

THE ELECTRONIC PROMETHEUS AND CONSEQUENCES FOR ART EDUCATION

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My talk today will consist of three major parts: first of all, I will speak about certain aspects of a media art pedagogy. This will be followed by remarks on computers from the view of art pedagogy. And, finally, I will present my thoughts on a future art and media pedagogy.

Luther's translation of the Bible as well as Gutenberg's invention of printing from moveable type paved the way for the major media event of modern times. Lucas Cranach contributed illustrations and thus helped to implement the traditional image in this new medium - the printed book. One hundred thousand of these Bibles were sold, at that time an unprecedented number.

Discussing technology and its effects on society and communication structures today, we often feel inclined to compare the invention of printing with that of the computer. And so we easily forget to take the particular social context into account, in which these different technologies need to be seen. From the pedagogical point of view, we should be very careful about how we perceive the phenomenon of computers in society and school.

One hundred thousand: this is the current number of monthly new registrations with Germany's largest Online Provider. Regarding the number of computers and Internet users, Germany ranges on a good European average. Most German schools are equipped with some computers, but at the moment we lack a sufficient number of computer literate teachers who are able to give computer classes. Even more so, we lack teachers who naturally could integrate computers in their particular discipline. Due both to inappropriate hardware equipment and missing skills they are not able to do so. Art teachers are especially reserved when it comes to placing a computer next to their easel.

One could say that, whereas the classical Prometheus stole fire from heaven to give it to men, it is computers that the electronic Prometheus brought down to earth.

Many of today's media, especially computers, work with digitised data. With the help of the binary system, information is encoded, the binary code only consisting of the symbols zero and one. As a result, data structure can be extensively modified and the process of modifying information, images, and more has become much easier. As for the outcome, modifications cannot be traced. Not to forget that small media units are often obvious to be put together to larger ensembles. (And by the way, I am referring here to Bolz and his book xyz, published in 1997, page 666). Our idea of reality is strongly influenced by the products, or rather constructions of the world wide media network. And this again leads us to question how real reality actually is. (Here I refer to Watzlawick, 1988) The media have a great impact on what we perceive or experience as reality.

Multiple personalities? It is certain that the so-called New Media help adolescents to again and again perceive and digest breaks in their everyday life. Perception via the New Media has a great impact on their identity. The corresponding aesthetic processes and their results cannot be exactly translated and interpreted into another symbol system, such as language. Major differences between the visual arts and media-created forms of expression are:

the media offer animated images combined with complex sounds,

aesthetic media products are available around the clock, they are omnipresent,

in the Internet, there is an increasing number of interactive perception offers available. The user is invited to intervene and to make changes. However, these images have no representational equivalent outside this virtual reality. And let me only mention cyberspace as one example here.

Visual gain or linguistic loss: Cultural transformation comprises knowledge of tradition and historic awareness. One of the major functions of language is that of the instrument of sophisticated communication. For some time now, we have been facing a considerable increase in pictorial symbol complexes. However, for the time being, its icons as more and more comprehensible symbols whose numbers increase as fast as tumour cells divide. This goes hand in hand with linguistic changes. In this context, a sophisticated language style seems no longer of major importance.

The pedagogical and psychological research on changes in the symbol communication and the corresponding mental abilities in connection with the New Media is still in its infancy. However, with reference to structuralism and in the

framework of observations from the pedagogical point of view, the following theories can be cautiously suggested: The New Media change the meaning of communication:

within the linguistic code, audio-visual texts, and I mean spoken or printed texts accompanied by images and sound here, gain in importance

this goes hand in hand with an increasing importance of the mathematical- logical code, since "computer language" (as I want to call it) determines design and use of the software

within symbol communication, the social gestures will change. It remains to be determined, which status they will have

taking all these points into account, a progressive blending and an overlapping of different communication forms can already be predicted. Up to now, human perception and mental processes had to be seen in a social and historic context. But with the New Media they are exposed to a historic power so far unknown. (van Dijck 1993) Concretising and Abstraction.

It is due to the development of graphic user interfaces that computers have been well-received by large numbers of users. The icon, for most part a pictograph, imparts a related conceptual idea with help of visual characteristics. These symbols are so similar to word symbols so that they can be considered their substitute.

In this context, aspects of a certain visual competence based on art pedagogy come to the surface. We are speaking about visual literacy here, defined as an ability that can be developed. Visual literacy requires, with regard to the New Media, the skill to exactly interpret visual messages as well as personally create them. (Pettersson 1994, S.215) A major pre-requisite for successful communication is this visual literacy, especially when it comes to working with technologically sophisticated devices based on visualisation.

II Now I come to the second part of my presentation where I will take a closer look at computers from the view of art pedagogy

As soon as computers are actively integrated in teaching, it will be necessary to adapt present teaching methods to this new instrument. It has to be taken into account that students have different levels of computing skills. On the other hand, there might even be students who are more at ease with computers than their teachers. Using computers requires a certain competence. At the same time, it combines the skills of various individuals. Technical devices, such as scanners, digital cameras, printers, or recordable CDs need to be shared. At school, computers are mostly connected by a network and from many of these computers one can have access to the Internet. Thus, a wide variety of communication possibilities open the door to new ways of learning. It has always been the responsibility of schools to promote social competence by helping students develop key qualifications, such as the ability to communicate and to work in teams. Computer-aided telecommunication networks support learning methods which require teamwork when it comes to coping with problems and maximising benefits (Peschke 1995, S.5) Computer networks can put students in the roles of information producers, recipients, and critics. Furthermore, computer networks make an asynchronous and reasonable communication with both visual and textual elements possible. Learning with the help of computer networks leads to students working more independently. (Gräse, Buhn, Mandl/ Fischer 1997, S.4)

With regard to the discipline of visual arts, computers turn out to be a very diversified tool: collages, alienation, transformation of images taken from every day life or the arts - everything is possible. Already low price software which, for the most part, is easy to use, provides different sorts of pens, paintbrushes, chalk or pastel. Additionally, there is the choice between cardboard and canvas. However, there are still a lot of unanswered questions regarding the artistic process when using a computer. From the research that has been done in this field, no tenable conclusion can yet be drawn.

Digital images

Modifying images by help of computers means creating reality in new images. More than ever before, the adolescent's world is created by the media. Product aesthetics, music, TV, transmission of information in an entertaining way, new teaching media, computer games etc. cleverly pave the way and lead into an empire of visual realities. It is the media that set the standard. In the everyday life of an adolescent, the difference between empirical and virtual realities loses importance, contrary to pedagogical claims. And I quote Sondershaus here: "Usually, adolescents don't think about all this, they just dive into these virtual worlds. Thus, as long as attempts to explain this phenomenon are based merely upon critical reflection, they can only be partly fruitful." End of quote. (Sondershaus 1998, S.20) It is the responsibility of schools, and especially art education, to make students sensitive to this life between the worlds, so to speak the real

world and cyberspace, although there is no clear dividing line between the two. The method of letting students independently discover it as a sort of computer-aided aesthetic experience sounds promising. Transforming images can be an element of analysis because changing the usual perception of an object helps to make students sensitive to the special artistic features of a work. Above all, visual aspects - text elements. Besides computer games, it is word processing that students use computers for. But beyond this typewriter function, today's word processing software with its wide variety of options, challenges the user to do layout. This ranges from merely arranging an objective text from a functional point of view, to visual poetry. However, with the help of desktop publishing programs, school computer results come close to professional graphics design.

Hyper structures

Within the discipline of visual arts, there is an obvious opportunity to introduce hypertext work in small groups. What does that mean? Well, let me make this clear with an example. In small groups, students work out an interpretation of or collect material about a particular work of art. These texts are then fed into a computer, where, in order to optimise them, students carry on working on them, making editorial changes etc. Finally, these texts will be connected to a whole network. It is important to underline that such a system offers the possibility to continue from every single angle. For this reason, there is no linear structure anymore as we know it from traditional texts. Production and reception of hyper structures are based on adolescents' encoded patterns of perception which are subject to various influences. As an example, the perception pattern of computer fans is very likely to be influenced by adventure games. Hypertexts offer the opportunity to have different texts simultaneously available and to use them as a means of interpretation. It is only a small step from hypertexts to a hyper modality which means that images and sound are added to the texts. From the view of cognitive psychology, this helps to develop key skills such as learning, acquiring new knowledge and digesting information.

Animated Images

Animation - and I am speaking about a certain longing for animated images here, widely provoked by music clips - animation becomes possible with the help of appropriate software. The digital video cut comes close to a video clip as a manipulated and animated image which fascinates adolescents. Personal or other video recordings, images and sounds from various sources can be blended. Simulating production sharpens the recipient's view. With the right software, it is even possible to create multimedia presentations, combining images, animated sequences and sounds. The network-like structure of hypertext is fed by several media elements. These can range from photographs to reproductions of various works of art. Not to forget textual elements such as comments for better understanding, and, where suitable, music. However, a high degree of planning and coordination skills is needed when creating multimedia sequences. A rather technical method is webpublishing, that is, the creation and publication of pages on the Internet. As a very useful tool, webpublishing should go far beyond a mere presentation of the school as such but should for instance offer an interactive project on the Net where everyone is free to participate or at least give feedback.

Before I move on to the third part of my presentation, I would like to say some words about my personal experience with the Internet and its integration in art education. Asking students to find out about certain artists or architects can challenge them to use the Internet as a source of information. Compared to books as traditional text sources, information found in the Internet might be less comprehensive. However, images can be printed out and can serve as material in class.

Libraries can also be used as a source of information. Unfortunately, libraries still fall back on their catalogues for most part. There are only a few texts available in the Net.

Current exhibitions, recent Net Art and other events in the arts scene can be easily followed via the Internet, far away from the actual locations. New and different views of art are developing, and art criticism is playing a major role here. Net art is arriving in the art field and is thus broadening the definition of art as such. Art as part of a cross cultural tendency almost requires communicative structures and active recipients. Being active recipients simultaneously promotes motivation. It is certain that a "Piazza virtuale", as the Italians might call it, goes hand in hand with the development of new forms of mediation within the field of art education. However, virtual experience of this kind can by no means replace looking at original works of art.

I think that all these points make clear that computers can help to create artificial worlds which open new ways of learning and gaining experience. It would be much more difficult to achieve the same results without these technical tools.

At this point, I would like to present an outlook for a future art and media pedagogy.

Art pedagogy, based for the most part on reality, has to be aware of the immense influence of the New Media and the uncountable doors it opens. In contrast to the metaphorical aspect in the arts, art pedagogy should capture the immediate character of the New Media. In this context, it becomes possible to see and experience differences. Let me make demonstrate this with an example. The term "notebook" nowadays exclusively refers to the small, portable laptop computer as a symbol of technological avant-garde. In 1992, Claes Oldenburg, an Op-Art artist, created several variations of a torn notebook. It is different, it is strange, it is an object which stimulates reflection on such term-related concepts. It is the irritation that makes us stop for a moment and reflect, and which finally enables us to open up towards a wider view, a multiperspective. At the same time, it is a source of reflection on techniques of remembering, and the act of writing something down as a traditional technique (of note taking) which is almost considered atavistic.

Art, strongly influenced by the media

As a natural reaction to the progressive technological advance and the increasing influence exerted by the media on visual worlds, representational painting has regained importance during the past few years. Objects are (re)appearing on canvas as a reply to virtual images. Regarding to this tendency, it will be the responsibility of art pedagogy to put students in a position to experience aesthetic objects, and I am speaking about aesthetic, cognitive and sensuous experience here. However, this experience cannot be restricted to either media images or conventional paintings but needs to integrate the two. (see David 1995, page 64) Objects, paintings, images, or installations which promise enlightening experience are not so easy to find in the jungle of contemporary art, since there is a tendency towards uniformity

Uniformity is a consequence of disappearing cultural features. This again is a result of the increasing influence of the media as well as uniform graphics software such as Adobe, Corel, Microsoft, and others. The graphics and image culture focuses exclusively on the global market, whereas national and regional features are hardly taken into account. In a state of mass media dominance, we have to be aware that art as such risks being swallowed up by the new media-based aesthetics of communication. Furthermore, we have to be aware of the risk that originality, uniqueness, and the ability to intensively grasp things disappear with these oh-so-wonderful images of the great new computer world.

The Austrian photographer Dieter Huber titles his works "Klones", referring to the idea of cloning. With help of a computer, he blends images. We know the outcome: bizarre works which resemble shots taken in a genetic laboratory.

Teaching visual competence

By providing the opportunity to view works of art in class, art educators encourage students to develop the ability to express their thoughts and to think critically. Even more so, art education counteracts the effects of trans-national multimedia systems and the tendency to "cut loose from culture". There are voices claiming a disappearing bond between art and history as such. But given the immense range of paintings which in terms of content and structure oppose the virtual no man's land of the media, this claim is not valid. The more the New Media create a so-called "surface aesthetic", the more works of art are challenged to counteract fleetingness and instead reply with intensity and a certain slowing down. In this respect, it is important to confront this common tendency to triviality in culture with quality standards and the capacity to "be different" in historic and contemporary art. Media education from the view of art pedagogy is therefore not restricted to teaching students how to use all these technical devices. It is much more important to teach them how to handle media aesthetics. This goes hand in hand with the development of valid criteria which will finally enable them to judge critically.

The existence of a second, media-created reality, makes it increasingly necessary to confront students with the real world. In the Internet, time and space have lost importance. In the real world, however, a certain orientation and stability can only be given in the here-and-now. Viewing originals can considerably serve this purpose. Art pedagogy processes consciously encourage production and active reception. They oppose a mere passive consumption. Furthermore, these processes are based upon conceptual ideas, and are not only a question of material and technique.