

THE AESTHETICS OF INTERFERENCE: From anthropocentrism to polycentrism and the reflections of digital art

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Introduction

The basic statement of the present paper is that digital art should be observed as a way to communicate new social conditions using new observation tools, rather than being observed as a result of new digital technologies. In discussing this statement the paper presents and defends the following theses:

We are experiencing a social change from modern society into an emerging hyper-complex society.

As a reflection of the social change we are experiencing an aesthetic transgression from anthropocentric art forms of modern society to polycentric art forms of hyper-complex society.

The relationship between society and art is not a causal one (as the Marxist basis-superstructure model suggests). The art system is socially differentiated, and its function is to observe society according to a set of differentiated aesthetic codes. Digital, interactive technologies provide observation and communication tools which are particularly adequate to articulate the above change.

Under the current post-normative conditions aesthetics is a result of interferences between complex systems, rather than being the realisation of the normative category of "beauty".

The implicit idea behind the first three theses is that we are on our way into a society, which is radically different from the so-called modern society. It has been described as "functionally differentiated" (Luhmann 1997), as "polycontextural" (Günther 1979) or as "hypercomplex" (Qvortrup 1998), emphasising that it does not offer one single point of observation, but a number of mutually competing observation points with each their own social context. This does not "create" new art forms in any causal sense, but it creates a need for observing the world differently.

This of course is a challenge to art and to the development of new art forms, and as a matter of fact the change from modern society's anthropocentrism into present society's polycentrism has been reflected by new art forms since the beginning of the 20. Century. Particularly, this change has been taken up by so-called "digital art" which in a particularly adequate way has articulated the hypercomplex conditions. However, digital art is not a product of society, but it is a form that one may choose in order to observe new societal trends. This implies that digital art is not a product of technology, but that new digital media provide tools for the artistic observation of society. Thus, instead of analysing digital art within a technological context, it should be analysed within an art sociological and an aesthetic context.

However, this does not imply that "digitalisation of art" does not make a difference. On the contrary - and in accordance with my fourth thesis - digital media have communication potentialities, which are particularly adequate for the observations of a

polycontextural society. I see information and communication technologies not as a tool, but as a medium, that is as a kind of artificial eye and ear. Thus, such as technology in general can be defined as a sort of artificial body extension, information and communication technologies may be defined as artificial extensions of our sensational faculties, i.e. as artificial senses. The relevant issue concerning interactive digital media is that they can focus on phenomena, which earlier have been difficult to see. As Gregory Bateson said, the function of the eye is not to let the world into the mind, but to keep it out (cf. Bateson 1991 p. 182). Similarly, the function of the senses is not to sense everything, but to select. We see by throwing away information, and the reason for being able to see is that we select, i.e. that we reduce complexity, that we focus on something and not something else. In this sense interactive digital media is an observation selection mechanism, which allow us to see things which until now have been un-observable. The communicative articulations of a polycentric society which have existed in embryonic versions in e.g. Cubism or abstract art forms are fully enfolded in digital art.

The fifth thesis, that under the current post-normative conditions aesthetics is a result of interferences between complex systems, rather than being the realisation of normative category of "beauty" is actually a combination of the first two theses. In a society characterised by mutually competing observation centres aesthetics cannot defend the implicit normative ideas of the transcendental aesthetic category of beauty. However, this does not imply that aesthetic forms cannot be specified. But instead of realising something "behind" the surface (the hidden ideal of beauty etc.), aesthetics remains at the surface, being the result of interferences between different observation centres and between the social systems represented by these centres. This paves the way for digital media, because they can articulate the hyper-complex result of complex systems' mutual interference.

In the paper, first I will summarise the cultural and aesthetic change from anthropocentric art forms of modern society into a hypercomplex society's polycentric art forms. Then I will illustrate the potentialities of interactive digital media for realising this change. Finally, I will exemplify digital - or interferential - art forms, partly with art forms using digital media as their only medium, partly with art forms which are based on an interference between digital media and other media (for instance: the body as a medium for artistic expressions in interference with digital media), leading into a concluding statement regarding the importance of digital art experimentation for the wider development of aesthetically adequate multimedia languages.

Anthropocentric Art Forms

The anthropocentric - or "modern" - society, which was first articulated in the Italian renaissance and which culminated in the 19th. Century, was based on the idea of the human subject as the universal transcendental principle (cf. the concept of the transcendental subject). Consequently, the human constituted the universal observation and communication format. For example, the world is observable through the observational (or epistemological) categories of the transcendental subject (cf. Kant

1966 [1787])

This is reflected by art in the following ways:

The ideal of the linear perspective is developed because the linear perspective represents the perspective according to which the human subject is the observation centre. Similarly, linearity becomes a guiding narrative principle.

Beauty is a category of the transcendental subject, which may be reconstructed by art.

The mimetic desire represents the potential ability of the observer to construct a world, which simulates the "real world". One example is the Faustian ideal of omnipotentiality, i.e. of duplicating the work of the creator.

Originality becomes a basic issue because it reflects the status of the divine artist offering his or her observations to the (passive) audience. This again explains the constitution of a causal relationship between artist and audience/spectators, for instance that the artist creates mental effects (emotions etc.) in the audience.

The same idea is found in the relationship between human beings and technology. The human being is the potential master of the universe, and technology is perceived as the passive tool of the omnipotential human being.

One of the early examples of anthropocentric art forms is found in Santa Maria Novella, Florence where one can see Tommaso de Ser Giovanni Masaccio's "La trinita" which was painted in the years 1425-26. The fresco shows the crucified Christ, behind him God, between them the Holy Spirit, and in front of the cross to the left Maria and to the right St. John. Kneeling in front of the chapel one can see a couple dressed in black and red. It is the wealthy couple who sponsored the painting. Obviously, however, the basic message of the painting is to be found at a meta-communication level, reflecting the fact that any communication is not just communication but always also communication about communication (cf. Watzlawick et al. 1967). When saying something one always also says something about the speech situation. Regarding Masaccio's "La trinita" the painting demonstrates that the crucified Christ is seen from one specific observation point: the point of the artist. This is particularly emphasised by the vaulted roof over and behind Christ and God. Here, the religious scene is so to speak integrated into the artificial space created by the artist. Thus, the basic message is that the artist - the human being - is the observational centre of the world from which everything - even the most important religious events - is observed. In this way Masaccio anticipates the philosophical statement from 1486 of renaissance philosopher Giovanni Pico della Mirandola: "Tu, nullis angustiis coercitus, pro tuo arbitrio, in cujus manu te posui, tibi illam praefinies." "Thou, coerced by no necessity, shalt ordain for thyself the limits of thy nature in accordance with thine own free will, in whose hands I have placed thee." (Pico 1942 [1486])

Furthermore, the idea of beauty as a category of the transcendental subject which art is supposed to reconstruct, is clearly demonstrated in the symmetrical structure of the painting with the faces of Christ and God placed in the geometrical centre of the painting. According to the British philosopher Edmund Burke, beauty represents "...this mixed passion which we call love" (Burke 1958 [1757] p. 41f). It is something internal in the universal human subject which can be called forward by art, and the

passion created by beauty is pleasure. Developing this analysis, Immanuel Kant (1971 [1790]) argues that the aesthetic judgement is characterised by two qualities: it is free of interests (I must not confuse my judgement of beauty with my interest of possession), and it is universal (which is evidenced by the fact that beauty can be discussed in public under the implicit assumption that beauty is a quality which can be agreed upon). However, being universal the sense of beauty must be a universal human faculty. Thus, the aesthetic judgement represents a judgement of the transcendental subject.

An instructive illustration of this idea of the transcendental subject as the centre and the basic "format" of modern society - an idea which was launched during the Italian renaissance, and was fully unfolded in 18th century's modern philosophy - is provided by Leonardo da Vinci's "Human Figure in a Circle, Illustrating Proportions" from 1485-90 (Academy in Venice). The message of this drawing is that even such basic forms as the circle and the square does not come from nothing or from an external principle, but is defined by the perfect human being's proportions.

The Crisis of Anthropocentric Art Forms

The general message of modern, anthropocentric art is that the human individual is the centre of the world: that the environment is seen through the so-called central - i.e. anthropocentric - perspective, and that the aesthetic norm, the "beauty" of art, is defined through the human subject's aesthetic judgement. Little by little, however, modern art undermines itself: the belief in the transcendental subject is being challenged. Take for instance the example of the impressionistic revolution of the established art society at the end of the 19. Century. What impressionist painters did was in reality nothing else than taking the anthropocentric art principle seriously, that the world must be observed through the eye of the individual human being. One cannot simply speak of the world as "being" there. The world is always an experienced world, and the only way our observations of the world can be communicated is by communicating our individual impressions. However, doing this the impressionist painters demonstrated that obviously my eyes view the world differently than your eyes, i.e. that in opposition to Kant's aesthetic theory there is a conflict between individuality and universality. In realising this the impressionists were in fact on line with the contemporary philosophical discussion of the transcendental subjectivity represented by Edmund Husserl, for instance in his lectures from 1907 concerning the idea of phenomenology (cf. Husserl 1997), leading to the establishment of phenomenology and of so-called transcendental inter-subjectivity. (cf. Zahavi 1997, p. 119ff. See also Luhmann's critical discussion of this concept, e.g. in his preface to the English edition of Social Systems, Luhmann 1995 p. xli)

What is the general message of an impressionist painting? At the surface level the message is that nature - or the environment - does not exist an sich, but only observed through a particular temperament. In this way the message can be compared with the message of Husserl's phenomenology, i.e. that the phenomenon is a result of the meeting of object and consciousness. However, I think that the analy-

sis can be radicalised. The impressionist painting does not communicate an external object (nature, environment etc.), but it communicates its own observation of an external object. As an audience we do not observe Monet's waterlilies, but we observe Monet's observations of waterlilies. Analysed in this way impressionism does not mark the end of an artistic epoch, but the beginning of a new epoch, oriented towards self-reflection as art's basic issue.

In particular this implies that the "natural attitude" becomes a problem for art. Consequently art must repeatedly challenge its own artistic conventions, because conventionality leads into new "natural attitudes", i.e. leads into acceptance of the existence of a universal aesthetic language. Art is forced into a state of permanent revolution.

Polycentric Art Forms

The anthropocentric self-description of modern society was first challenged at the turn of the century in the code of art and science. Gradually the idea developed that the world is so complex that it cannot be represented by a single principle (be it God or the human subject). As summarised by Niklas Luhmann the hypercomplex society - or, according to Luhmann, the modern society - "...is a polycentric, poly-contextural system. It uses totally different codes, totally different 'frames', totally different guiding differentiations depending on whether it describes itself from the standpoint of religion or from the standpoint of science, from the standpoint of justice or from the standpoint of politics, from the standpoint of education or from the standpoint of economy. Consequently, with the concepts of Gotthard Günther there must exist transjunctional operations which make it possible to transfer from one contextuality (one positive/negative differentiation) into another, and at the same time to indicate which differentiation one accepts or rejects for specific operations." (Luhmann 1996 p. 44. My translation, LQ) While the tradition of modernity "...recognises only one single universal subject as the carrier of logical operations..." in a polycentric society one must take "...into account the fact that subjectivity is ontologically distributed over a plurality of subject-centres." (Günther 1979 p. 122) Consequently the idea of transcendentalism must be given up: there is no single, common perspective or observation point (God, the human being) which can be raised into a universally constitutional status.

If this is true, observations of the world (including observations of ourselves) cannot be fully communicated, because there is no universal code (or communication format) through which we can fully understand each other. On the contrary, world observations are communicated through a multiplicity of codes which cannot be reduced to each other (they are mutually incompatible).

These radically changed social conditions are reflected by the art system in accordance with the following points, and including examples from digital art:

Art develops from the linear text (or the linear perspective) to the cybertext as a machine for the production of a variety of expressions or narratives (e.g. from unicursal topology to multicursal topology, cf. Aarseth 1997).

The ideal is not to reconstruct beauty, but to overcome the gap between consciousness and communication: to communicate those observations that cannot otherwise

be communicated, i.e. to give access to a non-communicative world. Beauty is not a transcendently pre-existing fact which art must reconstruct; on the contrary, beauty is the potential outcome of artistic experiments, e.g. a result of interferential patterns.

The cyber-system is not an imitation of the world (although it is a common illusion concerning multimedia that their special ability lies in their imitational force: in this way multimedia are included in the programme of traditional modern art, i.e. to imitate the environment). Rather, the cyber-system consists of a difference, which is re-introduced into itself (the principle of re-entry): a difference, which is re-introduced into itself, creates complexity, thus creating an illusion of parallel (mutually interfering) worlds.

As originality is given up the idea of the role of the artist develops from the artist as the divine and indisputable creator (the primary cause) and the audience as the "impotent voyeur", to the artist and the art audience as co-creators or "co-investors" in a shared hypercomplex system. The role of the artist then is to create potential worlds through which "users" can create their own world realisations or make their own paths.

Regarding the relationship between the human being and technology the ideal of modernity of a master-slave relationship is challenged. Instead, technology is perceived as an agent in itself, and the human-technology relationship is understood as an agent-agent relationship in which not only the human being forms the technological agent, but also the technological agent forms the human being. Furthermore this latter formation process is reintroduced into the former. One example is digital media, which form the way in which human beings observe the world, including their observation of technology. This gives way to a new understanding of art as a creative process: technology is not the passive instrument of the artistic creator, but the interference between the human subject and the technological subject constitutes a create process.

As already mentioned, from the end of the 19. Century new artistic aims, representing the gradual realisation of our current polycentric society, have emerged. This trend was further developed during the first half of the 20. Century, by for instance Pablo Picasso, introducing multiple perspectives in the same picture, e.g. a portrait seen from different positions of observation. Here, the core assumption of polycentrism is articulated.

Take as an example the portrait from 1937 of Madame Nuschluard. It shows a younger woman with an elegant hat, curly, green hair and a dramatic dress with large buttons and angel figures on the facing. Again, as with the fresco of Masaccio, the interesting point regards the meta-communicative aspect of the painting. Here, it demonstrates that the artist and the audience are not anymore localisable. The observer observes Madame Nuschluard en face, in profile, and bottom-up. The painting articulates the conditions of a polycentric observer.

Another aspect of polycentric society is that reality is the joint product of those who

communicate. In art this was experimented with in participatory art works, and as a specific example Marcel Duchamp questioned the esoteric language of art using everyday things as sculptures with the inherent message that art is produced by everyone, and that something becomes art not by being constructed by the romantic art genius, but by being de-contextualised, i.e. moved from the ordinary context into the context of artistic observations.

Digital Tools and Works of Art

Computers and digital networks are tools in working life, in the public sphere, in government services and administration and in our daily life. However, they are also on their way into the world of art.

In the world of art, computers and digital networks represent yet another tool for artistic communication. In one sense, computers and digital networks are similar to other art tools. In another sense, however, they are radically different.

They are similar to other tools - such as oil and canvas for the painter, the written language for the author, clay and stone for the sculptor - in the sense that any tool of art can be defined as an observation and communication instrument. The painter observes and communicates the world through oil and canvas; the author does it through the written language, etc. The significance of these tools is not that they become obedient slaves in the hands of the art master, but that they represent challenges to the artist. Paintings are the result of the fight between the observation and communication materials and the artist, etc.

In what sense are computers and digital networks different from other artistic observation and communication media? How do interactive digital media influence our artistic observation and communication potentialities, and in which way do the specific qualities of digital media reinforce the differentiation of computer art as compared with traditional art?

In relation to the aesthetic ideal of "beauty" traditional art has reflected the role of the art work as a material object which one can specify in time and space and which is produced by one person - in some cases a group of persons - for an audience with reference to an external phenomenon or idea. It is well-known that aesthetics in addition to identifying the concepts of "beauty" or "sublimity" has aimed at providing rules for how to manipulate materials (sounds, colours, languages, raw materials) in order to reach the form which most appropriately articulate the idea of beauty or sublimity.

In a number of ways computer art tools are different from traditional art tools, influencing the potentialities of the artist to reflect his/her social conditions and world experiences. Similarly, the change of the work of art from a solid thing into a digital programme or structure influences the ways in which the artist may manifest his/her intentions in relation to an audience:

Typically, both art tools and works of art are immaterial. This implies that the artist does not manipulate a certain object but rather a programme.

Consequently, the traditional concept of originality is challenged (this is actually a well-known issue, cf. Benjamin 1974). While traditional art is based on the idea of a

certain intention being articulated or represented in one particular and original way - the original vs. the copies -, one cannot tell the difference between a digital original and copy-originals which may be mutually identical or may be realised in different representation formats.

The final result is not a given work of art but rather a programme, which articulates itself in a large number of (partly un-controllable and/or self-generating) forms of manifestation. Digital art represents a trend from originality to self- or hetero-manipulability. As an example, the audience and/or the specific conditions of reception may play a co-producing role. Consequently, the specific form and manifestation of the work of art may depend on its specific condition of use, e.g. when computer images or sounds are influenced by resonance-based feed-back effects which emerge during the “exhibition” of the work of art.

Sometimes the assumption that a work of art can be specified in time and space is challenged, e.g. when the work of art exists as a set of potentialities in cyberspace, one example being electronic “ergodic” tales on the network (cf. Aarseth 1997). Consequently, there is a trend away from time/space specificity to time/space de-specification of the work of art.

As a consequence one may assume that computer art represents a transgression of classical forms of art. This is not the result of computers and digital networks. It is primarily the result of the artists’ articulation of the transition from modern to the current hypercomplex society. However, it is my assumption that interactive digital media represent a particularly adequate medium for articulating this transition. Thus, computer art as an aesthetic articulation of hypercomplexity is benefiting from the particular dynamics, the immateriality and the unspecificity in time and space of digital tools and works of art which influence the relation between artist and object, between audience and object, and between artist and audience. For instance, it seems that the ideals of a new aesthetics depend on the dynamic relationship between order and complexity such that “beauty” is not the result of a reduction of complexity (which is often seen as an implicit assumption), but that “beauty” emerges through higher orders of complexity which are reached by letting complex systems interfere, so that patterns of seemingly “natural” beauty occur as the result of these interferences - and with the artist playing only a facilitating role. Here, digital art tools provide particular opportunities of the artist to articulate interferences and differentiation of observation positions. This implies that “beauty” or “sublimity” is not the representation of any kind of pre-existing “order” or basic human faculty, which the artist with his or her obedient tools tries to express. On the contrary, “beauty” is the final result of the fight between the artist-agent and the technology-agent and between different forms of complexity, which interfere within the dynamic artwork (re. the concepts of “artist-agent” and “technology-agent” see Bruno Latour’s concept of “human-agent” and “technological-agent”, cf. Latour 1994 and 1996).

Digital Art Forms and Polycentrism

In the following sections I will exemplify the use of digital art tools for the aesthetic reflection of our current hypercomplex social conditions. Among a number of possibilities which are only empirically limited I have chosen the following four themes:

1. The differentiation of observation positions.

Here it is exemplified that digital technology can be used for expressing the experience of hypercomplex society that the belief in one, common observation position, represented by the Kantian transcendental subject, is being replaced by a polycentric observation and communication structure.

2. From user-subject vs. technology-object to an agent-agent relationship.

Here it is exemplified that the belief of the artist as a human subject who should master his or her tool in such a way that it becomes a passive medium for expressing the inner intentions of the artist in the final work of art (a belief which parallels the pre-modern idea of the artist as a neutral medium for the articulation of religious ideas) is replaced by the assumption that technology is an agent which interacts with the artist-agent.

3. From artist-subject vs. audience-object into a mutual art observation position.

Here it is exemplified that the traditional distribution of roles between artist and audience is replaced by a collaborative situation in which both the artist and the audience play active roles. They are both observing or constructing the world through the code of art, however with the artist as the one making the first choice. Put in another way one may say that the traditional idea of hermeneutics - that the art user through his or her interpretation of the work of art performs a mental transformation of the art object - is developed into a situation in which the art user actually modifies the digital work of art or that he or she realises a specific version of the art programme. The distribution of roles can thus be seen as one in which the artist puts forward a set of digital potentialities while the audience has a realisation role.

4. From the aesthetics of beauty into the aesthetics of interference.

Here, the achievements of hypercomplex, digital art are summarised into a reflection of our current aesthetic potentials. While post-modern ideology has believed that the normative or transcendental aesthetics of beauty should be replaced by an "anything goes" attitude, for me it is obvious that we are entering a phase in which the task of the artist is not to look back or into him- or herself, but to realise potentials out of which aesthetic forms grow. While the aesthetics of beauty represented a metaphysical idea of originality, the aesthetics of interference represents a meta-biological of potentiality.

In my analyses I am referring to the French computer artist Maurice Benayoun, to the American digital performance artists Diller and Scofidio, and to the Danish performance group Hotel Pro Forma, directed by Kirsten Dehlholm.

The differentiation of observation positions

One example of the articulation of hypercomplex society's polycontextuality can be

found in the multimedia musical “Monkey Business Class” from 1996 which was realised in a collaboration between Dumb Type from Japan, Diller and Scofidio from the US and Hotel Pro Forma.

The play represents the ongoing aim of Hotel Pro Forma to experiment with inter-ferential aesthetics. Basically, the musical is about money as current society’s suggestion for an alternative to the traditional transcendental human subject as a universal code provider. Money is an icon of inter-human relations, and the “motto” of the musical is the so-called “biometric access control system’s” final solution to the problems of credit cards etc., i.e. to identify the user. The print of a finger, the recognition of a voice, or the scanning of an eye give the answer to the machine that asks the question: “Are you who you say you are?” Here, most of the themes summarised above are represented. The play is about human-technology interaction, with technology playing a very important and active role. It is about the status of the human “self” - a question that ironically is not asked by a human being, but by a money machine. It is about the relationship between polycentrism and monocentrism, with money as present society’s suggestion for a unifying code system. Here, however, the play does not recur to “pure” or “authentic” humanity as the alternative to the economic code. On the contrary, the “answer” to the economic code is differentiation, or, with the concept of Gotthard Günther, polycontextuality.

Actually, polycontextuality, i.e. differentiation of observation positions, is the dominating meta-theme of the play. The musical demonstrates polycontextuality as a cultural situation with three singers at the front of the stage, each singing in their own language as representatives of three different cultural stereotypes: an American cowboy, a Japanese geisha, and a Danish sailor. It demonstrates polycontextuality through the interference of artistic times: American musical is sampled with recital of texts from the medieval morality play “Everyman”. It simultaneously combines front stage singing, mid stage choreographed dancing, and back stage morality recital. And finally, and most important in the present context, it demonstrates differentiation of observation positions by recording the actions at the stage from one side of the stage and/or from the ceiling, recordings which are being simultaneously transmitted on huge videoscreens above the stage floor. In this way audience perspective is turned up side down as the front and side positions are mixed up, and the horizontal and the vertical change places.

In 1998, Diller and Scofidio have further developed this representational experimentation in their play “Jet Lag”. The first act of “Jet Lag” is about the English sports sailor Rodger Dearborn. He gives the impression of making a solo sail around the world while actually circling off the coast of Argentine. However, through a video-camera and -recorder on the ship, through radiophone transmissions etc. he maintains the impression of being on his track. Thus, the play is about being lost in space and time, and it is about the interference between “real” positions and media based positions.

As in “Monkey Business Class” the stage combines several representational layers. In the middle there is a very simple representation of Dearborn’s boat with a small

screen behind Dearborn. On this screen his current context - the silent or roaring ocean, the interior of his cabin, etc. - is represented by video. In front of him he has a video camera from which his "situation" is transmitted to a large back stage screen with seemingly realistic video clips from his boat. Behind a transparent front stage glass wall other actors - BBC reporters, his wife, radiophone technicians, etc. - sit. They are as well transmitted to the large back stage screen. Thus, the audience is confronted with several parallel representational observation positions and transmission channels in the play. For instance, in the opening scene Dearborn appears on the large screen behind the BBC newscaster who reports on Dearborn's progress. In the following scene Dearborn appears on stage live, with the small screen behind him gently moving with the ocean video on it. Then he turns on the camera in front of him, and the scenery is transmitted to the large screen. In a third scene the audience listen to Dearborn's radio transmitted communications while following his fictitious and real positions through a back screen transmitted cartographic depiction.

From User-Subject vs. Technology-Object to an Agent-Agent Relationship

One of the expressions of the anthropocentric world was that the human being was the centre of society, not just normatively but also as an acting subject. In the middle of the world was the sovereign human, who realised his/her will by means of tools and technologies, and as the final project had the conquest of global society. Imperialism was its global icon, while the control and exploitation of nature was a similar technological symbol.

However, with the transition from an anthropocentric to a polycentric world order this project has reached a crisis. The belief in a universal, Eurocentric culture has lost its legitimisation, and so has the idea of the taming of nature. French sociologist Bruno Latour has reflected this development. As a consequence he does not accept the traditional division of work between on the one hand the acting subject (the human being) and on the other hand the passive object (technology). Similarly, he does not accept any natural or universal social order. For him the starting point - the normal condition - is chaos, and order only represents an exception.

"Universality or order is not the rule, but the exception which one must explain." (Latour 1996 p. 50, my translation LQ). Such an order is established in what Latour calls provisional network constructions, so-called "agent networks", in which many small agents establish provisional couplings which through their complexity creates a certain stability in the sense of inertia. "Strength does not come from concentration, pureness and unity, but from distribution, heterogeneity and by carefully weaving straws." (Ibid. p. 49, my translation LQ)

Particularly, technological objects - or artefacts as they are coined by Latour - are not passive objects formed by sovereign human actors. No, artefacts themselves participate as co-acting agents, forming human subjects who according to tradition have had the monopoly of action. It is not just technology that is formed by human subjects. Also, human subjects are formed by technology. This state of affairs is not

something, which - as an anthropocentric analysis would claim - should be criticised. On the contrary it is an expression of and a precondition for creativity. With the expression of Latour “hybrid agents” are created, i.e. symmetrical exchange patterns in which both human psychology and artificial technology are modified.

Based on this analysis Latour suggests that the relationship between humans and technology is understood and accepted as a “symmetrical exchange system.” Provisional situations occur which can stabilise in provisional orders, but which may also due to the autonomy of the participating agents lead into new dynamic transformation processes. The idea of some hidden, but ideal “final” or “highest” state of affairs - and thus the idea of progress as a universally identifiable concept - has become an illusion.

As a reflection of this condition of hypercomplexity new information technologies are increasingly included into the dramaturgical language as co-acting stage agents playing a role as active and important as the role of human actors. One example is provided by the Hotel Pro Forma performance “House of the Double Axe / XX” from 1998. The basic ingredients of the performance are a choir (in the sense of the classical Greek theatre), a soloist, a dancer, a music group, and an artificial environment or stage constructed by light, music and sounds. The central square of the performance is an arrangement of light. Using a so-called “double-scroller” a large number of images and patterns are mutually super-imposed creating an interferential effect of beauty. In this play the double-scroller plays a role which is as active and important as the roles of the other actors, indeed more expressive and central as the choir of neon-colour dressed pop girls with kitchen tools.

The same kind of interference between actors and technology is realised in “Monkey Business Class” with the videofilming and transmission of agents into the large back stage screen. Here, a central dramatic interaction is the one between human actors and their own artificial, digital representation on the screen. Instead of a traditional subject-object structure a dynamic agent network is created with human-agents, technology-agents and representational agents playing mutually important roles.

From artist-subject vs. audience-object into a mutual art observation position

A third impact of the transition from anthropocentrism into polycentrism is the modification of the artist and audience roles: They change from a subject-object role distribution into a situation of mutual and parallel art observation roles, however with the artist as the one making the first choice or making the initial differentiation. It is my assumption that computer art, and particularly interactive multimedia art, represents the latest and most fully developed phase of this development of art. I would like to illustrate my point with one specific example: the French multimedia artist Maurice Benayoun’s *Le tunnel sous l’Atlantique*. This is a virtual tunnel under the Atlantic Ocean connecting Paris and Montreal. At each end of the tunnel a user looks down into the mouthpiece of a tunnel in which a screen and a loudspeaker

represents the “underworld.” With a joystick the user digs his way through virtual caves and galleries lead by sounds and music which are co-created (or “actuated”) by the movements of the joystick. If one is lucky one may meet the other, digging from the other end of the tunnel, represented by a transparent picture at the other end of a corridor. The technique behind is that both users are connected to a computer in whose multimedia database the virtual subterranean world is represented as a large number of image and sound combinations which are activated with the joystick. Each single representation is connected to others as links in a hypertext, and new textual fragments are activated by the movements of the joystick, giving an illusion of a three-dimensional multimedia search procedure. While “digging” a digital camera projects the user’s face into the actual position in the database so that one can be “found” by the other. What is created is not an illusion of “reality.” The work of art represents a construction of virtual worlds alternative to the so-called real world. The sub-Atlantic world is not a world representation, but a world construction.

At the surface level a number of strong metaphors are articulated. For instance it is clear that “light” plays a central role: The channel is a light tunnel in the sense that light beams from the mouthpieces. Also, light plays a double role: it is both heaven and hell, heaven in the sense that it is the aura of The Other which can be found by digging one’s way through the tunnel, hell in the sense of fires coming from the underworld.

Also, a number of narrative conventions are activated. For instance, the combination of affection and perception image (cf. Deleuze 1983 and 1985) is used. The dominating narrative situation is the one of the affection image which in film is the image representing the main character (the audience being put into the perspective of the actor), and which in the tunnel is the user digging his/her way through the underworld. Now and then the affection image is replaced by the perception image which in film is the image representing the whole situation, and which in the tunnel is a map of the current position. This again has become a basic convention in many computer games, demonstrating the fact that in computer art many art forms are combined such as painting, film, computer games, gardening, music, sculpturing, and dramaturgy.

However, at a deeper level it is obvious that “the tunnel” is not just a “re-cycling” of already known and conventionalised metaphors and narratives. On the contrary, “the tunnel” demonstrates that these new works of art - computer art - radicalise the communication of art, which has gradually developed since the beginning of this century.

First, it is demonstrated that there is not one but many perspectives. Or, in a more radical sense interactive multimedia works of art demonstrate that their particular world construction is seen and constructed from within themselves. The perspective is not given ex ante but is created by the specific work of art. The context, which is articulated, is an “internal context”.

Furthermore, “the tunnel” signifies that artistic reality is the joint product of those who communicate through art. The artist acts as a facilitator, but the work of art is

only actuated through the intervention of the so-called “audience.”

Finally, this specific work of art - but indeed also many other interactive multimedia art works - demonstrates the role of art to provide a utopian mediation of separated observers. Here, the tunnel demonstrates the utopian aim of art to communicate what cannot otherwise be communicated. It is my assumption that in these respects “the tunnel” is not an exception, but that it represents the general trend of contemporary interactive multimedia art. This shows that so-called “computer art” is not something external to the general art world - a product of technology being introduced from the outside - but that it grows out of existing art trends, representing an integrated phase within the development of art in this century using interactive, digital media as a new and appropriate means of articulation.

The Interference of Digital Media and the Body Medium: Hotel Pro Forma

The transgression from traditional world order into hypercomplexity is also a transgression from metaphysics to metabiology. What do I mean by that? Metaphysics represented an idea of order, which existed *ex ante*. This was the order - e.g. the old European idea of beauty - which art was supposed to reconstruct. The artist looked into himself - into his soul or heart of deep feelings - or she looked back into a golden past or up into a higher order or world spirit. Here, the authentically or universally beautiful could be found. The result of this approach was a normative and unifying aesthetics. The one represented by Burke’s concept of beauty, and not by his concept of sublimity, which was later on further developed and discussed by Lyotard (cf. Lyotard 1988). In comparison metabiology constitutes an order which exists as a result of world dynamics. Here order occurs as a product of the development of reality, for instance as patterns emerging through fluctuations (cf. Ilya Prigogine’s ideas of dissipative structures). Order - perceived as pattern development - emerges by the artist’s playing games, through unexpected and non-predicted patterns occurring from playing games with well-known and banal elements are invested in new games. The aesthetic project is not looking back - realising hidden authenticities - but it is looking forward, into the not yet realised latencies. With this New World order we have replaced an aesthetics of beauty by an aesthetics of interference.

One way to articulate this “metabiological” world order is to establish an interference between digital media and other media (for instance: the body as a medium for artistic expressions in interference with digital media). The interferential qualities of computer art realised through interferences between digital media and body media can be found in many of the Hotel Pro Forma performances. Since 1985 under the direction of founder and artistic director Kirsten Dehlholm this performance group has experimented with the articulation of artificial space in a polycontextural world, with the constitution of a subject-subject relationship between technology and art, and thus with the development of interferential aesthetics.

It is clear that interference is a basic artistic construction principle through the many performances of Hotel Pro Forma. One obvious example is the opera “Operation :

Orfeo" from 1993. The music originates from three different sources: John Cage's minimalism, Danish composer Bo Holten's renaissance inspired choir, and Gluck's aria 'Che faro senza Eurudice' from his opera about Orpheus and Euridice. The point is, however, that this does not create a post-modern "anything goes" atmosphere of de-contextualised quotes, but that the interference of music styles create a new, complex pattern of beauty.

Also, interferences between different narratives can be found in Hotel Pro Forma productions, cf. the above-mentioned musical "Monkey Business Class" from 1996 where the narrative of a medieval morality play interferes with the narrative of the musical and the "meta-narrative" of money.

Another explicit quality of Hotel Pro Forma productions is the experimentation with space representation. For instance, it seems to be an ironic comment to our contemporary technological achievements where three-dimensional spaces are constructed and represented on two-dimensional computer screens that the large three-dimensional scenic space of "Operation : Orfeo" is transformed into a seemingly two-dimensional flat canvas. Generally speaking, most Hotel Pro Forma productions lie somewhere between theatre and exhibition, thus transforming conventional theatre with its focus on a linear narrative which is "mise en scène" into a "live" installation exhibition in which the "scène" is so to speak "mise en narrative".

In "House of the Double Axe / XX" from 1998 some further realisations of these themes as the basis for the theatrical performance can be observed. In particular the aim of the performance seemed to be the construction of beauty, not as the realisation of an already existing universal "order" of beauty (beauty as a transcendental principle), but as the result of interferences of mutually complex systems. As already mentioned the basic ingredient of the performance is the "double-scroller" with which a large number of images and patterns are mutually super-imposed creating the effect of beauty as "higher-order-complexity". As a matter of fact, this constituted the basic theme of the performance: that beauty is effected by the interference of mutually closed systems of complexity, and thus that beauty does not necessarily follow through "extraction" of complexity into simple systems, but that it may as well follow as the result of spontaneous or stochastic interferences, e.g. through the technical creation of higher levels of complexity into seemingly chaotic forms.

The same idea is articulated by the choir. Here, pieces of trivial pop-poetry or daily-life actions (the sharpening of knives, etc.) are super-imposed in much the same way as it is done in the musical tradition of "minimalism": Simple rhythms, banal rhymes and trivial poetry are mutually staggered by a few seconds, and as a result new patterns of beauty emerge.

For the time being a climax in this experimentation with the aesthetics of hypercomplexity or interference has been reached with the combined opera and lecture with slides "Chinese Compass" from 1998.

As already mentioned a basic assumption of hypercomplex society is that we do

not live in one world, but in a world of worlds. Exactly this theme - the question regarding world differences - is the basic theme in the performance: You live in your world, I live in mine, or how is it possible not to divide the world, but to share it? This is not done in the sense that we develop into a common world. This dream - the "conservative utopia", the dream of yesterday - is not valid anymore. Consequently, the initial lines of the essay - the slides lecture - of the play are: "With a frog living in a well, you cannot speak about the sea. It only knows its own hole." Does that imply that we live in each our isolated world without mutual contact? No, by it implies that any human communication as its starting point has the border or the barrier. Any communication is between an ego and an other ego, the alter ego. How can this kind of communication be realised? It can be realised only by letting the ego constructing the other as an image of him- or herself. As no other coupling is possible I have to construct the other as an image of myself, while I of course know that this is not true: The other ego is an alter ego. This problematic is represented by the other pole of the slides lecture of the play: "I dreamt that I was a Chinese, and when I woke up I did not know whether I was a Chinese speaking Danish, or a Dane dreaming as a Chinese. On line with this theme at the end of the play the two main characters - a Dane and a Chinese - speak to each other in the other's language: The Dane in Chinese, the Chinese in Danish. They put themselves into the place of the other without - in a traditional utopian way - to merge together or to establish a common world or a Habermasian life world. The performance celebrates - in its title and its basic theme - the Chinese compass, i.e. a compass which is not used for finding your way to a rational goal in or for the world, but a compass which represents a goal in itself, because it shows the way out of the world or out of times.

Conclusion: The Impacts of Aesthetics Experimentation

It is my final statement that form experiments such as the ones I have referred to are not just relevant in a closed "avant-garde" context, but that they have a much wider relevance. New aesthetic multimedia languages are developed at the art stage, rather than in the multimedia industry. But why are these aesthetics experiments relevant in a multimedia context? Is it just because every artist, talking in the language of his or her current social world, are contributing to the formation and transformation of our self-understanding? Is it because sooner or later the aesthetic avant-garde will be followed by the broader mass of industrial designers? No, this is not the only or the most important reason. The Danish artist Poul Henningsen - or the Finish artist Alvar Aalto - was not a front figure in Danish design because he was a great artist, but because he also spoke the language of industrial design. Similarly I will claim that some of the artists and experimental groups referred to above - e.g. Hotel Pro Forma - speak the language of multimedia. Because Hotel Pro Forma consciously and at a high stylistic level experiments with new aesthetic form languages, but also because they involve new digital technologies in their performances there is reason to believe that their stage language can be transformed into a form language for digital media, so that the current market- and technology-driven aesthetic development can be supplemented with artistic

and aesthetic competencies. As a further argument the dynamic installations and/or agent based stage sculptures which are so typical for Hotel Pro Forma, in an obvious way resemble and challenge the inhabited, virtual worlds of multimedia. For this particular reason the form experiments of Hotel Pro Forma and other artists might get a significance far beyond the closed circles of the traditional art world and deep into the form language of digital media.

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Literature

Espen Aarseth: *Cybertext. Perspectives on Ergodic Literature*. The John Hopkins University Press, Baltimore and London 1997.

Gregory Bateson: *Sacred Unity. Further Steps to an Ecology of Mind*. Harper Collins, New York 1991.

Walther Benjamin: "Das Kunstwerk im Zeitalter seiner technischen Reproduzierbarkeit", in: *Gesammelte Schriften*, Vol. 1, Frankfurt a. M. 1974.

Niels Brügger and Finn Frandsen (eds.): *Filosofiske forskydninger. En bog om Jean- François Lyotard*. Akademisk Forlag, Copenhagen 1989.

Edmund Burke: *A Philosophical Enquiry into the Origins of our Ideas of the Sublime and Beautiful*. London 1958 [1757].

Gilles Deleuze: *Cinema 1-2, L'Image-Mouvement and L'Image-Temps*. Paris: Les Editions de Minuit 1983 and 1985.

Mette Juhler and Lars Qvortrup (Eds.): *Computer @rt as World Construction*. Forthcoming (1998).

Gotthard Günther: *Beiträge zur Grundlegung einer operationsfähigen Dialektik*. Zweiter Band. Felix Meiner Verlag, Hamburg 1979.

Edmund Husserl: *Fænomenologiens idé* (The Idea of Phenomenology). Hans Reitzels Forlag, Copenhagen 1997 [1907]. Translated from *Die Idee der Phänomenologie*, Husserliana II, Martinus Nijhoff, Den Haag 1973.

Immanuel Kant: *Kritik der reinen Vernunft*. Philip Reclam Verlag, Stuttgart 1966 [1787].

Immanuel Kant: *Kritik der Urteilskraft*. Philip Reclam Verlag, Stuttgart 1971 [1790].

Bruno Latour: "On Technological Mediation", in: *Common Knowledge* 3, 1994 p. 29-64.

Bruno Latour: *Aramis or the Love of Technology*. Harvard University Press, Cambridge MA and London, 1996 (translated from *Aramis, ou l'amour des techniques*. Editions la Découverte 1993).

Bruno Latour: "Om aktørnetværksteori" ("On agent-networks theory"), in: *Philosophia* 23, 3-4, Aarhus 1996.

Niklas Luhmann: *Soziale Systeme*. Suhrkamp Verlag, Frankfurt a.M. 1984.

Niklas Luhmann: *Die Kunst der Gesellschaft*. Suhrkamp Verlag, Frankfurt a.M. 1995.

Niklas Luhmann: "Instead of a Preface to the English Edition: On the Concepts

'Subject' and 'Action', in Niklas Luhmann: *Social Systems*. Stanford University Press, Stanford CA 1995.

Niklas Luhmann: *Die neuzeitlichen Wissenschaften und die Phänomenologie*. Picus, Wien 1996.

Niklas Luhmann: *Die Gesellschaft der Gesellschaft*. Suhrkamp Verlag, Frankfurt a.M. 1997.

Niklas Luhmann, Frederick D. Bunsen, Dirk Baecker: *Unbeobachtbare Welt. Über Kunst und Architektur*. Bielefeld 1990.

Jean-François Lyotard: *L'inhumain*. Galilée, Paris 1988 (including: "Le sublime et l'avant-garde" (1984) and "Après le sublime, état de l'esthétique" (1987)).

Kasper Nefer Olsen: "Anæstetik". In: Niels Brügger and Finn Frandsen (red.): *Filosofiske forskydninger. En bog om Jean-François Lyotard*. Akademisk Forlag, Viborg 1989.

Giovanni Pico della Mirandola: "De hominis dignitate". I have used the translation by Elizabeth Livermore Forbes in *Journal of the History of Ideas* 3, 1942.

Lars Qvortrup: *Det hyperkomplekse samfund*. Fjorten fortællinger om informations-samfundet (The Hypercomplex Society. Fourteen Tales about the Information Society). Gyldendal, Copenhagen, 1998.

Paul Watzlawick, J. H. Beavin, and D. D. Jackson: *Pragmatics of Human Communication*. New York 1967.

Dan Zahavi: *Husserls fænomenologi* (Husserl's phenomenology). Gyldendal, Copenhagen 1997.