

# WHERE ART AND SCIENCE MEET (OR WHERE THEY WORK AT CROSS- PURPOSES)

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## Attunement

So-called new media art, occasionally referred to as “science art”, undoubtedly creates paradoxes. It has repeatedly been pointed out that one of the main causes for these paradoxes lies in the “*ontologische Indifferenz*”<sup>1</sup> of new media art as indicated by the oxymoron “science art”. Is it science or art, both or neither of them? If a scientist (who without doubt is socialised differently from an artist) gets caught up in the maelstrom of media art and is keen on the new possibilities it offers, then she or he is at risk of being squelched under the wheel of the discourse as a result of the prevalent ambiguities. The convergence of art and science stimulates a kind of an immune system whose antibodies can be called destruction or deconstruction.

Interactive media art is systemic *per se*. With regard to this cybernetisation of art and science, a growing “affirmative negation logic” can be observed. System criticism becomes constitutive for knowledge and social systems that are criticised. Any escape seems difficult. On the one hand, art history predominantly wants to see the overcoming of the avant-garde’s definition of art as general criticism. If, on the other hand, an artist addresses a scientific issue without explicitly criticising or satirising, then she or he is reproached for having an anachronistic recourse to a romantic concept of nature. Science in turn takes up avant-garde art’s self-referentiality as essential for its own concerns and attempts to develop synergetic models of creativity from it that, in a sense, are composed of two antagonistic poles.<sup>2</sup> This indicates exactly how the negative logic leads to the absorption of art into the system.

Annette Hünnekens and Claudia Giannetti are among the first who worked on a summary of hypotheses and a derivation of a theory for interactive art, respectively.<sup>3</sup> Whilst Hünnekens discusses different artistic and theoretical positions and explains the underlying paradigms, Giannetti outlines an endo-aesthetics as part of digital aesthetics, which itself can be conceived of as paradigmatic. The endo-aesthetic concept directly follows Otto E. Rössler’s endophysics, which is a natural scientific theory that radically renounces the subject-object distinction.<sup>4</sup> Endophysics and its proximity to interactive art is controversially debated and serves as an instance of how transgressions between art and science can create enormous tensions in the

1 Hünnekens refers to a lack of distinction between art and science and speaks in this context of a “crisis of ontology” (Hünnekens 1997, p. 16). Mersch and Ott discuss the “historical differences and indifferences between art and science” (Historische Differenzen und Indifferenzen zwischen Künsten und Wissenschaften) (Mersch/Ott 2007, p. 9). I have chosen the term “ontological indifference” in order to refer to Heidegger’s notion of “ontological difference”.

2 Tröndle 2007, Tschacher/Tröndle 2005

3 Hünnekens 1997, Giannetti 2004

4 Rössler 1992

natural sciences, too. As a rule, however, border-crossers are barely recognised in the natural sciences. "Artists-in-Labs"<sup>5</sup> or similarly called programs have no corresponding "Scientists-in-Studios" programs or the like. Here the meta-level of reflexion is obviously attributed to art.

Within the science enterprise there does not seem to exist a larger need to reflect on the interrelation of art and science and thus about paradoxes, except for rhetorical reasons, as in: "we are also creative, so somewhat artistic after all." Often, a rudimentary understanding of aesthetics settles the matter, reducing art to the production of the "beautiful", since all the same "beauty" underlies scientific motives too. A second component of the scientific referring to art is its attempt to explain art as an emergent phenomenon within the scope of complexity theory, supporting its reduction to the "beautiful." Finally, art is seen in its functional role as a generator of creativity.<sup>6</sup>

In the following, starting out from existing perceptions amongst scientists of what the role of art is for science, I will try and work out a hypothesis on a paradox of interactivity based on Heidegger's use of the concept of reification (*Verdinglichung*).<sup>7</sup> I will also pick up on some philosophical positions which attest the avant-garde stream to have contributed to their own absorption by science. According to Axel Honneth's interpretation, which comes close to Heidegger's application that I adopt here, *Verdinglichung* is a failure of Being (*Seinsverfehlung*).<sup>8</sup> The ontological notion that "the world is a differential equation" is rarely expressed in such an explicit way, however, *de facto* implied in the scientific practice to a large extent. This can be considered as only one possible manifestation of *Verdinglichung*. The represented gets equated with the representation and, therefore, deprived of its existential quality.

Hünnekens has already pointed towards the difference which is reduced or missing due to interaction and by which some theoreticians even conclude that interactive installations cannot be art. I myself interpret this missing difference as an increase of *Verdinglichung*. This would abrogate Heidegger's distinction between science, that shows a tendency toward *Verdinglichung*, and art, which possesses a potential to wriggle out of *Verdinglichung*. This trend presents a certain consequence of the historical evolution of art. Above all, media art's proximity to technology and to topics of the natural and social sciences has convincingly been associated with a culmination of two tendencies that have been laid out by the avant-garde: its definition as a pure negativity as well as the integration of life into art. The result of this integration is precisely the indifference which should be conceived as a chance for the

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5 Scott 2006

6 Tröndle 2007; Tschacher/Tröndle 2005

7 Objectification or reification are possible translations. I nevertheless prefer to keep the German expression in order to avoid blurring the meaning (Jahraus 2004).

8 Honneth 2005

emergence of new cultural cornerstones from the perfect mixture, rather than as an occasion for polemics or perplexity.

The scientific tendency towards *Verdinglichung* – although not introduced as an essential concept in a Marxist context until Georg Lukacs<sup>9</sup> – was critically addressed by philosophers of life in particular.<sup>10</sup> Simply put, science reduces nature to its essences in terms of measurement or observational values. The technical applications of Shannon's information concept sharpened this tendency. In my judgement, Shannon's mathematical definition of information has commonly been generalised in an ill-considered way. One can speak of "datafication" or "cybernetisation" of life. As the complement of the essences<sup>11</sup>, the existences, can hardly be specified, the philosophy of life was often testified to have had a mystic character. Those scientists (e.g. Ilya Prigogine), operating on the edge of that mysticism, who want to dispense with the narrow systemic corset yet define themselves exact scientists rather than vitalists, are at a loss for explanations.<sup>12</sup> This is mainly due to science's lack of a conception of time. Introducing the concept of the "existential", Heidegger created a philosophical framework within which that which (almost) defies discourse can nonetheless be thematised in a performative way. Jahraus speaks of an "auto-performance"<sup>13</sup> with respect to Heidegger's philosophy and relates it to the hermeneutic circle. A result of the effort not to fully detach science from Being is the incorporation of artistic degrees of freedom into the system theoretical approach. Exactly this, however, contributes to a kind of systemic conditioning of art<sup>14</sup> and to the aforementioned indifference. The path of a *performative science* proposed here from the scientific perspective, attempts to abandon the representationalist reduction of art and rather highlight its performative power. What originates as a result of the adoption of performative concepts is not per se conceptualised as art, but merely an attempt, in the fashion of art, not to disregard existence (*Dass-sein*, cf. footnote 4). Contemporary art is no longer dominated by the paradigm of the avant-garde. According to my hypothesis that an increase of *Verdinglichung* results from the application of the avant-garde's conception of art especially with respect to its relation to science, this renunciation is welcome. However,

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9 Honneth 2005

10 Amongst them, Henri Bergson (1911, 1948) counts to the most prominent because the importance of his work for contemporary system theory has repeatedly been stressed by Nobel prize winner Ilya Prigogine (1985).

11 "Essence" is a vexed issue. Scientists speak of grasping the "essence" when they attribute measures to something. Some philosophical streams regard "existence" as the "essence" of Being. I follow Heidegger who discriminates being in "Was-sein" and "Dass-sein", i.e. "Wesen" and "Existenz" or *essentia* and *existentia* (Jahraus 2004, p. 193). In other words, "existence" is what fails when taking measures.

12 Holzhey 2004

13 Jahraus 2004, p. 193

14 Dammbeck 2007

my provocative supposition is that the subversive avant-garde paradigm is not obsolete when being incorporated into scientific methodology.

## Retroactive Systems

Hünnekens mentions, in passing, Hans-Peter Schwarz' suggestion of calling the new stream, "retroactive art".<sup>15</sup> From a system-theoretical point of view the disappearance of this notion is regrettable. Systems are called "retroactive" if they include components that are capable of modelling those systems in order to enable the derivation of an intervention strategy from a simulation of that model.

Retroactive systems are thus subject to change exactly because we model them. They are dealt with in psychology, ecology, economics and sociology, to name but a few. In the course of their theoretical pervasion such systems create problems of self-referentiality that are the subject of both *second order cybernetics* and *endophysics*. It is retroactive systems in particular that render performative methods almost inevitable and provide an excellent reason to make methodological borrowings from retroactive arts. Being a disciple of Otto Rössler, my own transgression has been evoked through *endophysics* as well. The subversive idea of the brain's thermic noise entailing an uncertainty that projects onto the outer world is only one instance of a figure of thought that can be encountered in media art. For many years now, the media artist Bill Seaman has drawn explicitly on *endophysics* and has been cooperating with Otto Rössler.<sup>16</sup>

## Remarks on *Verdinglichung*

Interactive media art draws *per se* on a cybernetic world-view. Recipients' measurable state variables are used to control the rest of the "machinic eigenworlds." Such an art is at a risk of increasing the degree of cybernetic *Verdinglichung*. Paradoxically, an interactive media installation offers science the possibility of reducing *Verdinglichung*. The integration of life into art or vice versa leads to a balancing act between contingency and habituation, between performativity and repetition.

*Verdinglichung* is seen here as a gradual property.<sup>17</sup> I assume that an absolute absence of *Verdinglichung* does not exist but can only be approxi-

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15 Hünnekens 1997, p. 15

16 Seaman 2007

17 Note that Axel Honneth (2005) applies *Verdinglichung* only to extreme lapses of Being.

mated. Heidegger operates with the notions of “present-at-hand (*vorhanden*; *Vorhandenheit*)” and “ready-at-hand (*zuhanden*; *Zuhandenheit*)” in order to emphasise the necessary detachment from ordinariness with respect to the appraisal of art.<sup>18</sup> Interactive art is not only present-at-hand but also ready-at-hand – in accordance with the avant-garde’s demand to integrate life, but at the same time increasing the inclination towards *Verdinglichung*. I identify an entire *Verdinglichung* with the complete abdication of man’s (capability of his) freedom of choice towards the machine. These are cases where – to put it crudely – the human is condemned to being a machine that merely nods things through.

## EyeVisionBot

By means of “EyeVisionBot” (Fig. 1), an interface for image search, the above introduced line of thought can be demonstrated in an exemplary way.<sup>19</sup> From a technical point of view the device consists of an eye-tracking unit, a database (potentially the www), a visual display and several computers that host the control software. The latter controls and analyses the gaze tracking, accesses the database, and steers the visual output. Simply put, the eye-tracking device detects the viewing direction of the user. With this it is possible, given a display of twenty-five images arranged in a 5 x 5 matrix, to determine which images are looked at and for how long (Fig. 2a-b). Those images being momentarily looked at become slightly magnified in order to give visual feedback. After a certain time, five times five new images are retrieved from the database and shown on the display. This



**Fig. 1. EyeVisionBot**

18 Jahraus (2004, p.79) summarises Heidegger’s thoughts on art as following: “Umgekehrt aber sieht er in der Kunst einen ästhetischen Ausdruck dessen, was die Technik gerade vergessen macht: die Teilhabe am Sein. [...] Während Heidegger an der Technik Verdinglichungstendenz metaphysischen Ausmaßes herausarbeitet, soll die Auseinandersetzung mit der Kunst gerade dazu dienen, diese Verdinglichungstendenz zu überwinden.”

19 Fischer et al. 2005

time, instead of a random selection (as was the case with the initial access), the detected gazing-durations are used to pre-estimate the most desired categories, which are then preferentially accessed. A category is defined by potential classifications applied to the database and structural similarities of the images. Given a non-classified database, the search can be made on the basis of structural relations alone. The structural comparison is conducted with the open source software GIFT (GNUImage Finding Tool).

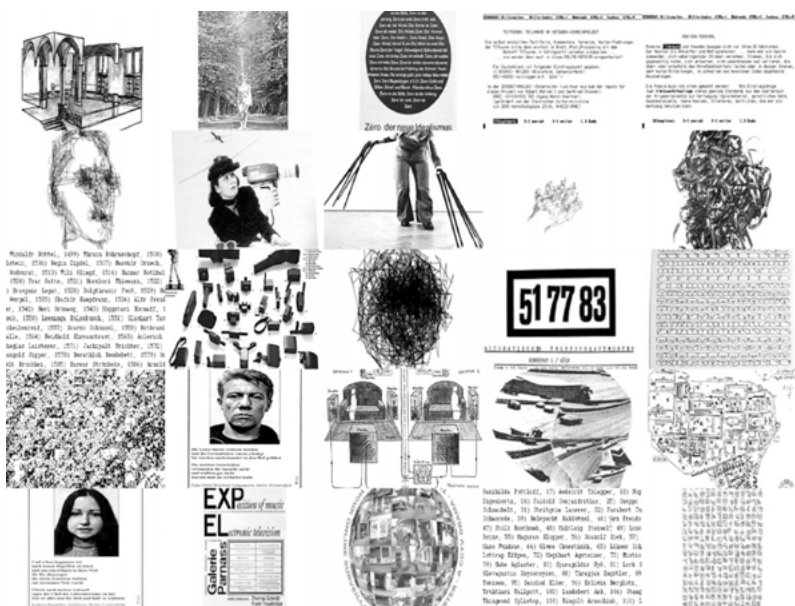
In a museum installation (Fig. 1) we used the image database of the “media art net” project.<sup>20</sup> If, for example, out of the first 25 presented images, a photograph of a media installation is looked at for a notably long time, then the user may be interested in this style of installation, have a particular interest in the corresponding artist or may be looking for another image that resembles the one she or he singled out. Several models that can be used to control the subsequent search are possible. The assumption underlying those models is that the momentarily presented 25 images’ competition for the user’s attention would eventually lead to a distribution of gazing durations which reflects the user’s priority distribution with regard to the corresponding categories. A universal algorithm for modeling and simulation of such subjective weighting in decision-making processes is based on Bayesian inference. It involves continuous re-weighting of possible hypotheses on the basis of given observations. Since it is usual, during each ‘turn’, for more than one image to be regarded for different periods of time, under certain conditions one can quite robustly estimate the desired categories within one cycle. The quota of the subsequent turn’s categories is calculated proportionally to the gazing durations. A precondition for an efficient adaptation is a definitely fixed task such as, for example, the search for a specific image whose appearance is roughly memorised but for which neither the artist nor the style can be recalled. The structural resemblance then leads quickly to success.

We originally proceeded on the assumption that the interface, along with further developed software, would constitute a creative tool for establishing dynamic user-generated database ontologies. However, it became evident that user modeling merely maps the set of prejudices onto itself. In other words, the interface as originally conceptualised only functions in a satisfactory way if a relatively precise aim governs the search.

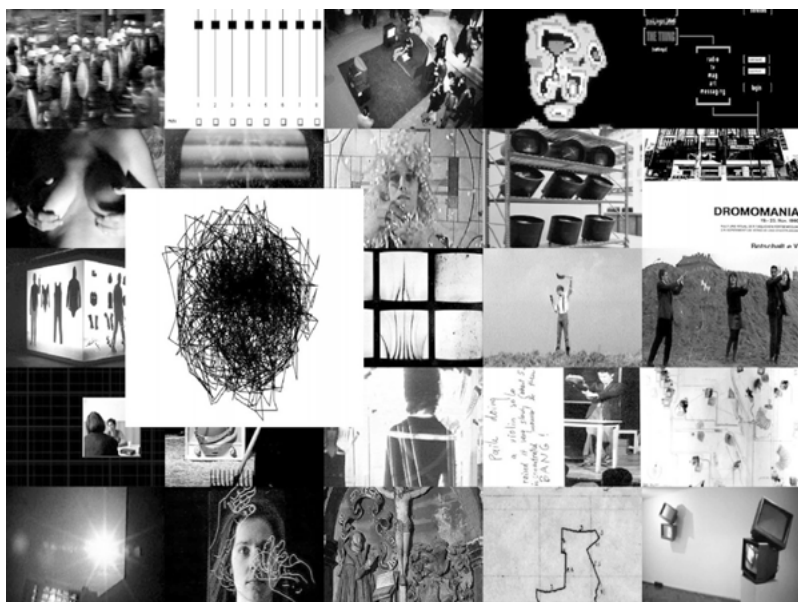
Assuming a perfect adaptation of the system to the user’s preferred category in interaction with the user, the system will always stay in this category and without a special interference – like randomly adding images out of arbitrary image categories – a change to another category will be impossible. For considerably more complex decision-making processes like in medical diagnostics for which the user’s preferences are automatically anticipated by the

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20 Frieling/Daniels 2004; 2005



**Fig. 2a. First array of presented images. The momentarily watched image is slightly magnified.**



**Fig. 2b. Second array of presented images indicating structural and taxonomic similarity.**

algorithmic system, suspicions could be raised that a kind of “self-imposed nonage” of the user sets in as a result of taking pleasure in the release of cognition. If, in addition, the decision-making process is one of high responsibility<sup>21</sup> then – according to my suspicion – the people will surrender themselves to the “objective” algorithmic decision for convenience. In other words, what was intended as backing for decision-making ends up in transferring the decision along with the “responsibility” to the algorithm. Human error turns into technical failure. This would then be high-degree *Verdinglichung*.

Therefore, with regard to creative applications it seems to make more sense to investigate different deviations from the optimal user model. However, there are no rules as to how to achieve this. Only a causally open system can be creatively utilised. In my opinion, however, it is possible to generate an understanding of the mechanisms behind the user’s handling by means of performatively approached “museum field studies” without being able to directly translate these mechanisms into a definite mathematical model. Furthermore, a museum installation functions as a critical interface.<sup>22</sup> One might, for example, employ EyeVisionBot to scrutinise one’s own habits by uncovering the normally invisible algorithmic decision processes. The lack of a significance value certifying the tool to be more efficient than other methods for particular tasks so far hindered any publication in a professional journal. Therefore, the museum seems to be both the *genius loci* for performative scientific studies and a means for its publications, something which EyeVisionBot is intended to give an example of. A crucial point is the physical presence of the person whose cognition is to be understood partially. What is being modeled becomes part of the model.

One could have the suspicion that due to inevitable user-modeling, interactivity has a tendency toward *Verdinglichung*, but can at the same time avoid complete *Verdinglichung* as long as the users are allowed to be physically involved.

## Remarks on the Bayesian Algorithm

Until recently the aforementioned Bayesian algorithm was mainly used in medical diagnostics. This method for the estimation of the validity of hypotheses integrates current investigation results and prior knowledge. It is heavily criticised by some statisticians because the recourse to prior knowledge is equated with a dependency on prejudices. Subjective degrees of reliability are described by it. For only the last few years, however, the estimation of subjective probabilities is emphasised as an advantage of the method, namely in

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21 E.g., the correct categorisation of an X-ray image through a physician.

22 Pold 2005

cases of anticipating human decisions. With it, subjective decision making processes can be quasi objectified. Software that we use on a daily basis contains context-sensitive, cognition-supporting algorithms that are identical or very similar to the Bayesian method. Examples are junk mail recognition or the Office assistant. Computer-based surveillance and control processes contain these algorithms. "Semantic" search engines are based upon related methods. Brain physiologists even claim that during our decision-making processes a Bayesian algorithm is executed.<sup>23</sup> Therefore, the method has already been compared with the hermeneutic circle<sup>24</sup> giving rise to the formulation of a "Bayesian Epistemology".<sup>25</sup> In my opinion, this is a categorical mistake. With the aid of the Bayesian inference principle each decision-making process can be approximated, and this can be carried out more effectively the more it is based on invariants. New ideas, however, mostly originate from "irrational" decisions that the algorithm is unable to describe and cannot therefore simulate. The power of simulations lies in the description of stationary systems rather than in contingent ones.

Recently, a further step in objectification has been discussed in medicine as well as numerous other disciplines (Law, History, Economics, and others) under the heading of "evidence-based medicine". There are database projects which allow for the retrieval of all accumulated previous decisions for the purpose of obtaining comprehensive and robust estimations of *a priori* probabilities. Occasionally, for reasons of objectivity, relinquishing the decisions based on the database content and its algorithmic evaluation to the algorithm itself becomes necessary. In this way, artificial intelligence enters a causally closed sphere, thereby degrading human decision-making, in much the same way as an epiphenomenon, to a nodding-through farce. The modeling of retroactive systems in such a way (that allows for an anticipation of decisions respective of the activities of agents so efficiently that the latter readily accept the results), would mean a high degree of *Verdinglichung*. In the following, I wish to argue that with respect to works that are motivated by a putative emancipation of society, media art is at risk of co-designing such an "evidence-based" society.

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23 Rao 2005

24 Mallery et al. 1987

25 Bovens/Hartmann 2003

## Integration of Avant-garde into the System

As mentioned above, retroactive art (science art) and the convergence of cultures that is generally discussed under the label of “Art & Science” is considered a logical consequence of the avant-garde movement. Boris Groys (2005) elaborates on this:

Since the 1970s we have been living and functioning in a post-revolutionary system of art. According to G.W.H. Hegel (1770-1851), all post-revolutionary societies are characterised by the fact that they prescribe rational goals, procedures and strategies to their members, and demand explanations, justifications and precise plans from them. It is obvious that our present art system functions precisely according to these rules. The claim of a single artist that his or her work is an unpredictable, creative act, seems obsolete, and is not taken seriously by today's art world. [...] it was precisely the radicalisation of the notion of creativity by the revolutionary avant-garde that has historically led to its integration into the 'system'. The avant-garde art saw itself as the embodiment of the pure negativity, as the medium of destruction and annulment of all traditional, mimetic, naturalistic art forms.

The basic statement of “integration into the system” is affirmed by Dieter Mersch and Michaela Ott (2007) as well as Gerhard Gamm (2007). The aforementioned authors emphasise the role of cybernetics in this context. A system theory that pretends to include epistemological processes in its models and simulations almost necessarily presents an attractor for artists who have always been endophysicists in their self-conception long before the notion of endophysics was coined. In the year 2003, Lutz Dammbeck (2007) who is an artist-scientist and hence, like nearly everyone, a theoretician too, – with his documentary “Das Netz” (The Net), began to discuss the role of art within the cybernetic world conception on a meta level. In a recent article entitled “Re-Reeducation or: Art and Conditioning” he speaks alternately of a “digital dictatorship” resp. a “systemic dictatorship.” He repeats the position (already mentioned a number of times) that the avant-garde contributed to its own absorption into the system through its categorical system criticism. Dammbeck conceives the assimilation of art into the system in such an extensive way that having read his article one has to wonder whether there was any art after World War Two that was not engrossed in the system or found its legitimization exclusively from the system.

Dammbeck fears a global brainwashing, and Pavlovian conditioning in which artists only have to play the “criticising class clown”. He says that it can be clearly seen

that the idea of an ‘outside’ from which the ‘inside’ can be changed is naive in the face of patterns and structures designed by cybernetics and system theory, because each point at the periphery is at the same time the center and an ‘outside’ no longer exists. And we also know: the mere thought of

a possible change produces an energy that can be used by the system in the same way as every attack or perturbation as an intake of energy for further perfecting. (...) Therefore, it would be meaningless to take action against it, since each critique not only preserves the system's life but even strengthens it. Metaphorically speaking: Those who touch the machine are already part of it and its codes.

In other words, after the cybernetic conception of nature, a systemic role was assigned to everything. I do not regard it as impossible that we are dealing with a kind of brainwashing paranoia which was called "cybernetic irony" by Peter Sloterdijk in a conference on the film "Matrix" (Sloterdijk 2000). What is noteworthy in this context is the video installation entitled Psych|OS, belonging to the distinguished actionist collective "Übermorgen". The entirely confusing recordings were made by one of the members of the actionist group, Hans Bernhard, during his stay in a psychiatric hospital due to a serious psychosis. One should know that Übermorgen belong to the most effective system critics. Hans Bernhard, for whom the quarrel with "the net" is a kind of a self-therapy, writes about himself and "the net":<sup>26</sup>

Hans Bernhard's neuronal networks are connected to the global network, and his mental illness – the bipolar affective disorder that in March 2002 sent him to a mental hospital – is the network's illness. The video called Psych|OS (2005) sums up this experience, in which those two levels – digital and real, bio & tech, nervous system and operative system – merge. This nervous system, infected by the hi-tech, needs a treatment, and the hi-tech society prescribes its remedies, bio-chemical 'agents' which control the internal information flow. [...] The Psych|OS Generator (2006) is the literal application of this kind of control: a piece of software that asks the user about the symptoms of her disease and provides her with a remedy, in the form of a 'forged original' medical prescription.

## Viral Dynamics

Within the area of "street-art" Julia Reinecke affirms the ontological ambiguity as a consequence of the avant-garde.<sup>27</sup> Here, it is the indifference between art and commerce. The relation this bears to the topic discussed is closer than it might be expected.

Street-art is a form of actionism and in some respect is comparable with hacktivism, i.e. Internet actionism. Most street-art activists do not call themselves artists, yet locate themselves within the tradition of situationism and other streams of avant-garde art which dedicated themselves to the integration of life into art. Street-art explicitly locates itself between system critique and system conformity. This leads to a continuous innovation with respect to commercial trends, but this innovation is itself subsumed in commercial

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<sup>26</sup> Übermorgen 2005

<sup>27</sup> Reinecke 2007

trends once again at a tearing speed. Interestingly, the activities are often fully detached from content. Similar to situationism activities are undertaken purely for their subversive or provocative impact. The whole art of actionism consists only in the strategy. Unsurprisingly, the relatively young commercial movement called Guerilla marketing evolved directly from street-art whose main concern is attention economy, and where product information is pushed to the subliminal border. Guerilla marketing has recently re-implemented itself into street-art as Guerilla art, where quite frequently the artistic content is crowded out to the periphery in an analogous way. Many activities in Guerilla art and Guerilla marketing are conceptionally indistinguishable. For instance, within the “go public” actionism of Michael Bielicky there is, in the first instance, no talk of the content of the art emerging in a Guerilla-like way in public space.<sup>28</sup>

The mechanisms of the propagation of “signifiers without signified” that underlie Guerilla marketing led to the related concept of viral marketing.<sup>29</sup> This concept assumes the viability of modelling word-of-mouth propaganda as epidemiological dynamics. In this way, two previously autonomous currents in dynamic models of cultural evolution converge: memetics and marketing. Memetics claims to generalise Darwinian theory of evolution and to be capable of describing cultural evolution by virtue of comparable mechanisms.<sup>30</sup> Corresponding to genes, the basic units of culture are memes, which spread and survive according to the laws of selection of the fittest. The concrete propagation dynamics is equivalent in its form to the proliferation of viruses, giving rise to the name “viral marketing”. Similar to genetic engineering, the concept of viral marketing assumes that specific phenotypes can be designed. This is particularly easy to do on the Internet, because easily accessible information (tags, newsfeeds, access statistics, memes detectable via data mining) on bloggers’ habitus in the subcultural field, the “blogosphere”, can be used to monitor, model and design this part of society. Here, epidemiological dynamics are coupled with graph theoretical models from network theory. By now, it is possible in some simple cases to calculate optimal conditions for meme propagation. Great efforts are being made to improve this analysis of structures and life-cycles of memes by employing pseudo-hermeneutic Bayesian statistics.

Similar to tags and stencils in street-art, viral marketing (with the collaboration of artists) inoculates the virtual world of the Internet with memes (videos, flash animations, games, etc.) that tout for attention. The strategy of viral marketing makes itself the subject of discussion, and so it is, to an

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28 Bielicky 2007

29 Hermann 2004

30 Dawkins 1996

amazingly high degree, effectively self-promotioning. This is a typical “line of argument” corresponding to “cybernetic irony.”

One noteworthy system is the monitoring system “Blogviz”<sup>31</sup> with which the flow of memes in the blogosphere can be monitored. The corresponding Master’s Thesis contains a detailed chapter on previous artistic achievements. As a particular example, I’d like to mention the prizewinning installation “Listening Post” by Mark Hansen and Ben Rubin. The following can be read online on this installation: “Listening Post is an art installation that culls text fragments in real time from thousands of unrestricted Internet chat rooms, bulletin boards and other public forums. The texts are read (or sung) by a voice synthesizer, and simultaneously displayed across a suspended grid of more than two hundred small electronic screens.” This work is mentioned in several other publications on memetics (which cannot be listed here) as an important ground-preparing work. As an example it may suffice to show how memetic research and avant-garde art and, for that matter, “datafication” and “cybernetisation” of Being are interwoven, especially since this art is not only the subject of memetic modeling, but also, as in the case of “Listening Post”, develops memetic models by itself and designs them in a sensual way.

## Remarks on Cybernetic Irony

The works of net activists often are of an intensely paradoxical form. In the case of “Amazon Noir”, Übermorgen hacked online bookseller Amazon’s web presence in order to apply an efficient algorithm providing access to sample pages that could be combined to complete books. Manually, this would take month or years. Amazon became aware of the hack and put Übermorgen under pressure. Eventually, Übermorgen sold the algorithm to Amazon and signed a non-disclosure agreement. The campaign is now exhibited in a purely symbolic way. Übermorgen (Ü) was interviewed on this matter by the online journal Telepolis (T):<sup>32</sup>

Ü: Our projects are purely about experimenting: Amazon Noir is not a statement on copyright and even less an attack on the online trader. There is no specific goal behind it; the matter simply arose. I call it freestyle basic research. We build a setting and observe what happens sociologically, with relation to mediation, and technologically. We didn’t have a fixed plan of an outcome at the time. The sell-off arouse as a new solution, and so we opted for the agreement with Amazon.

T: (...) there is no comment at all by Amazon on the alleged sale of the software. De facto the whole action might just as well not have happened and be merely merged. (...) Wouldn’t this be the “next level” in media hacking: coverage of actions that have never happened at all?

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31 Lima 2004

32 Pettauer 2006

Ü: Of course we already did such things and we experiment with it, but in our big projects like Google Will Eat Itself and Amazon Noir it is essential that the technological part functions (...). We are lazy-bones and it is tedious having to make up everything!

One can find an almost indefinite number of similarly absurd performances, which leave the matter unclear as to whether they are viral marketing activities, hacking or simply cybernetic irony. Incidentally, in the case of Dammbeck's prognosis, the question of whether one should regard the spectre of a global cybernetic brainwashing as similarly being an artistic concept or as being a serious contribution to media theory, is virtually irrelevant with respect to its ironic impact.

## Back to Earth

According to Mersch and Ott avant-garde, which to a great extent referred to Nietzsche, is a "reciprocal radicalization that accepted the challenge, not only to hold its own ground with respect to the sciences but to eventually imbibe them."<sup>33</sup> According to Nietzsche, Mersch and Ott elucidate, artistic practice is the "*Ereignung von Ex-sistenz*"<sup>34</sup> itself. "Of a higher sense than any discourse, art literally reaches down to the abysses of Being.", they further explicate. Actually one is inclined instead to diagnose art has having been merged into science, albeit in a manner that is just opposed to the "Enowning of Ex-sistence". I therefore take Dammbeck's diagnosis of the artist as a "critical class clown" very seriously, but I do not share his pessimistic stance. It is now important not to repeat the mistakes made by the Frankfurt School, (who took a generally pessimist stance), but rather to undertake a critical but constructive approach.

In my opinion, the necessity almost inevitably follows from this to provide sciences with an understanding of the "existential" and the attempt to transfer the original avant-garde criteria to sciences, namely to integrate life, i.e. to create a causally open structure. It should be made possible for "agent causality" to be brought into the system. It obtains performativity, the enowning of existence is enabled.

The lack of understanding among scientists usually created by recourses to existential philosophy such as "Enowning of Ex-sistence" usually came to light in the dispute between Ilya Prigogine and Jean Bricmont. Prigogine, who based his ideas on Henri Bergson's process philosophy, was accused first by Bricmont (1995) and then additionally by Alan Sokal (Sokal/Bricmont 2001)

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33 Mersch/Ott 2007, p. 17

34 "Enowning of Ex-sistence", following Heidegger.

of abusing science. Not many attempts to change scientific methods and the conception of time such as that of Prigogine come from within natural science. Therefore, it makes sense to demand an intake of the concept of the existential into a science which is restricted to essentials. It is exactly this domain where participative, interactive, retroactive, performative or however described media installations abundantly endow a great deal of sense. Science receives corporeality, and reality becomes rehabilitated in a certain sense. I suggested that such a repertoire of methods, enriched with the existential, should be called "performative science".<sup>35</sup> From this perspective it follows that art is not reduced to a functionality in commission of science, indeed not to a functionality at all, and that the development of art in emancipation from science can even be advocated. However, it is mandatory to accept a new episteme that settles between traditional science and art.

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