher Hugo Ball founded the "Cabaret Voltaire" in 1916. The next year, a "Galerie Dada" opened in Zurich, and then the art trend spread to other countries.

The Dada artists were very much opposed to traditional art. They used all their fantasy to shock established ideas on art. Objects were for Dada artists simple, normal objects torn out of their common daily contexts. Dadaism emphasised the irrational and was thus a precursor of Surrealism. It was essentially proposed as an art without meaning and without sense. Dada art also introduced notions of chance. Dadaists saw the war and contemporary society as a world based on greed and materialism, a bankruptcy of ideas. Dada was essentially a revolt, and it was even more a way of life than a real style in painting or sculpture. The public and the established art critics were to be provoked and shocked with nonsense. The traditional notions of good taste and harmony and Academicism were to be drawn into derision. Dada was thus nihilistic. It presented meaningless objects in exhibitions, and showed the non-superiority of the artist as a creator.

In Zurich worked Tristan Tzara, Marcel Yanco, Hans Arp, and Sophie Taeuber. In New York: Marcel Duchamp, Raoul Hausmann, Man Ray, Francis Picabia, and Kurt Schwitters.

Pittura Metafysica

Giorgio de Chirico and Carlo Carrà founded metaphysical painting in 1915 in Italy. They were then both recovering in a military hospital in Ferrara. This art was characterised by deformed perspectives and unworldly images. The artists placed common objects in strange settings, and thus created dreamy, poetic scenes. This art trend had much in common with Surrealism, and its artists were at times members of the Surrealist movement.

Meta-Physical painters took their distance from Surrealism however, in applying stricter compositions based on academic principles and on classic inspiration. Painters of this style were Carlo Carrà, Giorgio De Chirico, and Paul Delvaux. De Chirico was first called in by the Surrealists, but rapidly distanced from them by underscoring his classic traditions.

There are two broad tendencies in Surrealist art. The first tendency privileged realistic representation of unreal, fantastic combinations of objects and environments. Among the painters of this group are Dali, Magritte, Delvaux, de Chirico and others. These Surrealists preferred clear lines to merely coloured areas. Their art was much elaborated in design, so naturally much attention was given to line. All kinds of lines and directions were applied, depending on the subjects. These Surrealists gave much attention to form, harmony, balance and symmetry. They were often quite academic artists, who contrasted clear line, clear forms with fantastic settings and combinations. Most of these Surrealists were very good artisans of painting, and their Surrealism was a very formalistic art.

The second trend showed on the canvas ideas in symbols, unrelated and even abstract forms, brought together in a context that could be full of content and meaning, or totally unrelated and content-less. To this group belonged, broadly, Joan Miró, Max Ernst, Roberto Matta, Wilfredo Lam and others. This distinction between the groups was proposed by Patrick Waldberg, a historian of the Surrealists.

The Surrealists gave much attention to colour. They used bright, primary, clear colours of high tones.

The Surrealists varied much in their means to arrive at illusion and surprising effects. The artists combined real objects that were seldom seen together in normal life, creating thereby strange moods in poetic images. They arranged images of objects in free associations. They placed the objects in no relation to each other, as may appear in dreams. They thought dreams created imagination in its most primitive state. Dreams were the pure expression of the marvellous. They sought escape from banal, everyday experience. The Surrealists created a joyful, optimistic, surprising art. They combined images of reality into experience of the world of imagination. They looked beyond immediate reality and took to images as revealed by the unconscious or by our senses in a state of heightened sensibility. Automatism, as the Surrealists saw it, was a procedure employed to avoid control over composition.

The result was an art of painting centred on the beauty of the images and on lyrical perceptions. In dream paintings, the illusionistic techniques predominated; they were not necessarily records of dreams. Surrealism was illusionistic reality for Dali and Magritte.

Surrealists questioned our assumption of the world and the relationships between a painted and a real object. They made unforeseen analogies, strange associations of

normal objects that were until then neglected in art. The artists depicted a state of sur-realism, a state beyond reality.

Many Surrealists were painters who represented objects and figures separately in a very realistic way. Thus, they applied chiaroscuro to give volume to their subjects. They placed these objects in wide theatres, for which they applied techniques of perspective realistically.

Surrealist painters were Max Ernst, Salvador Dali, René Magritte, Juan Miró, Victor Brauner, Paul Delvaux, Frida Kahlo, Arshile Gorky, Yves Tanguy, Edward Wadsworth, Giorgio de Chirico, and Roberto Matta.

Dada and Surrealism presented a change in content, as so many art forms of the twentieth century. In this art emphasis was not on absence of content, but on content as had never before been seen: strange, deranging, surprising in its combinations of unfamiliar objects and surroundings combined together.
As to form, Surrealist artists and some of the Pittura Metafysica painters returned to clear lines and shapes, clear compositions and colours of Classicism.
Surrealism was a very figurative art, which may be somewhat of a surprise amidst so many abstract experiments of the times.

The Human Condition
René Magritte (1898-1968). National Gallery of Art. Washington. 1933.

René Magritte was a Belgian painter, born in 1898 in the town of Lessines in the southern, French speaking part of the country. He started to draw very young, scarcely twelve years old. He was sixteen years, and a very sensitive boy, when World War I broke out. The horrors of the war and the suicide of his mother who threw herself in the Sambre River affected him much. Magritte first lived in the coal-mining town of Charleroi, later worked mostly in Brussels. He married at 24 a girl he had already met when he was 15. He would remain married with this same wife Georgette and lived a peaceful life. He was generally happy, not always rich but usually at ease. He walked in the streets of Brussels with his bowler hat and his dog.

In the middle of the 1930's, Magritte was recognised as one of the most important painters of modern art. He was particularly appreciated in the United States, where large and successful exhibitions of his works were held from 1936 on. He had many friends with whom he could discuss the main movements of art. His friends and correspondents also gave him ideas for paintings; he made photographs and humorous films with them. One would almost say that he led an uneventful, nice middle-class life in Brussels, until his death of cancer in 1967.

Yet, Magritte thought of himself as a revolutionary. And he made some of the strangest, deranging pictures of all times.

René Magritte's images are not easily explained. There is much more to them than a quick view might suggest, although Magritte himself told repeatedly not to look too deep for explanations. He tried only once to explain in public how he made pictures and how he thought of the world. That was during a speech he gave on November 20 of 1938 in the Royal Museum of Fine Arts in Antwerp. We will follow the lines of that speech and illustrate his ideas with some of his most remarkable pictures. Magritte called the speech "The Line of Life"[B6].

Magritte said that we are subjects of an incoherent and absurd world, in which one manufactured arms to avoid war. His contemporary world was a world in which science was applied to destroy and to kill, to form and to prolong the life of wrongdoers, in which the craziest activities worked to reverse effect. The world only pretended to be civilised but intelligence and stupidity, baseness and heroism lived well together. Indeed, when Magritte spoke these words he had experienced a first World War, Mussolini in Italy and Hitler in Germany had come to power, and the Spanish Civil War was almost finished with the advancing victories of Franco's fascist troops, ending communist involvement in Spain. These were all tensions in times when the Russian revolution seemed to become a success. Marxism was appealing to certain intellectuals, and the rising power of the working classes was regarded as a possible alternative to bourgeois society.

So, Magritte continued to say that this state of the world could and would not continue. Magritte was talking here along the lines of Marxism, the dialectic materialism theory of Karl Marx. Marx had predicted that all capitalism would end in a socialist proletarian dictatorship. Marx's theory was based on the philosophy of Hegel. Each thesis generates its anti-thesis, or its contradiction, which produces a synthesis. Marx applied this theory to history, and he considered the strives between the classes as the most important power in historical development. Marx thought that the ultimate meaning of history would be in a proletarian victory over materialism. He thought that as long as classes would exist, art and science would sustain and support the ruling classes, whereas only in a classless society a complete spiritual development free of all influences would be possible. The classless society could only come through the dictatorship of the proletariat. Magritte subscribed to these theories.

Magritte continued to state in his speech that although many found these ideas to be Utopian, he – Magritte - consciously desired the proletarian revolution that would transform the world. However, while waiting for the destruction of the current mediocre reality, each person had to defend himself with the means he had. Nature had endowed Man with the state of dreams that could give to his body and spirit the freedom it needed so dearly. Dreams especially could protect people by creating for the impatient and the weak the madness that protected them from the suffocating atmosphere of a world shaped by centuries of idolatry of money and gods[B6]. We find here already the main themes of Magritte's paintings: the world of dreams and love, and of isolation.

For Magritte, Surrealism would bring to humanity a method and a spiritual orientation to investigate domains that one chose to ignore and to despise, but that really could interest Man directly. Surrealism claimed for awakened, alert life, a liberty comparable to the life of dreams. He referred to the founders of Surrealism. André Breton, the French poet and writer, called on that liberty. And Giorgio di Chirico had

found in the juxtaposition of unrelated objects a new triumphant poetry. This was the new vision that broke with established mental habits of traditional artists, prisoners of the talents and virtuosities of their small aesthetical specialities. In this new vision, said Magritte, the spectator finds his isolation and hears the silence of the world.

For Magritte, Surrealism was the art by which man freed himself of a world that human reason could no longer explain, the world of fascism and bourgeoisie values, a world that was chaotic and full of fears and contradictions.

Somebody showed Magritte a catalogue of Futuristic painting in 1915, when he was seventeen, and he started to paint in that Futuristic style, and also in the Cubist way. Magritte thus put into question the relations between an object, its real form and its apparent form, as the Cubists had done. He looked for the plastic equivalents of what objects essentially were. The painted image very vividly suggested, as opposed to what we see in real life, an abstract existence. But Magritte told that he found in the appearance of the real world itself the same abstraction as in his pictures, because notwithstanding the complicated combinations of the details and nuances of a real landscape, he could see the landscape as if it were only a screen put before his eyes. So, he became very uncertain about the depths of the countryside and very little persuaded by the distance of the blue of a horizon.

Look at the painting "The Human Condition". The frame holds a landscape. The canvas is flat. It is a screen. Behind the canvas is another, a real landscape. This landscape is the real three-dimensional one, but that landscape perfectly continues on the canvas. And of course, in contradiction and to extraordinary effect: both these landscapes are one-dimensional in Magritte's painting itself.

This feeling of landscape as a flat screen was not new for painters. The French impressionists like Seurat had equally seen the world this way, when they decomposed the colours of objects. Magritte had to animate this new world that, although in movement, had no depth whatsoever, and had lost all consistency. He thought then that the objects themselves had eloquently to reveal their own existence, and he sought how to make manifest this reality.

Magritte's previous experiences of painting having led to an abstract representation of the world, the abstraction became unnecessary from the moment on he had understood that this abstraction still and also identically characterised the real world[B6]. His attempts to show the essentials, the evidence of an object, were neutralised by the abstract image that served to represent the object. This conclusion meant for Magritte that abstraction of objects, that abstract art, was not enough anymore to represent the essentials of objects. He needed another way of representing the real sense of an object.
Magritte continued then to explain that by giving the objects in his pictures all their details of reality, he could again go beyond the plane of merely bringing reality into image, and put into question the real world. So, in 1925 he decided to only paint objects with all their apparent details.

From 1925 to 1926 Magritte painted about sixty paintings in which he objectively presented the objects in a detached way. He painted the sky blue, as a sky in our mind should be. He painted picturesque details. The picturesque charm was evident, as long

as it was not traditional. Its charm was in the unexpected, in the novelty of a strange ordering of objects[B6]. For Magritte, picturesque could be efficient, under the condition that it be situated in a new order and in certain new circumstances. Magritte applied the picturesque, but in an equivocal way. He showed objects where they usually are not expected.

Now, putting objects together in unusual circumstances was also not a very new method in painting. Even traditional painters had used the technique, made small allusions by juxtaposing objects so that they told a story or conveyed a special meaning. Magritte made this technique much more obvious. He wanted to make familiar objects cry out. They had to be put in an entirely different order and obtain an overwhelming new meaning.
To illustrate this, we can refer to a picture called "The secret Player". In this picture, wooden table legs stand as trees and form a forest; branches are growing out of their crowns. A form like a turtle flies in the airs like an angel. A player is holding the bat that has just struck a ball, or so we are made to believe, because there is no ball to be seen. The player that ought to catch the ball is behind the striker and both look in the same direction, the direction the ball has gone. Is there an invisible player outside the frame? Is there a ball? Our mind implies there is. For Magritte, this is the art of showing the invisible. In the midst of the forest stands a house, more only a cubicle. A woman stands at the window, but she or he has a strong beard. Strange combinations.

Once Magritte had an inspiration of such a strange image he dwelled on it, analysed it, and represented it in different ways. Remember how important he found analysis. And new ideas are almost automatically generated out of a first one, the sense of psychic automatism also being an appreciated theme of Surrealism.

Magritte said he had looked in the previous years, from 1926 to 1936, to consciously introduce overwhelming poetic effects, and that he could obtain this effect by showing objects of the real world.
One of the means to obtain these effects is the change of scenery for the objects, for instance putting a Louis-Philippe style table on pack ice. Magritte advised to use very familiar objects in order to give the estrangement its maximum efficiency[B6]. In the picture "The Voice of the Airs", a very familiar object, so small that we hardly give any importance to it in our daily life, the small horse bell, comes floating in the air. Another trick is the creation of new objects by the transformation of existing ones, for instance by changing its substance.

Magritte continued to denominate the effects he used. He especially used words associated to images in uncommon ways. He gave objects wrong names. The titles of his paintings were more poetic phrases than explanations of meaning. They prevented to situate the pictures in the familiar reasoning of thought. There were all kinds of relations between objects and words, Magritte said: an object does not so much depend on its name that it would not be possible to name it otherwise; there are objects that do not need a name, an object encounters its name on the painting; a word can take the place of an object; sometimes words written on a painting designate a precise thing, whereas an image may designate something only vaguely, and so on! Magritte liked thus playing with words and objects, one of the rare painters in history having linked image and word directly.

Magritte made a painting called "The Key to Dreams". The painting shows some objects, a bag, a knife, a leaf, and a sponge. Under the bag is written "Sky", under the knife "Bird", under the leave "Table", and under the sponge "Sponge". Magritte said that this painting induced serious meditation. He wondered whether this was a list of things by which some of the objects are represented by their image and the other by their names. The painting is a melody, the music of which would be made of objects, and wherein the words would remain words. Is it a deliberate poetic machination functioning by the errors of naming, or a revolt against speech? We are here at the limits of understanding, and confronted with the basic difference between word and object. An object is not a word, a word not the object. Magritte would paint a pipe or an apple and write under it "This is not a pipe"; "This is not an apple". Right he was.

Magritte further told that he represented in his pictures visions of half-sleep half-wakening. All that, so that objects would become sensational and would establish a profound contact between consciousness and the exterior world [B6]. He once saw a cage and a bird asleep in the cage. He imagined the bird gone and replaced by an egg. The cage and egg had no link, yet they could bring to light a new, particular aspect: the egg could become a bird, and the bird could normally be in the cage [B6]. He investigated these directions. He had three elements: the object, something that could be linked to that object in his subconscience, and the sudden light in which this something had to come forward. A door could have a large gap that showed what was behind the door. Magritte painted this idea. See also the painting "The Human Condition". The scene represented on the painting hides exactly the same landscape behind. Does it? Remember what Magritte told earlier: that a landscape became for him merely a scene; this idea also is represented in the picture. We see the world: we see the real world exterior to ourselves, and yet we only have a representation inside us.

Magritte represented a tree by its leaves, but by just one huge leaf. He painted huge leaf forests, something like Mondriaan had done in "Flowering Apple Tree". In his painting "The Wonders of Nature", another metamorphosis has happened: people have half changed into fish and thus have become sea creatures. Yet: can these navigate in clipper ships? Light has only meaning on an object, so only the object can give life to light. Magritte made several paintings with candles and light on objects.

Magritte then continued to explain some of his analysis on familiar things we encounter in everyday life, and how he transformed them into astonishing pictures. He handled rain, which became clouds ramping on the ground. He took the idea of a horse and changed a woman into a horse; a hand showing forward direction with its index finger replaced a horse's head. A horse was painted running on top of a car, and so on.

Magritte concluded by saying that the current world, so full of contradictions and chaos, was continued because of the complex and ingenious explanations that justified it and made it acceptable to most men [B6]. These explanations took into account certain experiences. But these experiences were devised, and not the result of an analysis of the real situation. He said that future society would develop experiences that would be the fruit of a serious, profound analysis.

The speech "The Line of Life" was given in 1938. Magritte continued to experiment during and after the Second World War. He even introduced traditional picturesque elements again, for a time. Magritte also introduced Man, in the form of a dark-suited man wearing a bowler-hat. Man became an object in itself that could be floating in the sky, usually turning his back without a face, sometimes with Botticelli's nymphs on the back, with an apple in front of the face, sometimes with the texture of the sea or of a landscape painted on him. Magritte was not running out of tricks, but the idea behind his paintings had been proven enough now.

What to think of Magritte's paintings and of his ideas? He certainly lived in his time, when so many new ideas and experiments were sought as a hope for too dreadful reality. His paintings can only be understood - as he said himself in "The Line of Life" - by his era. His anger is understandable in view of the horrors of the wars and the hypocrisies of the period during the wars. Revolted he was; revolutionary, no not really. Magritte never went to fight in the International Brigade of Spain, as did Ernest Hemingway. He was acclaimed in ambitious exhibitions in Europe and the United States by the same middle and higher bourgeois classes he denied. Revolution remained most often limited to words. Sometimes also, we cannot but suspect that Magritte's life was devoted to tricks, to the application of certain simple mechanics in pictorial representation. But Magritte would be outraged at that: he believed profoundly in his tricks.

And yet, René Magritte was a great painter. He was an excellent artisan and a great poet. His paintings do make us reflect profoundly on reality and dreams and on the twilight zone between both. They establish a strong link, strong communication between picture and viewer. His pictures do make us wonder, do make us look at reality otherwise. And many of his paintings are endowed with real poetic breath.

Developments in abstract art

In the second half of the twentieth century abstract art was explored further in very different ways, trends and schools. We give a short overview of these developments.

Abstract Expressionism

Abstract Expressionism is a form of abstract art that evolved in the United States in the 1940s. Alfred H. Barr already called compositions of Wassily Kandinsky abstract expressionism in 1929; the name may have been given first by the American critic Richard Coates, then popularised by Clement Greenberg. New York artists mainly founded the style, which reached its apogee in the 1950s. It was much influenced by Hans Hoffmann's art school in New York.

Abstract Expressionism was a reaction on Cubism and Surrealism. Abstract Expressionism proposed the liberation of the spirit, a heightened consciousness of the state of society. The art drew attention on the isolation of humans in modern society, and on the transitoriness and instability of modern relations. Abstract Expressionism was a flight from the realities of everyday life. Liberation meant soft lines, obscure shapes, and automatism in creation.

American Abstract Expressionism, also called "Action Painting" in its first phases, made works painted on large canvases in powerful strokes. Action painting was a name given more to a technique than to a style of painting. The word emphasised that the action of painting, the fluent or other movements of the painter determined the result. Mostly Jackson Pollock and followers used this technique. Paint was sometimes thrown or dripped on the canvas (Jackson Pollock). The creativity of the artist had to come from the subconscience, so that the technique was considered as important as the result. Thu, emphasis was for some artists on the drip and splatter techniques of throwing paint on the panels. This led to the creation of very rhythmic and of course abstract compositions. Not all work was totally abstract however.

Painters of this style were Philip Guston, Hans Hofmann, Franz Kline, Willem De Kooning, Robert Motherwell, Barnett Newman, Jackson Pollock, Rothko, Clifford Still, William Baziotes, Bradley Walker Tomlin, Adolph Gottlieb, Robert Motherwell, Richard Pounette Dark, and Arshile Gorky.

European Post-war Abstraction

By this name we call the European artists that worked right after World War II. These painters were developing new styles in abstraction, and they were mainly in search for new trends. They worked more on expression in colours than using strict geometric forms, and in that they resemble the American Abstract Expressionists.

These painters were Wols (Otto Wolfgang Schulze), Jean Fautré, Jean Dubuffet, Nicolas de Staël, Jean-Paul Riopelle, Antoni Tàpies and Alberto Burri. The painters evolved to a later evolution called "Art Informel".

Crude Art

The "Compagnie de l'Art Brut" was founded in Paris in 1948, initially to manage a collection of works gathered at the Galerie Drouin. Founding members were Jean

Dubuffet (1901-1985) and Michel Tapié (1909-1987). Jean Dubuffet gave the name "Art Brut" to objects produced by children, the naïve and primitive, the psychotic, untouched by the artistic culture. Dubuffet exhibited these works first in the Galerie Drouin.

Colourfield Painting

The painters of this movement showed large areas of colours, usually in dark tones but in contrasting hues. Colourfield painting was a late development of abstract expressionism, and some of the painters of this movement are sometimes indicated by the name of "colour painting".
Mark Rothko, Clifford Still and Barnett Newman are sometimes indicated by this style.

Post-Painterly Abstraction

Post-Painterly Abstraction was a reaction to abstract expressionism in that its painters reacted against some of the underlying mysticism viewed in Mark Rothko and Barnett Newman's pictures. It was a United States movement. The American critic Clement Greenberg gave this name in 1964; it was also the title of an exhibition held that year by Greenberg in the Los Angeles County Museum of Art.
The artists used colour for its optical effects alone. The painters applied vivid, clear colours, brought in thin layers on the canvas, so that the texture of underlying medium was still perceived. They often used acrylic paints and stained or soaked the canvas with this, instead of bringing thick layers of oil paint in their pictures. This was a very formalist art that appealed more to the intellect than to the evocation of emotions as the preceding Abstract Expressionism.
Artists were Helen Frankenthaler, Morris Louis, Kenneth Noland and Richard Diebenkorn.

Informal Art

Informal Art was an art form defined in France and called "Art Informel". "Informel" in French should be read and understood in the sense of being "without form". It was founded in the late 1940s.
These artists tried to find a new way to build images without representing recognisable and figurative forms. They discovered this new art by improvisation.
The French critic Michel Tapié may have used the term "art informel" from around 1951.
Paris was the centre of the movement that contained both figurative and abstract artists in a great variety of works. Informal Art emphasised colours as its artists evolved from Post-War Abstraction of France. Like the American Abstract Expressionists, the artists emphasised the gesture of painting. The artists reacted on the logical, calculated pictures of the geometric abstract artists and looked at the Surrealist images to express inner emotions in new ways. Paint could be deposited in blots on the canvas. Blots are called in French "des taches", so the movement was also called "Tachism". A few painters even took up calligraphy in this style.
Painters of this style were Alberto Burri, Jean Dubuffet, Jean Fautrier, Hans Hartung, Pierre Soulages, Nicolas De Staël, and Antoni Tàpies.

Minimalism

Minimalism was a trend in painting, and even mainly in sculpture, that developed primarily in the United States in the 1960s and 1970s. It may be considered as a sub movement of Post-Painterly Abstraction, and it is more a way of painting applied in various movements than a categorisation in time and schools of artists. The American philosopher Richard Wollheim used the term since 1965.
Minimalist art was art reduced to the minimum in pure abstract representation. Minimalist art delivered forms devoid of all expression. Minimalists worked on geometrical figures, on variations of simple shapes.
Art was a form by which the mind could impose the rational order on things. For Minimalists art was not self-expression. Their art was often monochrome, assembled from a close repetition of colour surfaces. It was predominantly horizontal or vertical, and it showed repetitive, very simple geometrical patterns without any specific meaning.
Since sharply delineated areas were shown on the panels, this kind of painting is also sometimes called "Hard Edge", although this term is more general and does not necessarily name a particular school or group in art history.
Minimal art was a reaction to the Abstract Expressionism that had dominated North American art in the 1950s.
Minimalist painters and sculptors were Don Judd, Dan Flavin, Ad Reinhardt, Agnes Martin, Carl Andre, Elsworth Kelly, and Frank Stella.

Op Art

This was an abstract art tendency of the 1960s. Op Art's first international exhibition was held in 1965, in New York, and called the "Responsive Eye" exhibition. Op Art is the abbreviation of "Optical Art". Op art artists exploited the fallacies of the human eye by provoking special effects in patterns of colours and lines. The patterns exploited optical illusions.
Op Art provoked illusory images and sensations in the spectator. The patterns sometimes could create impressions of movement. Op Art was a very formal abstract art. A group that was fascinated by the optical effects of light was also the German group centred on Düsseldorf and called the "Zen" Group, founded in 1957.
Op Art painters were Bridget Riley, Joseph Albers, Victor Vasarely, and Julian Stanczak. Zen artists were Heinz Mack, Günther Uecker and Otto Piene.

Cobra

Cobra was the name of a group of European artists from **Co**penhagen, **Br**ussels and **A**msterdam, founded in 1948. The group lasted till 1951. Cobra artists proposed the free expression of the subconscience in the visual arts. They used improvisation, thick layers of paint and pure colours in a mostly abstract art. Their work excelled in vitality and power.
Cobra artists were Karel Appel, Christian Dotremont, Asger Jorn and Pierre Alechinsky.

German Expressivity: "Spur, Wir, Geflechte"

The most important post-war German group of painters was the group "Spur" founded in 1958 in Munich by Lothar Fischer, Heimrad Prem, Helmut Sturm and HP Zimmer. Another member was Gustav Kluge.
These artists painted abstract works and were much influenced by Asger Jorn of Cobra. They opposed the consumer society and made abstract paintings in mostly violent colours and violent brushstrokes.
In 1959, another group was founded in Munich, the group "Wir", around Hans-Matthäus Bachmeyer. In 1965 Spur and Wir merged into the group "Geflechte", which was disbanded in 1967. In 1965 also, the "Kollektiv Herzogstrasse" of expressive figuration was formed, a group that lasted until 1982.

Art and Language

This was a movement of abstract art founded in 1968 by four English artists: Terry Atkinson (b. 1939), Michael Baldwin (b. 1945), David Bainbridge and Harold Hurrell. Their journal was published in Coventry. Michael Baldwin and Mel Ramsden (b.1944) signed paintings with the name "Art&Language". Art and Language proposed theoretical models and created with these a new conceptual art. Art&Language was part of the larger art movement called 'Conceptual Art', whose main manifestations were however in sculpture.

Mostly very clear lines were used in these abstract developments. Even in Abstract Expressionism and in Cobra, movements that emphasised very much colour areas or the drip technique, lines nevertheless remained important.

In certain newer abstract art forms such as Minimalism, the attention for form and composition was dominant. In most developments however, form was completely free. This did not mean that form was chaotic or left to chance. Even in Abstract Expressionism and stronger in all other forms of new abstract art, great attention was given to balance, harmony, contrast and the emotions induced by strict form. Minimalism and Op Art were very formalistic art forms; the other were less formalistic.

All these art forms gave much attention to colour. All colour hues could be used, contrasting or not. The psychological effects of colour were much exploited by the Abstract Expressionists.

These tendencies were abstract art, so subject matter lacked. Common in the various abstract art forms was lack of representation of objects, lack of subject matter. Volume and space were not emphasised in the majority of the movements. Optical Art however exploited also very many spatial illusions, without using the traditional means of perspective.

The newer developments in abstract art exploited the myriad, endless possible combination of abstract forms and patterns thereof. This art was a further evolution of the same principle that the first abstract painters had pioneered.

Autumn Rhythm

Jackson Pollock (1912-1956). The Metropolitan Museum of Art. New York. 1950.

The paintings that I present in this chapter date all from after the Second World War, but most of its painters were at a mature age right after the war. These men were still braced with both feet in the tradition of the early abstracts, and even in the tradition of figurative painting of the previous centuries. All developed a new and particular vision of abstract art, and each of them was an original artist. Although their art is surprising, for many of these painters the references and links with the past were stronger than one might suspect at first view.

Of all the artists we present here, Jackson Pollock was the most iconoclastic. He started to paint in a figurative fashion, for he was first inclined to symbolism. But just after World War II he turned to abstract painting. He invented a peculiar technique that has been called "action painting" since.
Pollock placed his canvases on the ground instead of putting them on an easel. Then, he simply threw and dripped paint on the canvas. He had sometimes to walk over the linen. Pollock would work further on the painting at some places with sticks or knives. He would put thick layers of paint in other places. He generally used soft, harmonious colours. This was light brown as background in "Autumn Rhythm", and for the rest he threw white and black splashes of paint on the canvas. His canvases were very large, and he could leave that space as a picture or choose the part he liked best, and cut that out of the larger canvas. He sometimes simply cut the canvas in two and framed both parts as separate pictures.

"Autumn Rhythm" dates from 1950. By then, Pollock's technique was mature and completely tried out. He had reached assurance, and mastered his technique fully. The painting was made by throwing long streams of paint over the canvas. Pollock did this in a rhythmical fashion, in the same rhythmical movements of arms and hands, so that a dynamic wave seems to be created over the canvas that consists of almost repetitive patterns of lines and dots. When throwing the paint, the brushes dripped. The drips fell also in the middle of the picture but disappeared there under the streaks of paint. The drips remained visible towards the borders of the frame, and they formed there a kind of natural ending of the lines. The result was not at all a random picture, created purely by chance. The picture has a feeling of having been wanted to be the way it is, in one repeating movement of patterns of lines and dots.

Pollock said that the splashes of paint and the picture as a whole were the result of an inner need. The technique was his way of expression, and the result of a precise balancing of the patterns and painted zones. A painting like "Autumn Rhythm" also contains effects of depth and hence of three-dimensional space. Pollock first painted a uniform light yellow-brown background. Then he dripped white paint on that ground. He worked on that paint. Then he put a layer of black lines and dots. These several successive layers create a surprising feeling of depth.

Jackson Pollock's drip paintings were not so violent anymore as some of his earlier paintings, which showed harshly contrasting colours. It seems as if Pollock's creative energy was channelled by his very active way of working to a calmness of mind that

was visible in his painting. The waves and patterns became elegant and still. The patterns were not unlike the complex patterns of branches of bushes, so had some reminiscence to natural patterns. Therefore, Pollock's paintings appeal to viewers in a natural and immediate manner, appealing to inner knowledge and recognition.

Richard P. Taylor examined Jackson Pollock's paintings to determine their degree of complexity. Taylor and two colleagues with computer expertise, Adam Micolich and David Jonas, used computers and scanning techniques (Fractal Analysis of Pollock's Drip paintings – R. P. Taylor, A. P. Micolich and D. Jonas in *Nature* Vol. 339, page 422, June 3 1999). They separated Pollock's paintings into their colour patterns and they looked at how patterns evolved as Pollock added layers of colours. They covered the painting with matrices of equal squares, and analysed the patterns by looking and counting which squares were occupied with paint and which were not, at ever finer magnification. Interestingly, they found the pattern to be fractal.

Fractal geometry is a concept developed by Benoit Mandelbrot in the 1970s. Mandelbrot studied complexity. "Fractal" means "broken", to indicate the irregular nature of geometric patterns. Fractals have a feature called self-similarity, meaning that the patterns are similar however detailed one looks or describes the generated forms, at whatever magnification. Self-similarity can be mathematically exact, each detail having exactly the same pattern as the whole. The pattern can also statistically repeat however, which happens most in nature.

Fractals can be characterised by a number, a parameter, termed "dimension", which is a degree of complexity. This number takes on a value between 1 and 2. The fractal number indicates a kind of ordering within the complexity, a degree of ordering that remains the same at higher levels of detail and at lower levels. An example of a fractal number equal to 1 is a straight line in an area. At fractal 2 the area is entirely filled with paint, evenly coloured. At D=1 the pattern is very simple; complexity rises as the value of D augments to reach D=2.

The fractal value of most of Pollock's patterns is between D=1.5 and D=1.7. Very early pictures of Pollock had a low D value, whereas Pollock discarded a painting with a very high value of D. He gradually painted pictures with higher fractal value, but remained between the two mentioned values of complexity.

Richard Taylor worked with a psychologist to find that people were most at ease at midrange values of D, and that people express preferences for D values between D=1.3 and D=1.5. Pollock's patterns are at the highest of these values. So, Pollock's patterns are less relaxing than what viewers would normally expect but Jackson Pollock may have reached a degree of complexity that was still tolerable to viewers, yet dense and stimulating enough to heighten the attention of viewers.

Although the paintings of Jackson Pollock resemble sheer chaos, there seems to be a self-repeating pattern in the various layers of detail in his paintings, which resemble indeed the basic processes of nature. This feature is unique to Pollock; Taylor, Micolich and Jonas found that imitators of Pollock's style did not expose fractal repetition. The fractality of Pollock's paintings is a unique feature by which his paintings can be compared to copies or frauds.

Sometimes it's the Opposite

Pierre Alechinsky (1927 -). Musée d'Art Moderne. Brussels. 1970.

At the same time as Pollock a Belgian painter worked also in fluent waves and preferred curved lines and bright colours to strict, straight geometrical forms of the early abstract painters. This was Pierre Alechinsky, born in 1927 of Russian descent. At the end of 1948 three artists with similar ideas on colour and line formed a group called COBRA. The name stood for the towns these artists worked in. Asger Jorn worked in Copenhagen, Pierre Alechinsky in Brussels and Karel Appel in Amsterdam.

Alechinsky painted flowing bands of bright colours, with patterns that sometimes vaguely remind of figurative, organic forms. Pollock splashed relatively narrow bands on the canvas but Alechinsky brought broad undulating waves in his pictures. Like with Pollock, these lively patterns appeal at first glance to centres of our mind that vibrate in tune with the rhythms and the colours of the paintings. Alechinsky used thin paint, evenly spread on the surface. He carefully designed friezes around his pictures or in the length of one or more borders of the frame. These delimited the space within which the work of art was created. The result looks like a sophisticated decoration.

In Pierre Alechinsky's painting, the viewer may try to recognise objects or figures, but that effort remains mostly vain, as the forms merely remind the viewer of purified basic forms he or she has met in nature. The real forms shown have no clear resemblance to anything real.

In Alechinsky's "Sometimes it's the Opposite", we find a frieze of organic forms that remind of flowers, of animals and even of parts of the human body. Above the frieze are playful round forms on a green and blue background. The green could represent meadows and the blue a lake. Vaguely, a human form can then be thought to plunge into the water, whereas animals and other figures play in the grass. But none of these forms are really recognisable so that they remain only abstract patterns.

Alechinsky's picture dates from 1970, but the painter repeated this kind of depiction endlessly since the beginning of the post-war period. Jackson Pollock created intuitively spontaneity, a certain joy, and a primeval lyric that induce kind emotions in viewers. Pollock and Alechinsky refused to be driven by logical intellect, hence their images of undulating bands and lines.

Jackson Pollock and Pierre Alechinsky are both "phase 1" painters. They attract viewers by their lines and colours. They puzzle and surprise by the originality of their work. After the immediate impression, there is not much further to explore, and more discovery is also not required on the viewer. The repeating patterns, oscillations, undulations, which also slightly change and modify from area to area, challenge immediately the viewer's feelings and his or her sense of recognition of the patterns. These overwhelm the viewer, and the viewer is soon lost in the waves. Then the viewer is caught in admiration of the whole. Despite all the apparent energy, the repetitions create calm, quiet pictures.

Dark over Brown

Mark Rothko (1903-1970). Musée National d'Art Moderne. Centre Pompidou. Paris. 1963.

The other paintings I present here are developments of abstraction of an altogether different nature. Here, the intellect of the artists was definitely at work, if only in the first inspiration, to ordered creation.
A work of transition is Mark Rothko's "Dark over Brown". Rothko only painted coloured rectangles, so one might say that his art was pure and intellectual. But his rectangles are not really well delineated. They have a feeling of texture and of fluidity over them, as their borders are not clear lines but seem to flow into the paint next to them. The rectangles were superfluous concepts for Rothko. We have to see them more as separate spaces that move in slow transition one into the other. Rothko expresses this concept in colours only.

In Mark Rothko's painting "Dark over Brown", we are looking at a very gloomy, sad picture of dark tones. The middle coloured part only emphasises the more sombre background. This part is caught between two dark brown surfaces. The dark middle is situated as if forced between the two iron heads of an anvil. This effect generates much tension in the picture. The borders of the middle space hang somewhat over the brown ones, as if the space were a soft matter that is squeezed out.
Thus, with very frugal means Rothko made a work full of tension, of powers at work that position space to space, and whereby these spaces seem to struggle against each other. Rothko arrived at a picture of forces between colours representing separate spaces. There is a silent, dumb, muted tension in the painting, and that is also made visible by the fact that the middle part is also somewhat longer than the other areas, as if it were forced out between the other areas. Rothko's painting has in common with the preceding paintings that it is an expression of emotions, and that it was made to create at first sight strong reactions in the viewer.

Cathedra

Barnett Newman (1905-1970). Stedelijk Museum. Amsterdam.1951.

Quite close to Mark Rothko's style of painting was another North-American artist, Barnett Newman. Less than Rothko's art however, his paintings seem to be based on the expression of emotions. The painting "Cathedra' consists of a uniformly painted blue frame in which no gradations of hues disturb the surface. One single vertical line, a small vertical lathe, divides the blue area. The line has a different colour. It is drawn in white and in bright tone. Newman's series is sometimes called "zip painting", and Newman himself used that term to indicate the vertical lathes. Newman made many paintings in which vertical, coloured lines separate other coloured fields

The zips divide the surface into separate fields that can be independently viewed. Many conjectures exist on the meaning of the lines and the divided planes. The zip might represent a repetition of the vertical borders of the frame, thus forming pictures

within pictures. Each field could be a painting by itself, so that the zips of the overall painting form other individual paintings. The zips might represent an opening into a space that lies behind the blue space of the painting as a whole; thus they open voids into the space of the picture. The viewer experiences a sense of the infinity lieing behind each painting. What was the intention of the painter in the first place: was it to create the zip, or was it to create the blue fields? What was actually painted: the separate blue fields separated by the zip, or one blue rectangle and the white zip painted on top? The zips are important, because they separate the space of the canvas into parts, so they create the fields of the painting. But one can also state that the zips are not important, because what are important are the various fields that needed to be created by the painter. The zips exist only by the grace of the different blue rectangles that are juxtaposed.

Barnett Newman wrote in 1962 about the importance of the sense for space in his abstract pictures as follows, "I don't manipulate or play with space. I declare it. It is by my declaration that my paintings become full. All of my paintings have a top and a bottom. They are never divided; nor are they confined or restricted; nor do they jump out of their size. Since childhood I have always been aware of space as a space-dome." And also, "Anyone standing in front of my paintings must feel the vertical domelike vaults encompass him to awaken an awareness of his being alive in the sensation of complete space." [G86.]

Newman sometimes gave titles from Christian religion to pictures of his series, in order to call mystical images to the mind of the viewers. His zip paintings seem to invite more mystical feelings than Mark Rothko's do. Newman's series of paintings hanging one next to the other induce to all viewers feelings of eternity and of transcendence, of the attraction and the fear of man confronted with the immense void of the universe. Newman himself once said that his paintings have more to do with the notion of time than with the notion of space.

Barnett Newman's paintings however are more cold, distant, non-committing than Mark Rothko's work, of which the silent passion is felt by viewers almost as being a reproach, and a muted complaint.

Study to Homage to the Square: Blue Depth

Josef Albers (1888-1976). Modern Art Collection of the Gemeentemuseum. The Hague. 1961.

Another painter who made paintings based on rectangles and squares was Josef Albers. Albers was a German of origin, but he immigrated to the United States and taught much there. He made a series of paintings called "Homage to the Square", which were as many studies and experiments in effects of colours. The "Homage to the Square" pictures of Albers can be used to make other painters and viewers feel the relative psychological value of warmth, coldness, closeness or distance of colours. It is one of the legacies of the teacher Josef Albers to his students of colour effects.

In the painting "Blue Depth", a bright, warm, red square forms the background. Successive squares are placed above this background, so that the viewer sees a

succession of borders with a blue square in the middle. Actually, there is only one square in the painting but for the frame itself, and that is the centre blue part. But the viewer sees more than the borders, and he or she supposes that successive squares have been painted one on top of the other. The viewer at one time sees the squares superimposed in his mind.

Red is a very warm colour that comes out to the viewer, and seeks closeness to the viewer. Blue generates a feeling of distance. Therefore, the viewer sees an optical effect of deepening space, as if the blue square is situated further behind than the largest red border. The succession of borders of ever-colder colours enhances this effect. Moreover, the borders are larger at the top of the painting than at the bottom. This is an effect a viewer would experience when he or she enters a high room painted in the colours of the painting. The viewer then also would see the bands larger at the top and lower beneath. This creates a strong feeling of perspective in the viewer, and thus of space and depth.

This is of course all a very intellectual, logical explanation of an optical phenomenon. Albers was not expressing particular emotions in his paintings. We see only an interesting optical effect and that effect is the whole goal of the picture. Only Albers however, was the first artist who emphasised so obviously the optical effects of colours, and therefore a viewer can be interested in his work.
Albers' work is entirely devoid of emotions, and does not arouse particular feelings in viewers. His work is hence very different from Pollock and Rothko's work. The work of Albers is aimed at surprise, at the pure demonstration of optical effects. That was the simple message conveyed by his work.

Developments in figurative art

In the second half of the twentieth century also, new developments in figurative art emerged. These were strongly influenced by abstract art and by Surrealism in their complete freedom of representation. Categorisation of the newest figurative art tendencies is very difficult since the distance of time lacks in the process of discrimination of important works. The coagulation of seemingly disparate works into main trends is not yet clear.
Contemporary art is very diverse. It combines many elements of previous styles, as these styles have now been thoroughly analysed, and art historians' views have matured. Definite opinions on art styles have been published and popularised, so that modern artists know well the history of art and have absorbed the past styles.
Freedom of expression, combination of the most diverse elements of form, and combination even of various media are some of the most obvious characteristics of contemporary art. A synthesis is all the more difficult to make because individual artists have adhered to several movements as they experimented and grew in their art. Contemporary art is best described with the words of experiment and freedom in all elements of the form of painting. An overview of this art will therefore necessarily be a long list of many movements and trends. We describe briefly the most important of these trends.

New Realism

After World War II, Abstract Expressionism was the main art style in the United States of America. In Europe, various styles of realism co-existed with other styles. Painters of the New Realism were still socially engaged.
French painters were Fernand Léger (1881-1955), André Fougeron (b. 1913) and others. This movement led to a Parisian school called "Nouveau Réalisme".
Artists of the United Kingdom that applied this style were Evelyn Dunbar (1906-1960), Meredith Frampton (1894-1984), Laura Knight (1877-1970), the Euston Road School (among whom Willian Coldstream (1908-1987) and Victor Passmore (b.1908)).
In the United States, painters of this style were Leon Kosoff (b.1926), Frank Auerbach (b.1931), Edward Middleditch (b. 1923) and others.
In Italy worked in this way Renato Guttuso (1911-1987), Giuseppe Polzà de Volpedo, Alberto Giacometti and others.

Pop Art

Pop Art is the abbreviation of "Popular Art". The British critic Lawrence Alloway used the term for the first time. The Institute of Contemporary Art in London then took up the term for works of Richard Hamilton, Eduardo Paolozzi, Peter Blake, David Hockney, Peter Philips, Allen Jones and Ronald B. Kitaj.
The trend was founded in the 1950s in the United States and in Great Britain.

Painters of Pop Art were in the United States: Roy Lichtenstein, Tom Wesselman, Claes Oldenburg, James Rosenquist, Robert Rauschenberg, Andy Warhol, Jasper Johns, Jim Dime, Rober Indiana, Stuart Davis, and Raymond Hains.
In Germany worked Sigmar Polke and Gerhard Richter.
Pop artists got their inspiration from images of the mid-twentieth century consumption society, and from popular sources. Ugliness was turned into beauty. The artist did not create, but chose. Art was in the discrimination of objects. Objects of art were typical, banal, every-day. The Pop artists also sought inspiration in comic strips, in publicity, and in mass production. The art works were to be popular, short-lived, and cheap in cost, young, sexy, witty, gimmicky, glamorous, and yet spiritual. Photography techniques were often used, as well as collages and assemblage of common objects or images. Pop Art had no emotional commitment to the subject matter that was represented.

"Nouveau Réalisme" and « Figuration Narrative"

In France the Pop-Art movement of the 1960s was called "Nouveau Réalisme" and "Figuration Narrative". Its artists were Gérard Fromanger, Jacques Monory, Jacques de la Villeglé and Bernard Rancillac among others. The artists Arman, François Dufrêne, Daniel Spoerri, Jean Tinguely and Jacques De la Villeglé founded "Nouveau Réalisme" in 1960, together with the critic Pierre Restany who was their spokesman and who wrote their manifesto.
Other artists were Yves Klein, César, Gérard Duchamps, Mimmo Rotella, and Nikki de Saint-Phalle. These artists proposed even more complete realism in their art. They showed less images and more real objects. They dealt directly with reality, and for instance tore off advertising posters from public places, which they proposed then as works of art.
The "Nouveaux Réalistes"' represented reality as "perceived in itself, not through conceptual or imaginative transcription".

Conceptual Art

In this art form, the concept of the artist was more important than his technical skill. The French artist Marcel Duchamp may have founded the art form around 1917. The Californian artist Edward Kienholz originally gave it its name in the 1960s.
Conceptual art grew in the 1960s to an international phenomenon of great variety. It ended around 1974-1975.
The American group consisted of Robert Barry, Douglas Huebler and Joseph Kosuth among others. It was founded in 1965 and promoted by the publisher Seth Siegeloub. The English group was called "Art and Language". It was founded in 1968. Terry Atkinson, David Bainbridge, Michael Baldwin, and Harold Hursell were part of this group.
In Conceptual Art, ideas or concepts could be conveyed not just in pictures but also in the arrangement of objects, such as the pictures themselves. Conceptual art thus lacked a coherent style. Practically all means were allowed and also applied. Its main basis remained the concern with meaning, and with the content matter as a means by itself. Conceptual art was often polemical. This art remained cool, and rarely moving to emotions. It helped to revitalise art by humour and irony.

The emphasis in this kind of concepts was more on the making of designs and on the idea of the project than on the objects and the arrangements, and thus this art trend broke with the traditional views on art.
Painters and sculptors of Conceptual Art were Daniel Buren, and Bruce Nauman, On Kawara, Bill Viola, Kemth, and Richard Long, Christo and Jeanne-Claude.

Land art

Land art was mainly a tendency in sculpture. It can be considered as a sub-movement of the more general Conceptual Art stream. American and British artists like Richard Long (painting) and Tony Cragg (sculpture) placed in the early 1970s various materials and objects in landscapes. They either imitated landscapes or used natural landscape as part of their work. Landscape could be an integral part of the work of Conceptual Art, such as in Long's structure or in "Environmental Art" of Christo. Christo enveloped architectures in white canvas, or placed large numbers of the same objects in a real landscape.

Postmodernism

This form of art began in 1977 with the publication of Charles Junks' "The Language of Post-Modern Architecture". Postmodernism sought to replace Minimalism in design. Postmodernism is the name given to the arts of the 1970s and 1980s. Postmodernists challenged Minimalist beliefs in the separation of representation and reality. They emphasised the specificity of the artist's position and his subjectivity towards objects and art.
Issues of identity were crucial in this art. Identity took many forms: national identity, sexual, feminist, gay, environmentalist, and ethnic. The pictures often were provocative. These became central forces in the development of Postmodernism. Postmodernism was driven for a great part by the Feminist and Gay (AIDS) activism of the 1970s. Examples of the most well known groups were ACT-UP, the "Aids Coalition to Unleash Power" of New York, founded in 1987, the "Guerilla Girls" of 1985, also in new York, and the Feminist lesbians of "Kiss and Tell" of Vancouver. Graffiti art can be considered also as belonging to this trend.
Painters of Postmodernism were Julian Schnabel, David Salle, Keith Haring, Jean-Michel Basquiat, Jack Pierson, Lyle Ashton Harris, and David Wojnarowicz.

Neo-Expressionists

This was a group of German artists working from the middle of the 1960's. They applied a violent technique to representations mostly of the human figure. They took a few ordinary subjects and reduced these in paintings to a few harsh lines and very contrasting colours. Georg Baselitz even inverted his human figures so that they became tortured objects.
Painters of this movement were Georg Baselitz, Lucian Freud, Jörg Immersdorf, Anselm Kieffer, Markus Lüpertz, A.R. Penck, and Sigmar Polke. Other painters and sculptors of this movement were Joseph Beuys, Marcel Broodthaers (Brussels) and Gérard Garouste (Paris).

Arte Povera

The Italian critic Germano Celant (b. 1940) founded "Arte Povera" in 1967. The movement lasted from 1967 to about 1972.
Painters and other artists were Giovanni Anselmo, Mario Merz, Giuseppe Penone, Alighiero Boetti, Jaunis Kounellis, Pino Pascali, Giulio Paolini, Pier Paolo Calzolari, Michelangelo Pistoletto, Gilberto Zorio and Luciano Fabito.
Celant referred with the name "Arte Povera" to the "Poor Theatre" of the Polish director Grotowski, who reduced language for gesture in his theatre. He emphasised mime and simple gestures.
For Arte Povera, ordinary objects were heightened to the status of art. These artists gave much attention to matter and materials, especially new materials such as marble, glass, and neon lighting, and they often combined media like photography and painting. They contrasted amorphous, weak materials (bags of wool) with strong and geometric materials (iron). Their works looked ephemeral. Arte Povera thus also emphasised the concepts in their creations.

Arte Cifra

Arte Cifra was an Italian reaction on Arte Povera and on Conceptual Art that came to be born in the 1970's. Young Italian artists made a very individual, abstract and figuratif art that was encrypted, "keyed". Arte Cifra was an eclectic synthesis of former art forms that dared to delve as well into classic art history as in folk art and comic strips. Painters were Francesco Clemente, Enzo Cucchi, and Mimmo Paladino. The Italian critic Achille Bonito Oliva called this group of painters (and others) by the name "Transavanguardia" or Transavantgarde, but besides Paladino, Clemente and Cucchi also Georg Baselitz, Markus Lüpertz, Anselm Kiefer and Sigmar Polke could be counted in this broad definition.

Hyperrealism

This was a style of mainly North American artists. The painters imitated photography in their paintings so that their style is also sometimes called Photorealism. They took very modern subjects like urban scenes, aeroplanes or warships as subject and painted these very realistically in all detail, in crisp lines and clear hues.
Painters were Malcolm Morley (b. 1931), Robert Cottingham (b.1935), Robert Bechsle (b. 1932), Richard Estes (b. 1932), Alex Katz (b. 1927), Chuck Clare, Thomas Struth and others.

Neo-Academicism

Neo-Academicism is a very young tendency in art that started only after the 1990s. It is a global tendency that rallies artists from many countries at the same time. Its two most dynamically innovating centres are probably St Petersburg and Rome.
In St Petersburg, Timur Novikov gave new directions in the Novia Akademia.
In Italy, several schools belong to this movement. Bonito Oliva brought a group called "Transavanguarda Italiana" together in 1979 already, whereas in Rome a group called "Anacronista" was founded.
But also United States artists, Belgian and Dutch and even Chinese painters can be counted to this art tendency. Neo-Academist painters propose a return to classical themes, symbols and images but they use the classical themes in newer ways that

refer to modern technology and modern society. The artists refuse the "ready-made", and look again to the old concepts of harmony and beauty in a return to higher cultural values. They inherited of Postmodernism its sensuality, and its antagonistic or sarcastic ways of viewing society.

Painters are Evert Thielen and Micha Klein (Netherlands), Zhao Bandi, Wei Dong and Zeng Hao (China), Antonella Cappuccio, Paola Gandolfi, Bruno Civitico, Carlo Maria Mariani, Wainer Vaccari, Stefano di Stasio and Bruno d'Arcevia (Italy), Genia Chef, Judy Chicago, Alfred Russel, Katherine Doyle, and Alan Feltus (United States), Georgy Gurjanov, Oleg Maslov, Olga Tobreluts, Victor Kuznetsov, Timur Novikov, Bella Matveeva, Vitali Komar and Alexander Melamid (Russia), Stephen Mc Kenna (England), Barbara and Michael Leisgen (Germany), Odd Nerdrum (Norway), Jan Deconynck and Wouter Deruytter (Belgium) and many other.

Mostly very clear lines are used in these developments, but meaning remained completely free, meaning that it could also be very academic and strict. Great attention is given to balance, harmony, contrast and the emotions induced by strict form

All these art forms gave much attention to colour. All colour hues can be used, contrasting or not.

These tendencies are characterised by a great variety of content, but mostly directed towards the individual object or to landscapes. Devotional images, genre, classic scenes of several figures are seldom used. Rarely more than a one or two figures are painted. Titles and phrases can be inserted in the picture.

Volume and space is not sought in the majority of schools, but applied when necessary for the subject. The art forms do not particularly experiment in perspective or the formation of illusions of volume, space and depth.

These tendencies may be seen as counter-weight movements to abstract art in the twentieth century. More than ever before, the new media (photography, film, video, etc.) are exploited, and the specificity of painting and sculpture and any of the new media become more and more blurred. In expression, these modern art forms return to clear lines and forms but also to absolute freedom in composition and content. The trends of Postmodernism stress specific situations of society such as the minorities and the sexual differences.

Untitled (Joan Crawford says …)

James Rosenquist (1933 -). Museum Ludwig. Köln. 1964.

The artists of all the paintings that we present here are painters of contemporary art. All works represent more or less the tendencies of contemporary art, but all works are very individualistic, and should be considered in the first place as representing the artists, and only in a few aspects the art trends into which the artists are categorised.

In 1957, Richard Hamilton wrote a letter in which he stated that Pop Art was "popular (designed for a mass audience), transient (short term solution), expendable (easily forgotten), low cost, mass produced, young (aimed at youth), witty, sexy, gimmicky, glamorous and big business".
Many of these features can be seen in James Rosenquist's "Joan Crawford says". Joan Crawford was a famous actress of Hollywood and posters with her figure were well known in the 1960s. Rosenquist's oil painting shows part of one of those posters that you could see in any street cinema of the sixties. It was certainly witty, glamorous, low cost, and even sexy by its subject. Pictures like this need not to be analysed for its style elements, though they can. Our first impression is of a nice, readily made image that makes any viewer smile and feel happy. It is a witty picture showing us with all the presence of the moment a piece of reality, and that alone makes it interesting and unforgettable art.
So, Hamilton was wrong in at least two points. This kind of art is definitely neither transient nor expendable, even if it was designed to be so. Pop Art has proven particularly strong as an art form, and regularly elements and features of Pop have re-surfaced in the last years of the twentieth century.

James Rosenquist was a North American artist who made viewers see elements of everyday life with insistence, in another way than the spectators were frequently used to see reality. He showed the reality to which we passed by regularly, looking without seeing. Thus, he forced the viewer to take conscience of his or her life with a presence that resembles the teachings of oriental philosophies. These philosophies also insist on the present moment and on heightened awareness of reality.
Rosenquist returned to an old adage of the fourteenth century, to the "carpe diem" or "pick the day", to the awareness of all the humble things, such as cinema posters, of our lives. Moreover we usually only look at parts of those objects, as parts suffice to identify them, and we are not even interested in the whole picture. James Rosenquist also only painted part of the poster. The painter showed something quite impersonal, an object – here an actress – who is the possession of every cinemagoer in the world. Yet, by putting the image in oil painting, it acquired something of the magic and respectability of true art.
Rosenquist tells that art is to be found everywhere, suffice it to see and not just to look. The image is just of a movie actress, but Richard Hamilton also once stated in 1961 that "It is the Playboy 'Playmate of the month' pull-out pin-up which provides us with the closest contemporary equivalent to the odalisque in painting". [G86.] Rosenquist realised that modern odalisque.

James Rosenquist was born in 1933. He was still young when he made this picture. It does remind us of the fact that Rosenquist worked in advertising. He created publicity panels as a young man. He was a billboard painter. After 1960, he became one of the great representatives of New York Pop Art, together with Andy Warhol, Robert Rauschenberg and Tom Wesselman, who were somewhat older than he was.

Telephone Boots

Richard Estes (1936 -). Museo Thyssen-Bornemisza. Madrid. 1967.

When Pop Art was essentially funny, other painters took some of their accents very serious. Pop Art looked at reality with an insistent view, and even in this view at common objects. The Hyperrealists of the 1960's were mainly North American and New York artists, who took reality as the absolute subject of their paintings. Pop artists always looked in a funny way at reality, with a smile and a wink, but Hyperrealists swore with reality, as it existed, naked and real. Maybe the Hyperrealist painters were impressed with the new media of photography and of the moving pictures. They tried to use the same means, that is a direct observation, and they had an impeccable technique of rendering reality in all detail, as if indeed a photo had been taken. Of course, these artists also knew that, in order to show reality in an interesting and original way, reality has to be twisted somewhat. And so they did.

Richard Estes was a great artist in that the reality he showed was always interesting and surprising. Thus, "Telephone Boots" surprises by the repetition of its vertical patterns. We have written earlier in this book about the qualities of vertical lines and here these vertical lines are even enforced by connecting short horizontal lines. We wrote about the qualities of harmony of repetition. These elements form the essence of Estes' painting.

There are two realities in Estes' picture. There is the inside reality of the booths on a corner of a New York street, and there is the outside reality reflected on the metal doors. Estes worked the combination of these two realities into a surprising image. In the reality of the booths people are present. But they turn their backs to the viewer. That makes of this picture a cool, cold work that gives an impression of loneliness and distance. The cold purity of the glass and the reflecting metal of the doors enhance this effect, as anything that reflects or is transparent is impersonal and cold since it does not absorb anything. Richard Estes shows our contemporary world, but not with impartiality. He also explains and maybe reproaches us for having made the world so impersonal. He reproduced reality into the smallest detail like a camera would have done. And indeed, a camera could have produced a representation like this. It would have been sufficient for a photographer to have the same artistic eye as Richard Estes. But Estes had the advantage of being able to represent a reality as could have been difficult to find and fix in the moment. Estes had all the time to think and assemble reality.

The painterly technique and skill of Estes was astonishing. But the art form of Hyperrealism, however interesting, did not win from photography. Few painters could bring themselves to the same patience and skill as Richard Estes to paint pictures of Hyperrealism. Few painters followed Estes' example and tried to beat photography at its own game.

While these developments of Pop Art and of Hyperrealism were going on in England and the United States of America, individual painters of Europe were combining style elements derived from Abstract art and from Cubism with the brutal expression of the Expressionists from before World War I. Many European painters had not yet coped with all the horrors of the World Wars. They did not put their full hope in the new

industrial society. They looked at the continuance of ideas like of Communism and Existentialism.

Shout No. 7

Antonio Saura (1930-1998). Museo Nacional Centro de Arte Reina Sofia. Madrid. 1959.

A Spanish painter started somewhat before 1960 to make a series of expressive paintings that took as theme the very old icon of Spanish religious art. Antonio Saura, born in 1930, had been very much impressed in his youth by the Spanish Tenebrist paintings of the Crucifixion. During his teens, the Spanish Civil War had waged, and afterwards had come another five years of war in Europe so that in most of Saura's childhood he had suffered and known war.
Saura painted contorted images of Christ hanging on the Cross in quick and black strokes, not unlike the way Georges Rouault had drawn. The artist aimed to express his own fears and doubts in mute and powerless frustration, as Francisco de Goya had done.
Saura's "Shout No. 7" is a remarkable cry, in many respects not unlike Pablo Picasso's "Guernica".

Antonio Saura made a picture of violent, broad lines that are as many rapid sweeps of a brush on the canvas. The paint of the black strokes dripped down in places, like blood drips from a wounded animal. We see a white canvas, and on that space only black and grey lines. A picture that is more expressive of horror and absurdity is difficult to find. If this is a representation of a body, then the face is like a snout of a ferocious dragon. The arms are far outstretched in a furious movement. The legs and feet are shown as claws. Saura's emotions while making this picture must have been violent, sudden, energetic, and the emotions must have been filled with frustration and protest.

There are two brushstrokes or knife-strokes in this painting, one series in black and the other in grey colour. These strokes are intertwined. Saura explained that they were "a Crucifixion and a female nude mixed, with arms raised to the sky in desperate supplication". Saura's art lies halfway between abstraction and figuration, and of course very Expressionist. These were images of the new European Expressionists of the second half of the twentieth century.

Saura's work is evidently an expression of violent inner feelings. Yet there is a strong balance in the energy shown here, as the directions of the arms and legs are fixed along the diagonals of the frame. That again shows a figure torn to pieces by violence. The tension and passion in this picture is very Spanish.

Dusk in the little Cup

Mario Merz (1925 -). Museo Nacional Centro de Arte Reina Sofia. Madrid. 1979.

Art in Europe towards the end of the twentieth century was very diversified.
The North American scene was clearer. There were the sixties of Pop Art and after
that Abstract art reigned. Pop Art has been something of a new Baroque outburst and
Pop Art lingered on. But North American art became more limpid, logical, rational, in
Minimalism and Conceptual art.
In Europe existed various art movements, and each individual artist was almost a
movement by himself or herself. In Italy, at the end of the sixties and the beginning of
the seventies, the artists gathered around ideas and vague theories that were derived
from Pop Art. Centred on Turin, Milan and Rome, artists turned away from Pop and
from pure geometrical abstraction to use all kinds of new themes, in all directions.
This group proposed originality in art once again, as Pop had reached maturity and
did not rally new ideas anymore. It was called Arte Povera for "Poor Art".

The style of Arte Povera defies definition. It was mostly an art of sculptures, even
though the word 'sculpture' may be hard to apply to the constructions of the group.
The placing of the work of art was as important as the object itself. As its name
indicated, "poor" materials were employed, often used materials, and non-industrial
thus artisan materials but that did not always mean low-cost substances. A few artists
tried to blend sculpture and painting. One of the artists who did that was Mario Merz.

Mario Merz was from Milan, where he was born in 1925. He first sculpted or
assembled sculptures, then painted. At one period Merz built igloos in museums. He
would need a large hall, darken it and hang here and there on the ceiling and walls
gleaming tubes of light representing numbers. He would place an igloo in the room,
built of small, filled sacks of cloth. The sacks were stacked in layers, according to a
precise number series, the series of Fibonacci. On the igloo, Merz would implant
lighted neon tubes with the Fibonacci numbers.
Mario Merz built his Fibonacci series of sculptures and paintings to indicate in a
novel way old mathematical and art principles. The Fibonacci series of numbers were
supposed to be the ultimate proportions of harmony of nature so that Gothic and
Renaissance artists used them in painting and in architecture. The Fibonacci series is
also found in the proportions of the spiralling houses of certain water snails. So, here
was a strange series of numbers that linked geometrical, mathematical and natural
phenomena.

The painting "Dusk in a little Cup" of Mario Merz shows the image of a drinking cup
with a dark interior. Merz used acrylic paint on canvas but the figures 1, 2, 3, 5 of the
Fibonacci series are realised in light tubes that emit blue light under electric power.
The painting thus combines old, traditional elements such as paint and canvas with the
new media of the fluorescent tubes, as used in many Op-Art (optical art) sculptures.
The tubes are only used, however, to represent the few first numbers of the Fibonacci
series, whereas the series continues written down on the canvas beneath the light
tubes. The diameter and the height of the cup are in the same Fibonacci or "golden
mean" proportions. As the numbers descend into the cup, they seem to enlighten the
darkness at the bottom. The viewer may feel himself or herself to be at the bottom of
the cup in the darkness. The magical numbers seem to enlighten our minds, as given
or as representing a message of divine inspiration. The Fibonacci numbers thus also

grow out of the dark of our mind and ascend to the heavens, since they are the product of our mind. This could mean a meagre understanding of the divine or of the rules of nature. As in all Arte Povera, we see here few means, and a puzzling picture at first impression; There is little to discover further, but a serious explanation of the concept and idea as proposed by the artist. Knowledge of this idea and knowledge of the character of Mario Merz is necessary to grasp the painter's meaning, to understand his work and maybe to be interested in the same idea. Thus, Arte Povera works opened up common life experiences of viewers to astonishing ideas.

Head Rack

Carlo Maria Mariani (1931-). Carlo Maria Mariani and Carol Lane. 1990.

The last painting I propose to look at is made in one of the newest, contemporary style of creation.
Carlo Maria Mariani's picture represents a rack on which we see several sculptures of heads of classical antiquity. There is also a hand holding a painter's brush and a skull adorned with laurels. The picture is a surprising view. The rack and the sculptures are painted with considerable skill in a very realistic way. The various forms of the rack and the heads are not easy to paint or to draw, and yet the shadows are diligently shown on them. The picture could have been a photograph. The general feelings that this painting evokes are of distance, of a lifeless scene, of a quiet universe that exists in a strange dream world. The soft colours of white and faint yellow with only a patch of grey-blue enforce the feeling of coldness, of non-commitment. The picture makes one think of remnants of an ancient civilisation. We pass by this painting, experience the impression of a void, admire briefly the painterly skill, and we might walk on.

All realistic details are shown of the objects. The rack has a conical form, thus shows a pyramid structure as could not be more traditional in painterly composition. But the rack has fine elongated forms, and the viewer can see the background through the lathes. Thus, the viewer sees through the object to open space, much as in Pietro Perugino's pictures he or she could view through open temple structures. This definitely creates a strong feeling of depth and space, even if there is no far landscape behind to show perspective. The heads on the rack all have aspiring, longing expressions, expressions of silent pain and sadness, as of remembrance of times past. The heads have all closed eyes, so they are inwardly directed. Each head is closed unto itself. All these elements enhance in the viewer emotions of exclusion and of distance.
Only cold and subdued colours are used. The heads are planted in a seemingly random way, but there is an ascending line from right to left in them, a repetition of forms that leads upwards, to space also. These directions added to the strongly aspiring shape of the rack evoke emotions of spirituality.
Mariani combined two elements of content, which when combined always inspire emotions of coldness. He used a very inanimate object, the rack, dominating the image and yet he painted heads, references to organic life on the rack. Life is impaled, killed and stuck on the rack in a cruel view, so that the viewer is indeed astonished, maybe even feels aversion, and thus stays to look at this picture, puzzled and caught in the surprise.

The idea represented by the picture is pregnant with symbolism and with profound reflections on art, shown in just a few elements. This painting is so cleverly constructed, that it may well become one of the masterpieces that epitomise our contemporary art. This is a painting on which history will look with kindness, and that will be represented over and over again in art history texts.

The picture represents a rack. Mariani did not show this element by chance. The simple and common kitchen utensil is already a well-known symbol of art. It was one of the very symbols of Pop Art.
Marcel Duchamp proposed in the 1950's that art was foremost the making of a choice. So he took everyday objects, such as a bottle rack, and tore it out of its familiar environment – the kitchen or the cellar – to be exhibited in the sacred halls of museums. The ready-made object, worth a few dollars, was thus placed in museum rooms worth millions of dollars. The amateurs of art and the intellectual elite of society passed by it and admired it there. Duchamp had by his choice elevated a common object to the higher status of art. Carlo
Maria Mariani took the bottle-rack, now known by every art historian and amateur of art, and thus one of the main images of Pop Art as the basis of his painting. We expect bottles or hats on the rack, but Mariani planted sculptures of heads on the spikes. The heads are classical sculptures, painted in the nicest academic way of classic ideal. The heads are of Greek or Roman sculptures. Mariani referenced Pop Art as an art style that did away with the classic ideals of beauty and that introduced the ready-made in an ironic way.

The images present however the idealised beauty, the sublime in art that was pursued by the Renaissance artists when they re-discovered the Roman and Greek sculptures deeply buried in their grounds. These heads are so harmonious that they cannot but be admired by viewers and impress in viewers a feeling of timeliness and of higher aspirations, and of spirituality. Mariani shows a strange, alien, cold world of an unknown universe, as the rack floats in space without any reference to earthly landscape in the background.
This is a picture that transcends our physical world. Mariani's picture is thus much in the same view as of his giant predecessor in Italian art, Giorgio de Chirico. Look at the paintings of de Chirico, and you will remark the similarities of atmosphere. De Chirico's style of representation has been called Meta-Physical art, and Carlo Maria Mariani's picture seems only to continue de Chirico's great tradition, which had affinities with the current of Surrealism in Europe. Pop Art, Surrealism, Pittura Metafysica are all combined styles in Mariani's painting.

There is also a hand holding a long, stylised brush, below on the rack. Here is the irony of the symbol of the art of painting. The hand is magnificently drawn, and it is the only object painted in a different colour than the rest of the picture. The hand is the hand of a painter, yet the hand doesn't pain but is painted itself. Moreover, the hand is in the coldest dead blue whereas a warm, pink hand would have been at work. René Magritte could not have imagined a more astonishing symbol of self-reference. The head rack and the heads are sculptures, and so is the hand, but we are not looking at a sculpture but at a painting. The painting only represents the illusion of volume. So the hand is a failure, a fraud, since it is the hand of a painter and a painter always will

always fail at creating three-dimensional shapes. Therefore, the hand is incomplete, a failure in itself.

The hand is bound to a skull. The skull wears the laurels of a Roman Emperor. The sculptures higher up could be Roman heads, once beautiful, haughty and noble citizens of the great City of Rome. But the heads are impaled and they are the images of suffering humans, long since dead. The heads have turned into skulls. So the classical beauty that we as viewers have admired so often in the solemn, pure, marble statues of Roman dignitaries, philosophers, emperors and generals, is a only a memory. The memories can be handled with disrespect since they are reality finished and done with. The Roman heads are but an illusion, as is a painting made by a hand. Behind the images of classic beauty, which might have affected our first impressions, we find now biting irony. Carlo Maria Mariani mixed Pop Art with classical images, detailed realism with irony, organic and mineral matter to a meta-physical representation. He reflects on art history, and makes us think of what art is about.

The name we give to this art is again contemporary Neo-Classicism, or in the line of the name of the contemporary school of art founded in Saint Petersburg, Neo-Academicism. Carlo Maria Mariani's painting has indeed all the characteristics of a Neo-Classicist style. It is a serene, quiet picture with few dramatic showing of emotions. There is not much ornament. The presentation is simple, direct and frugal. The picture radiates feelings of solemnity, and of dignity. It represents a very moral idea in its references to the passing of time, and to the eternal failure of painters. It has an epic breadth in the Roman sculptures impaled on a common object but anyhow so arranged as to give an aspiring view. So the "Head Rack" is a very classicist picture as it contains many design elements of Neo-Classicism.

The "Head Rack" adds by its messages and references to previous funny art styles biting irony, and it communicates a deranging message. There is no confusion in the images, but the picture poses a strong question. The picture seems to state that art has come at a crossroads once more. Pop art is still very much with us. It is an art form of our contemporary times, even if it has evolved in strange ramifications. We have a longing for certainties in our lives and for new ideologies, now that all ideologies have proved to be failures. Religion and Communism both seem not to have provided the definite answer to the question of how to live that the youths of the twenty-first century are eagerly seeking answers for. Our forefathers could have strong convictions, now all is relative; life hangs in the void on an absurd frame. Carlo Maria Mariani expresses the longing. The longing is for a new art too, which may be Classicism, but Mariani tells with irony that we are not there yet. Mariani does provide parts of the answer as he points to Classicism, but the content of his picture contradicts the means.

Carlo Maria Mariani shows the future in a very viable contemporary art. He blends art styles. He is very capable of that because of his erudition. Now is definitely the time for reflection on our society, on the society that we will live in for the next decades. Now is the time to gather energies for a next great leap; in the past similar periods have occurred. Classicism then always at first appeared in art. This was partly so during the Renaissance, partly in the Classicism that was contemporary to early Baroque, and this also happened during the Neo-Classicist period in France of the beginning of the nineteenth century. Early German Nazism and Russian Communism,

periods in which hopes were adamant even if the hopes later turned to horror, knew classicist tendencies in art. Each time out of these periods grew extremely fertile art periods. The Classicist periods were very fertile in art also, and art historians would claim that Classicist art was decadent art. Yet, Classicist art was always strong.

Most painters know well in our times the elements of design, and how the elements of design were varied and combined in the historical art styles. Painters have at their disposal the very best sources in literature and in the museum of the world to know as never before what evolutions of style in the art of painting have passed in the many previous centuries. We analysed in this book many elements of design. Schools of painters have tried to express beauty in merely one or in just a few of these elements. Thereby they usually rejected works painted by previous schools that preferred other elements of their form of art. After all these experiments, the time has come to recognise that all the elements of the form of the art of painting can be used, and that the more of the means are used that are naturally, by the medium itself, at the disposal of the artist, the better, the clearer the artists' message can be conveyed. This is the main message of the Neo-Academicism. Contemporary Neo-Academicism builds and combines all that knowledge, and constructs a synthesis. Painters have at their disposal the very best sources in literature and in the museums of the world to know as never before what evolutions of style in the art of painting have happened and what these taught in the many previous centuries.

We analysed in our lessons many elements of design. Schools of painters have tried to express beauty in merely one or in just a few of these elements. Thereby, they usually rejected works painted by previous schools that preferred other elements of their form of art. After all these experiments, the time has come to recognise that all the elements of the form of the art of painting can be used, and that the more of the means are used that are naturally, by the medium itself, at the disposal of the artist, the better, the clearer the artists' message can be conveyed. This is the main message of the Neo-Academicism.

I have the impression that Neo-Academicism prepares us for a next leap in art production as it forces artists to reflection. It states the need for an entirely new art form that will not be Classicism, but an art style as yet not defined.

That is a very optimistic, hopeful and positive note to end on, Artemisia, so dear! Our contemporary art is not decadent, very much alive, surprising and truly interesting, and what is more, its artists are definitely preparing us for the next great leap. Hopefully that will be a leap of peace and love. I have only shown you paintings from Western Europe and from Northern America. Please learn to know also the art of the other continents. There are wonderful developments going on in the art of the world, and though the subject is so vast, there are surprises to be had in this art.
Let your heart be a world-heart that loves as well South-American and African, Asian and Australian paintings!

Paintings of 'Educating Arte'

1. Antonio Canale called Canaletto (1697 – 1768). Venice. The Grand Canal from Campo San Vio towards the Bacino. The Royal Collection. London, around 1730.

2. Rogier Van Der Weyden (ca. 1399 – 1464) workshop. Triptych of the Seven Sacraments. Koninklijk Museum voor Schone Kunsten. Antwerpen. Fifteenth century.

3. George Stubbs (1724 – 1806). Soldiers of the Tenth Light Dragoons. The Royal Collection. London. Around 1793.

4. Vladimir Baranoff-Rossiné (1888 – 1942). Adam and Eve. Collection Carmen Thyssen-Bornemisza. Museo Thyssen-Bornemisza. Madrid.1912.

5. Frantisek Kupka (1871-1957). Study for the Language of Verticals. Museo Thyssen-Bornemisza. Madrid. 1911.

6. Marcel Broodthaers (1924 – 1976). Un coup de dés jamais n'abolira le hasard. Image. Museum voor Moderne Kunst. Koninklijke Musea voor Schone Kunsten. Brussels. 1969.

7. Jacob van Ruisdael (1628 – 1682). View on Haarlem. Rijksmuseum. Amsterdam. Around 1670.

8. Gino Severini (1883-1966). Landscape in Civray. Private Collection Rau. Germany. 1909.

9. Sir John Everett Millais (1829-1896). Christ in the House of his Parents. The Tate Gallery. London. 1850.

10. Piet Mondriaan (1872 – 1944). Table III (Composition in oval). Stedelijk Museum. Amsterdam. 1914.

11. Piet Mondriaan (1872 – 1944). Composition with red, black, blue, yellow and grey. Stedelijk Museum. Amsterdam. 1928.

12. Hubert (1365 – 1426) and Jan van Eyck (1390 – 1441). The Three Maries at the Open Sepulchre. Museum Boymans-van Beuningen. Rotterdam. Around, but after 1430.

13. Paul Signac (1863 – 1935). Cassis, Cap Lombard. Gemeentemuseum. The Hague. 1889.

14. Michelangelo Merisi called Caravaggio (1571 - 1610). Christ at the Column. Musée des Beaux-Arts. Rouen. Around 1606.

15. Pieter Paul Rubens (1577-1640). The Deposition from the Cross. Cathedral of Our Lady. Antwerp

16. Kasimir Malevich (1878 – 1935). Supremus Nr 50. Stedelijk Museum Amsterdam. 1915.

17. Eliezer Lissitzky (1890 – 1941). Crack! All is shattered! From "A Story of two Squares". Van Abbe Museum. Eindhoven. 1920.

18. Peder Balke (1804 – 1887). Stetind in Fog. Nasjonalgalleriet. Oslo. 1864.

19. Natalia Gontcharova (1881 – 1962). The Forest. Museo Thyssen-Bornemisza. Madrid. 1973.

20. Ludwig Meidner (1884 – 1966). The Corner House. Museo Thyssen-Bornemisza. Madrid. 1913.

21. Wyndham Lewis (1882 – 1957). Workshop. The Tate Gallery. London. Around 1914-1915.

22. Edvard Munch (1863 – 1944). The Scream. Nasjonalgalleriet. Oslo. 1893.

23. Giorgio de Chirico (1888 – 1978). Meta-physical Interior with Hand of David. Collection of the Foundation Giorgio and Isa de Chirico. Rome. 1968.

24. Jean-Paul Laurens (1838-1921). The Excommunication of Robert the Pious. Musée d'Orsay. Paris. 1875.

25. Jacopo Pontormo (1494 – 1557). Joseph in Egypt. The National Gallery. London.

26. Sandro Botticelli (1445 – 1510). The Annunciation of the Castello Church. Gallerie degli Uffizi. Florence. Around 1489.

27. Joan Miró (1893-1983). La Danza de las Amapolas. Museo Nacional Centra de Arte Reina Sofia. Madrid. 1973.

28. The Book of Kells. Folio 34r, Christi autem generatio. Trinity College. Dublin. Probably 9th century

29. Pierre Alechinsky (1927 -). Sometimes it's the Opposite. Musée d'Art Moderne. Brussels. 1970.

30. Sébastien Bourdon (1616 – 1671). The Martyrdom of Saint Andrew. Musée des Augustins. Toulouse.

31. Hyacinthe Rigaud (1659 – 1743). Louis XIV, King of France. Le Louvre. Paris. 1701.

32. Morris Louis (1912 – 1962). Alpha-Phi. The Tate Gallery. London. 1961

33. Sandro Botticelli (1445 – 1510). Altarpiece of Saint Barnaba. Gallerie degli Uffizi. Florence.

34. Wassily Kandinsky (1866-1944). Ernst-Spass (Seriousness-Pleasure). Pinakothek der Moderne. Munich. 1930.

35. Mario Merz (1925 -). Dusk in the little Cup. Museo Nacional Centro de Arte Reina Sofia. Madrid. 1979.

36. Piero della Francesca (1410/1420 – 1492). The Baptism of Christ. The National Gallery. London. Ca. 1460.

37. Nicolas Poussin (1594-1665). The Adoration of the Golden Calf. The National Gallery. London.

38. Eugène Delacroix (1798-1863). Arab Horses fighting in a Stable. Le Musée d'Orsay. Paris. 1860.

39. The Parable of the Blind. Pieter Bruegel the Elder (ca. 1527/1528 – 1569). Museo e Gallerie Nazionali di Capodimonte. Naples. 1568

40. Luigi Russolo (1885 – 1947). Dynamism of an Automobile. Musée National d'Art Moderne. Centre Pompidou. Paris. 1911.

41. Jean-Baptiste Siméon Chardin (1699 – 1779). The Copper Fountain. Musée du Louvre. Paris. 1733

42. Giorgio de Chirico (1888 – 1978). Il Pensatore. The Giorgio and Isa de Chirico Foundation. Rome. 1973.

43. René Magritte (1898-1967). The Dispute of the Universals. Musée National d'Art Moderne, Centre Pompidou. Paris. 1928

44. Christian Dotremont (1922 – 1979). Logogrammes. Musée Communal d'Ixelles. Brussels. 1978.

45. Wassily Kandinsky (1866-1944). Yellow – Red – Blue. Musée National d'Art Moderne, Centre Pompidou. Paris. 1925.

46. Bartolomé Esteban Murillo (1617-1682). The Virgin and Child with Saint Rosalina of Palermo. Museo Thyssen-Bornemisza. Madrid. Around 1670.

47. Maria Elena Vieira da Silva (1908-1992). The Theatre of Gérard Philippe. Le Musée d'Unterlinden. Colmar. 1975.

48. Mark Rothko (1903-1970). Red on Maroon. The Tate Gallery. London. 1959.

49. Barnett Newman (1905-1970). Cathedra. Stedelijk Museum. Amsterdam. 1951.

50. Josef Albers (1888-1978). Study for Homage to the Square; Beaming. The Tate Gallery. London. 1963

51. Mark Rothko (1903-1970). Dark over Brown Nr. 14. Musée National d'Art Moderne. Paris. 1963.

52. Gerhard Richter (1932 -). 1024 Colours Nr 350/3. Musée National d'Art Moderne, Centre Pompidou. Paris. 1973.

53. Tiziano Vecellio (1488/1490-1576). Pietà. Galleria dell' Academia - Venice. 1576.

54. Harmensz Rembrandt van Rijn (1606-1669). The Man with the Golden Helmet. Staatliche Museen Preussischer Kulturbesitz, Gemäldegalerie. Berlin. Around 1650-1655.

55. Georges Seurat (1859-1891). Bathers at Asnières. National Gallery. London 1883-1884.

56. Michelangelo Buonarroti (1465-1564). The Dream of Human Life. The Courtauld Institute Galleries. London. Around 1533.

57. Juan Manuel Díaz Caneja (1905-1988). Landscape. Museo Nacional Centro de Arte Reina Sofia. Madrid. 1962.

58. Gustav Klimt (1862-1918). The Pear Tree. The Bush-Reisinger Museum. Harvard University. Cambridge (MA). 1903.

59. Henri-Edmond Cross (1836- 1910). Ambiance of Evening. Musée d'Orsay. Paris. 1893-1894.

60. Tiziano Vecellio (ca. 1488-1576). Flora. The Louvre. Paris.

61. Georges Seurat (1859-1891). 'Un Dimanche après-midi à l'Ile de la Grande Jatte'. The Art Institute of Chicago. Helen Birch Bartlett Memorial Collection. Chicago. 1884-1886.

62. Pierre-Auguste Renoir (1841-1919). La Balançoire. Musée d'Orsay. Paris. 1876.

63. Michelangelo Buonarroti (1475-1564). The Holy family with the infant Saint John the Baptist (Doni Tondo). Gallerie degli Uffizi. Florence. 1506.

64. The Adoration of the Shepherds. Gerard van Honthorst (1590-1656). The Wallraf-Richartz Museum. Köln. 1622.

65. Michelangelo Merisi called Caravaggio (1571-1610). The Basket of Fruit. Pinacoteca Ambrosiana. Milan. Around 1594 to 1598.

66. Gerrit Berckheyde (1638-1698). The Large Square of Haarlem. Le Musée d'Art Ancien. Brussels.

67. Giovanni Paolo Panini (1691-1765). The Pool at Bethesda. Thyssen-Bornemisza Collection. The Villahermosa Palace. Madrid. Ca. 1724.

68. Salvador Dali (1904-1989). Christ of Saint John of the Cross. The Glasgow Art Gallery. Glasgow. 1951.

69. Cornelis Norbertus Gijsbrechts (ca. 1610-1678). Trompe l'oeil Painting. A Letter Rack. Statens Museum for Kunst. Copenhagen. 1668.

70. Francisco de Goya y Lucientes (1746 -1828). Time, or the old Ladies. Palais des Beaux-Arts. Lille. Ca. 1808-1812.

71. The Ark of Noah. Abbey of Saint Savin**.** Around 1050.

72. Madonna of Santa Trinita. Cenni di Pepi called Cimabue (ca. 1240-1302). Galleria degli Uffizi - Florence. 1280.

73. Madonna Rucellai. Duccio di Buoninsegna (ca.1255-1319). Galleria degli Uffizi - Florence. 1285.

74. Madonna of Ognissanti. Giotto di Bondone (ca. 1267-1337). Galleria degli Uffizi - Florence. 1310.

75. The Madonna of Glatz. The Master of the Madonna of Glatz. Gemäldegalerie, Staatliche Museen Preussischer Kulturbesitz. Berlin. 1343-1344.

76. Sandro Botticelli (ca. 1445-1510). The Madonna of the Magnificat. The Uffizi. Florence. Around 1487.

77. Giovanni Battista di Jacopo called Rosso Fiorentino (1494-1540). Pietà. Musée du Louvre. Paris. Around 1530-1535.

78. Pieter Paul Rubens (1577-1640). The Descent from the Cross. The Courtauld Institute and Art Galleries. London. 1611.

79. Michelangelo Merisi called Il Caravaggio (1570-1610). The Entombment. Pinacoteca. The Vatican. Rome. 1604.

80. The Descent from the Cross. Harmensz Rembrandt van Rijn (1606-1669). Bayerische Staatsgemäldesammlungen. Munich. Around 1633.

81. Still life with Parrots. Jan Davidsz. De Heem (1606-1684). The John and Marble Ringling Museum of Art. Sarasota, Florida USA. Late 1640s.

82. François Boucher (1703-1770). Venus and Amor. Staatliche Museen Preussischer Kulturbesitz Gemäldegalerie. Berlin. 1742.

83. Jean Honoré Fragonard (1732-1806). The Lock. Musée du Louvre – Paris. 1778.

84. Annibale Carracci (1560-1609). Christ appears to Peter on the Via Appia. The National Gallery – London. 1601-1602.

85. Jacques-Louis David (1749-1825). The Rapt of the Sabine Women. Musée du Louvre. Paris. 1799.

86. Johann Christian Dahl (1788-1857). View from Stalheim on Naerdalen. The National Gallery. Oslo. 1842.

87. Johann Christian Dahl (1788-1857). View of Fortundalen. The National Gallery. Oslo. 1836.

88. Gyula Benczúr (1844-1920). The Recapture of Buda Castle in 1686. The Hungarian National Gallery, Magyar Nemzeti Galéria. Budapest. 1885-1896.

89. The Virgin ascends the mountain. Joseph Führich (1800-1876). Österreichische Galerie Belvedere. Vienna. 1841.

90. John Everett Millais (1829 -1896). The Blind Girl. The Birmingham City Museum and Art Gallery. Birmingham. 1856.

91. Charles Degroux (1825-1870). The Pilgrimage to Saint Guidon at Anderlecht. Musées Royaux des Beaux-Arts - Brussels. 1857.

92. Camille Pissarro (1830-1903). Hoar Frost. Musée d'Orsay. Paris. 1873.

93. Odilon Redon (1840-1916). Apollo's Chariot. Musée d'Orsay. Paris. 1905-1914.

94. Gustav Klimt (1862-1918). Portrait of Adèle Bloch-Bauer I. Österreichische Galerie. Vienna. 1907.

95. Kees van Dongen (1877-1968). A Parisian from Montmartre. Musée André Malraux. Le Havre. 1903.

96. Pablo Picasso (1881-1973). Still-Life: Dead Birds. Museo Nacional Centro de Arte Reina Sofia. Madrid. 1912.

97. Oskar Kokoschka (1886-1980). Aigues-Mortes (1925). Toledo (1925). Prague (1934). Annecy (1927). The Jenisch Museum - Vevey.

98. Oskar Kokoschka (1886-1980). Market in Tunis. The Courtauld Institute Galleries. London. 1928.

99. Piet Mondriaan (1872-1944). Flowering Apple Tree. Modern Art Collection of the Gemeentemuseum. The Hague. 1912.

100.   Robert Delaunay (1885-1941). Circular Forms, Sun and Moon. Stedelijk Museum. Amsterdam. 1912-1913.

101.   Luigi Russolo (1885-1947). Revolution. Modern Art Collection of the Gemeentemuseum. The Hague. 1912.

102.   Eliezer Lissitzky (1890-1941). Composition Proun GBA No. 4. Modern Art Collection of the Gemeentemuseum. The Hague. 1920-1923.

103.   René Magritte (1898-1968). The Human Condition. National Gallery of Art. Washington. 1933.

104.   Jackson Pollock (1912-1956). Autumn Rhythm. The Metropolitan Museum of Art. New York. 1950.

105.   Mark Rothko (1903-1970). Dark over Brown. Musée National d'Art Moderne. Centre Pompidou. Paris. 1963.

106.   Josef Albers (1888-1976). Study to Homage to the Square: Blue Depth. Modern Art Collection of the Gemeentemuseum. The Hague. 1961.

107.   James Rosenquist (1933 -). Untitled (Joan Crawford says …). Museum Ludwig. Köln. 1964.

108.   Richard Estes (1936 -). Telephone Boots. Museo Thyssen-Bornemisza. Madrid. 1967.

109.   Antonio Saura (1930-1998). Shout No. 7. Museo Nacional Centro de Arte Reina Sofia. Madrid. 1959.

110.   Carlo Maria Mariani (1931-). Head Rack. Carlo Maria Mariani and Carol Lane. 1990.

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