



VLL - Visual Learning Lab / a Képi Tanulás Műhelye

Kurt Röttgers, guest prof. at

Budapesti Műszaki és Gazdaságtudományi Egyetem,

Vizuális tanulás és a láthatatlan:
Visual Learning and the Invisible

If you invite a philosopher to speak about Visual Learning you will not have expected to be given any technical advice, but you must be prepared to be confronted with a somewhat oblique perspective on the matter: that is the Invisible.

1. Visual Learning is not new

Visual Learning is not a new phenomenon. And it has always been confronted with the problem of invisibility. Speaking, before it could be written down, was in fact invisible. It could be memorized by the early peoples in a great amount. Learning was learning either by immediate experience or by inserting into an ongoing process of an epical performance. It is the essence of representation to make something absent present for an audience, something now invisible. That is aggravated when the essences spoken about can never be seen, e.g. the gods. Episodes or figures of the myth could also be represented in pictures and sculptures. But verbal and pictorial representations follow different discursive grammars, which had already quite clearly been shown by Gotthold Ephraim Lessing in his essay on the Laokoon group.



But it was also the problem the Jewish people had with their God, he could be spoken about, apart of his real name, but he must not be pictured. This problem was transmitted to Christianity. It was not before the council of Nicaea that it was allowed to depict celestial beings in Christian pictures. Again it lasted long, before God himself appeared in paintings. So every painting of any holy affairs had to leave out, had to produce breaks, folds, breaches, niches to give room for the invisible within the visible. The clergymen of course knew about visual learning, and they did not trust the word of the holy message alone to transmit it to the souls of the people. The frescos in the churches are interesting early examples of blended learning in churches.



The congregation, which normally was illiterate, listened to the preaching, and the faithful could also see on the wall what was spoken about. The fresco showed e.g. the passion of Christ, which was presented in the process of preaching step by step one after the other, on the wall in simultaneity. But the faithful had to decipher these frescos also step by step one after the other. In his conscience it was a process again, like reading a comic.



Nobody would take the simultaneity literally and wonder about the contradiction that Christ was alive on the left hand side and crucified on the right hand side of the same wall. The fresco had to leave things out according to the discursive grammar of paintings, and it had to make things unequivocal which were ambiguous in verbal representation. One example: There was a dispute about whether angels had feet. Because they could immediately be where they wanted to be symbolized by their wings, they needed no feet, and God would not have created something superfluous, so they could not have feet; on the other hand, should a painter paint an amputated leg of an angel? No, of course not. Most painters avoided the problem of deciding the ambiguous, e.g. Rogier van Weyden in his Annunciation of Mary by dressing the angel with clothing reaching to the ground.



The most sophisticated presentation is that of Giotto, who painted flying angels and where you would look for the feet you will find an indiscernible hatching.



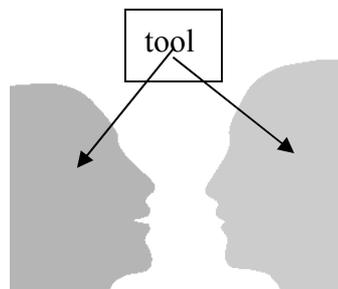
So he not only treats the problem, but makes one attentive to it. You see the invisible, and that is a lesson which could be learnt only by visual learning. You need, as I did, many words to describe what you can see immediately.

Another instance of the meeting of verbal and visual learning are the primers, in which words tell what the picture shows. Of course, that is not true, according to the different discursive grammars of texts and pictures the equation is an illusion, and there always remains the problem of translation of the language of pictures into the language of words and vice versa.; even the drawing of a sculpture is an insurmountable problem. Magritte, as you all know, made us attentive to this problem, either by ordering “wrong” words to the pictures, i. e. by inventing new rules of translation and giving the meanings a certain liquidity or asserting that the picture of a pipe is not pipe, and doing all that in a picture (examples below).

2. Visual Learning as a Component of Visual Communication

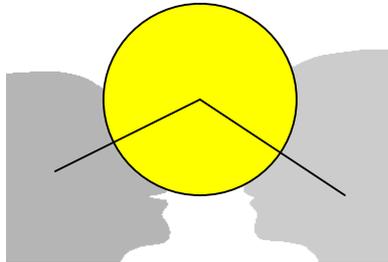


Visual communication is normally defined as communication through and by visual aid. And communication is for the scientific commonsense the conveyance of information from one



conscience to another. The aid that visibleness offers to this process is thought to consist of signs of whatsoever sort, may it be typography, drawings, icons, paintings or any sort of electronic resource. It is typical for this shape of information design that it is assigned to rely solely on vision. Even sometimes verbal communication seems to be dependent on this aid. The Chinese dialects are so polished and so differently polished that communication between the inhabitants of different provinces, if they do not use Mandarin as a level, are dependent on the Chinese picture-writing. If we use this all too simple model of communication as conveyance of information between consciences we might be eager to evaluate and improve the tools of visual communication by first measuring comprehension of the receiving conscience and then try to reach a higher degree of information transport through visual signs. We may be tempted to call the tool of this sort of information a medium. But in German we have two translations for medium, namely *Mittel* and *Mitte*, English the means in the sense of a tool and in the sense of a middle, which indicates a serious problem. These two translations open two very different ways of conceptualizing media, the one starting from a subject which develops an idea by himself or herself in his or her mind and

afterwards has the intention to express this fabricated idea to another subject and decides which tool may be best suited to do this translation, maybe the English or any other language, maybe the spoken word or the video-recorded speech, maybe the written text or a diagram or any other picture. The other way of reflecting on media is starting from the translation as Mitte, middle, means. This opens for an ontology of the so to speak “between”.



It is an ontology of relations and not of substances. That man is not a matter of pre-established inner qualities, may be won by his presupposed nature, may be by a process of education, which at any given moment has a ready subject as a starting point to communicate ideas to other minds. So, I think, we cannot start our reflections on media of visual and other forms of communication with a subject or an individual who finds himself a lonesome subject at the moment of incipient communication, like Robinson realizing that there is another man he wishes to communicate with. So language is not a tool, but a medium in the sense of a relational middle of the members of a specific culture. The medium defines who is a subject in this specific culture or language. So we have to start the analysis of the media with this functional relationship, which in my concept of social philosophy has the name of the communicative text with its three dimensions of time, sociality and discourse, each in two directions: past and future, self and the other, knowledge and norms. There are further parallel differentiations, which I can omit for the purpose of this address. Visual communication now means, that there are components of the process of the communicative text between the human beings which only can be seen, not heard, or so to speak define the relation of this relation as seeing subjects, namely the one who shows something (the self) and the other, who is shown something which is a picture. The “only” of the last proposition is important, otherwise we had to treat any written text as a type of visual communication. Although this may literally be the case, it makes no sense to broaden the concept of visual communication and in consequence of visual learning so far. But if you point to a picture or a diagram within a text, be it be written or spoken, this is a different quality, because you cannot read the picture aloud, at most you can circumscribe it. In the way I spoke about the frescos in the churches to teach the believers what the Holy Bible says, it was already Ignatius de Loyola who spoke about visual communication meaning thereby the pictorial design on the walls of churches. It was then the neomarxist critique of the bourgeois conception of art, which emphasized that art is an act of communication and does not stand for itself. A further step in the development of the theory of visual communication was brought by the performative turn in theory. This turn points out that speaking is not only the neutral transmission of information, but that by saying something you are doing something. Text is action. So it could be shown (Watzlawick and others), that there are instances, in which a speaking subject is saying something and doing the opposite, which produces the well known double bind. The text has two unconnected strata; this medial ambiguity in fact produces two different others, which cannot without problems go together. Psychologists have studied which part of the ambiguous text is easier believed in. And they found out that we easier believe, in what we see than in what we hear. If somebody utters the words “Yes, indeed I love you” with a face of disgust, we are not inclined to believe the words more than the message of the face. This leads us to our third part treating with the eye and the ear.

3. The paradox of the eye and the ear

The human being in contrast to some other beings, e.g. dogs, is a being whose main contact with the world is made by the eyes. The things of the world are mainly constituted as seen objects. But nevertheless the main contact with the other man is mainly constituted by sounds, esp. by words, which are produced by the voice and the ear. That is astonishing, I think. There are people who are missing the either or the other of these senses. It would be interesting to compare the world views of blind born people with those of the deaf-mutes. The deaf mutes learn a deaf-and-dumb language which relies solely on visibility, we know what they lack: the intonation with its load of emotional atmosphere of the spoken text. The blind born can get information about the visible world by the synaesthetic connections. We can give him an impression of "red" when we tell him that it is a sort of warmth. When a baby is not content with its situation it will cry and fulfil certain movements of the body. It is a complex of bodily articulation, perhaps we cannot call it communication because it is undifferentiated to his world as it is given to him. But the adult care person will take it for a sort of communication addressed to him or her and not to so to speak anyone in the Internet. And it is differentiated in acoustic and visual aspects. Normally the acoustic aspect is more driving. And when a baby learns to speak it is at first a training in bodily motions of the mouth combined with some intellectual features we call meaning. It is still a complex although now we have a clear preponderance of the acoustic component esp. on the side of the recipient. Only in very special circumstances of communication and for the deaf-mute people it matters what the tongue and the lips do when one speaks. From that point on communication becomes more and more independent from visible articulation and restricts itself to verbal communication which can also be represented by writing. Writing is independence from a real ongoing process. If a listener to a speech has been inattentive he may ask for a repetition, but at most for one time only. If a reader was inattentive to a written text he can repeat it at any time he wants to. But when he does, he has to do it in a timely process; so writing is not a freeing from time, but only the dispensing with the actuality. The time structure of visual communication is a little bit different. You will as a recipient first take the picture e.g. as a whole, as a gestalt and then go into the details, which is impossible for verbal communication.

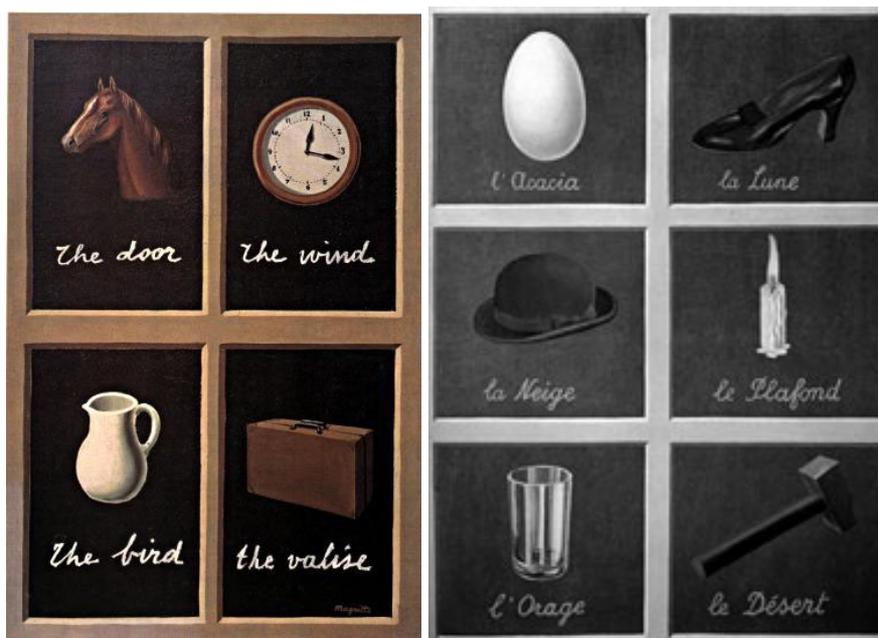
4. Writing (Derrida)

Now this thesis of a different time logic of visual communication should be confronted to Derrida's thesis that writing is the first and that the voice is secondary which looks at first sight a little bit bizarre, but to be short only the following remarks: For Derrida writing is a sort of an arranged, of an instituted trace (trace instituée). A trace in general is a concept which allows to think the presence of something absent. The trace is a trace under the strict condition that the one who made it, is no longer here, that implies that he once had been here. Although the trace is instituted and therefore lacks any capricious peculiarity it is not motivated by the order of things. The instituted trace is the movement of the difference, since in the fictitious origin there is no difference, but neither is the origin given in presence at any moment. So the trace is the movement and the becoming of the difference. This movement necessarily is ambiguous. The one who made the trace is not only absent from the trace but is tracing the trace more and more, but also withdrawing in it more and more. So the trace is neither motivated by the order of things nor by a so called author. Derrida says, the trace "läßt ... die Struktur des Verhältnisses zum Anderen, die Bewegung der Temporalisierung und die Sprache als Schrift miteinander korrespondieren."¹ [the structure of the relation to the Other,

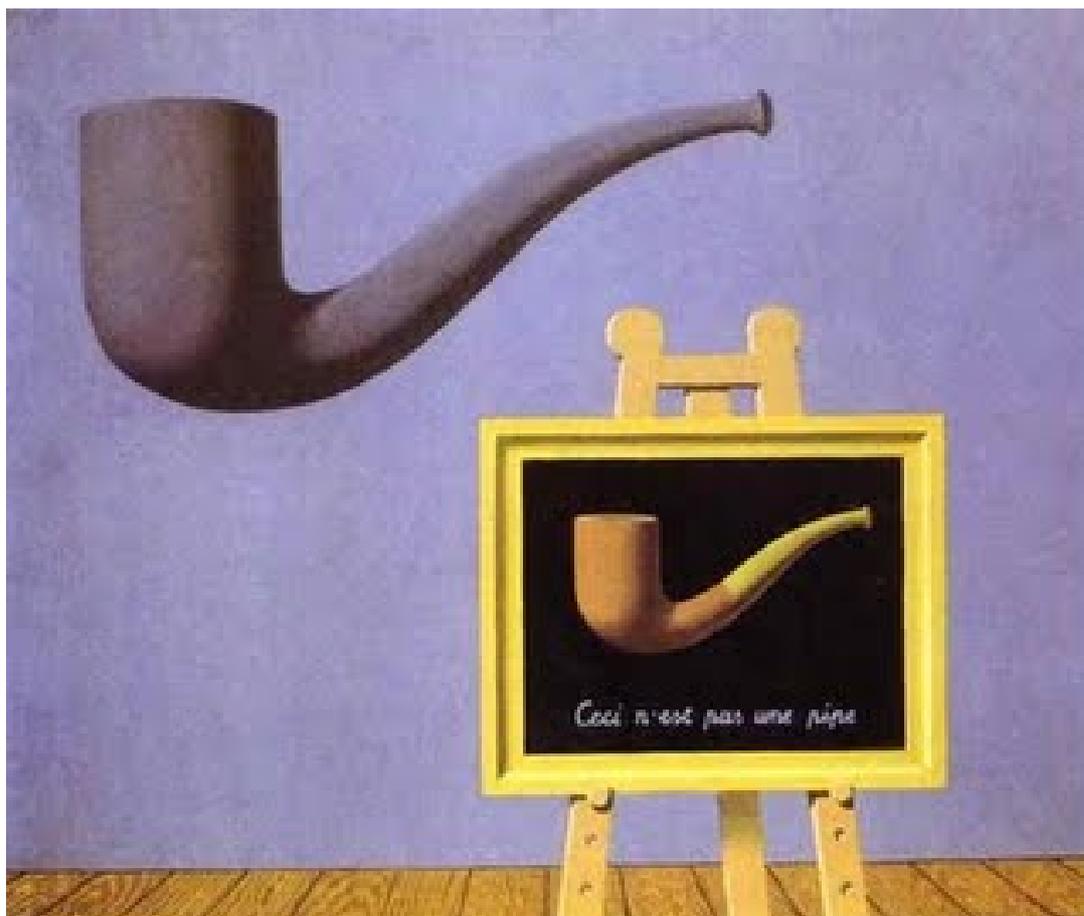
¹ J. Derrida: *Grammatologie*. Frankfurt a. M. 1974, p. 83.

the movement of temporalization and the language as writing correspond to each other] The consequence is that in any writing as a trace is inherent an antecedent original trace which never has been present and always been disguised by writing. That means that for Derrida the living word in verbal communication and writing are not opposites as Plato thought, but writing is a movement of a trace without an original presence of speaking as such. It is a movement of differentiation not of translation. The original writing can never be the object of any scientific endeavour, because it is a past that has never been a present; it is the invisible of any perception. The differentiation movement of the trace which is writing produces those sorts of objects which are texts. The text no longer can be regarded as a translation of anything outside or beyond text or of any other text, because every translation expresses what the original text could not express, although it contained a relation to the unsayable, its immanent secret. To keep the secret does not mean to hide something, but not to deny that every speaking or every writing has a blind point. And so is it with the visual communication: it shows and at the same time hides. Any representation sets the original difference between the visible and the invisible. Visual learning has therefore to be learning by images and at the same time learning to get an impression of the secret in every image. In other words, to get a nose for the impossibility that this picture *is* that thing. But that cannot be experienced by a simple demonstration, because any demonstration shows what it shows; so it can only be experienced in the movement of the trace, that is as a process. The process is not a sort of being which does anything. It is nothing than the moving of the movement. And the course, the discourse is a detour. There is left no way to immediacy. From the time of Socrates on the soul is the invisible of man; it is his secret. To see the visible things within the world it is sufficient to have a body and the bodily senses. So what is the use of a soul, one may ask. The soul is the agency to see the invisible, namely the ideas, which are the elements of the authentic reality, according to Plato.

What we can learn from Derrida is this: visual communication is surrounded by the invisible, and in visual learning there is also a learning of visual learning, which precludes that it could be counted as a success when the pupil points to a picture and says “Pferd” or “cheval”; he



must also learn what he is doing when he does this.



And this secondary program of visual learning cannot be saved for later when there may be time for philosophical reflection. The awareness of the second, the invisible side of reality must be learnt in the same process in which visual learning takes place in order to avoid a short-cut image of reality which inaugurates short-cut acting, e.g violent action, which does not know about the other now invisible aspects of reality or has no respect for it.

5. *The visible lets the invisible emerge (Merleau-Ponty)*

The basic term of the philosophy of Merleau-Ponty is the being-to-the-world which is more than Heidegger's being-in-the-world. Therefore conscience always is bodily conscience-of-world, as the view never is first a view and then combined with an eye and with the object of vision. Therefore it is a view only when it is a bodily experience that is with the things of the world. So perception as the basis of visual communication is never at first an empty view and then filled with some content. Perception is not a tool, and visual communication does not use some tools to do an act of communication. My view, that is me insofar as I am open for the world. So the body is a medium in the sense of a middle, not of a tool. In the middle-world, i.e. the medium of the body, everything is turning its surfaces to all other things. But the concept of surface is necessarily accompanied by the concept of depth, for Merleau-Ponty a dimension in which I for myself and the things are mysterious "wild being", as he says. "The superficial skin of the visible only consists for my view and for my body. But the depth beneath this surface contains my body and also my view. My body insofar it is a visible thing is a part in this big drama. But my viewing body sustains my visible body..."² The body gives to the things what he knows of himself, namely to be more than the superficial appearance. As I myself have an invisible back (reverse?), so have the things. The body is a phenomenon with two dimensions, "which leads us to the things themselves, which are not plain or two-dimensional, but beings of a depth."³

"The so called visible is the surface of a depth..."⁴



What is invisible in the first painting, what in the second one? For Merleau-Ponty this concept of an invisible

² A. O., S. 182

³ A. O., S. 179

⁴ Ebd.

depth has nothing of a metaphysical imputation, but is an effect of the necessity of seeing in perspectives, we necessarily suppose, when we see, that there is a back side of the thing, which we in this specific perspective cannot see. Therefore Merleau-Ponty can articulate that the depth lies open before us, not insofar that it might be visible, but insofar as we can and must conclude it from the fissures of the things in sight. “The view does not abolish the depth, but evades it.”⁵ The depth is a name for the invisible of the visible, involved in all seeing. The invisible of the body can be called the soul, so the soul is a question of perspective, not a substance of any sort. So you can even speak of a visible surface of the soul, which is just the aspect which psychology treats and makes “visible”.

The invisibility is not a question of distance; on the contrary, things that are too near, cannot be seen, but must be tasted or smelled. Nearness is wildness. And this wildness in the sense of Merleau-Ponty is the limit and the other side of visibility. Insofar Merleau-Ponty can say “Le langage dit, et les voix de la peinture sont les voix du silence” (Language says what it says, but the voices of paintings are the voices of silence)

6. What is the impact of all that for a conception of Visual Learning?



You will not expect a philosopher to give concrete advice for developing the media of visual learning processes. That would be arrogant and boastful on the side of the philosopher, and an overtaxing of his skills. But what you really can demand is that he paints a background picture in front of which the concrete work will take place. So philosophy may be the invisible aspect of all serious work in other fields. That is what I have tried to do and I would like to summarize now delineating the structure of this background picture:

- Instead of identifying visible things with visible representations, e.g. stressing the principle of identity, one should rely on the principle of difference, which points to the just now invisible aspects of a visible thing, that is to say rely on co-representation, co-present in any presence;
- the learner of a visual learning process has to be given the chance to develop a sensibility for things not learnt in visual learning processes, which resides in the niches of visibility;
- the learner has to come to see what is not seen, that the visible is not all, and that it is not the pure truth of the reality of things – visual learning does not

⁵ ders.: Das Sichtbare und das Unsichtbare, S. 279

give him an authentic view - the danger of this short-cut is even bigger today when we are manipulated and are told lies by pictures in so many ways;

-



-
- visual learning is not of the type of WYSIWIG (what you see is what you get), but as in LATEX the whole process has to be run through to recognize the importance of any specific element;
- all this may perhaps be done better by pictures which are pictures in motion, from the fresco to the movie, because only in this way the process of differentiation can find an adequate expression.

7. What sort of process?

Descartes once said that if you go astray in a forest, it would be best, always to go straight on to find your way out of it. That is the way of methodical thinking, it is linear even in its performance as an arbour porphyriana. I do not know in what sort of forests Descartes has ever gone astray to give this advice: it must have been a sort of a rectangularly structured forest, in which only idiots can go astray. Because when you go astray in a real wood no advice is more useless than this methodological one. A person who goes straight away there to avoid errors may come to swamp or a bog, and when he will continue to go on in linearity, he will see what is coming up to him, or he may come to a thorn-hedge like that of Sleeping Beauty, and it will happen to him what happened to all the princes, stuck in the hedge and starved, or he may come to a river without a bridge, and he will see that the river does not flow in methodical linearity to exit the wood, and if he is wise enough and not a pigheaded Cartesian he will imitate the non-methodical and aleatory movements of the river, assimilated to the structure of the area. He will digress from the “right” way like small children accompanying their parents on a walk and always finding something interesting by the side of the way instead of going methodically straight to the goal.

The bee caught in a bottle will never find out, if the bottom of the bottle goes to the light, because the bee is a Cartesian; a fly on the other hand, which in the view of the Cartesian makes very absurd movements, will find out by chance after a time.

Media and the medium of visual communication and Learning are the middle; but that does not mean that the middle is something substantial, but it is a relation in which many things can occur in a mixture which has to stay an everlasting experiment of making experiences. Its structure is more like dancing than going step by step. The most advanced of it may be the multi-media hypertext. It is difficult to design, so I wish you good luck in this enterprise