VIRAL STRUCTURES OF CYBERFEMINISM

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Today "virus" has become an inflationary, hybrid if not trivial term that is effective in the media and is metaphorically applied not only in a biological and information technological context but is also employed in a concretely political and artistic one as well. Both positive and negative connotations are attached to the word virus. Viral infections mark the outbreak of something uncontrollable. By constructing a ***C<>F-Virus*** (= Cyber<>Feminism-Virus[1]) there is no intention to follow this inflationary movement, but to design different models of viral representation and consider a number of different strategic viruses as well as present and question the technique of cyberfeministic intervention. The potentiality a virus model promises affects the mode of a feminist practice.

The **C** of the ***C<>F-Virus*** stands for the digital media including the computer virus and its potential to intervene in computer networks. The **F** would therefore have to answer for the biological virus and the potential of intervening in the body that, due to digital media in particular and changing perception generally, is currently subject to radical transformation.

Here, two assumptions are made: The ***C<>F-Virus*** broadens the potential of a structure, and the ***C<>F-Virus*** destroys structures. This ambiguity becomes quite vivid in the following image – without constituting the ambivalence that may be read into such a concept – but by presenting the opposition of two viral concepts:

[1] Cf. with the conference title: "technics of cyber<>feminism <mode=message>," December 2001, conceived by Claudia Reiche, Frauen.Kultur.Labor thealit, Bremen. (www.thealit.de); Cf. Claudia Reiche, Andrea Sick (eds.), technics of cyber<>feminsm <mode=message>, Bremen (thealit), June 2002.

This reproduction of Richard Dawkin shows a "benevolent" virus entering into a life-sustaining relationship with the host and a "malign" virus killing its host. However, which model is the "good" and which the "bad" in terms of the ***C<>F-Virus*** and its intervention? To this question, too, I'm looking here for an answer. My paper constitutes an experimental system that enables the possibility of a thesis relating to the ***C<>F-Virus*** to be developed.

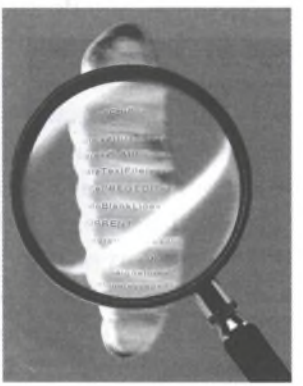
Transitional Models

With the invention of a ***C<>F-Virus*** we have a transitional viral model at our disposal, a model bearing two meanings: If Cyberfeminism is a viral Cyberfeminism, it will first have to be scrutinised as a programme that is activated by and spread via data streams; secondly, Cyberfeminsm would have to be investigated as a collection of many different molecules or particles. Such molecules, visible only after being magnified 300,000 times, would be understood as intruders that, equipped with DNA and RNA, rewrite the DNA structure of a host cell as a transforming force. Both, the biologically labelled and the information technology model reveal functions that turn the virus into a kind of foil that might develop the potential of Cyberfeminism on the borderline between biological and information technology. Starting from here one might see the possibility of counteracting the prevalent fusion of genetic technology and virology on the one hand and the digital media and its visualisation and reproduction techniques on the other hand, apparently binding a dual thinking of inside and outside, original and copy.

Popular Examples of the Viral Transfer of Meaning

1. The model of the virus, itself always a representation, is illustrated through pictures that are made with completely incongruent methods of production. These figurative representations are then applied in different contexts. The title page of the German computer magazine *c't* on computer viruses and the so-called "info-war," for example, illustrates this with pictures of an anthrax-like bacterium or virus. What becomes clear here, is that the adoption of the image of a biological virus or bacterium magnified by an electron microscope and then coloured in, serves as a representation of a computer virus (instead of a sequence of bytes or programming language). An analogy between the biological and computer virus is established.

2. Another example of such a transfer is the following: in the middle of October 2001 a computer virus appeared – an Anthrax worm to be precise – spread through an e-mail attachment called Anthrax-Info. The programme, however, was faulty and it was therefore not classified as dangerous to the world of information. A similar case was an AIDS hoax, circulating as early as 1999, also spread via e-mail, but according to the McAfees Virus Library it was not applicable.[2]



3. In an article on biological terror published in the German news magazine *Focus* (October, 2001) the words, "cyber-war," "terror-war" and "bio-terror" are printed in big letters, floating an at equal height as captions for a nebulous scenario of war – as synonyms for one and the same phenomenon.

Viral scene of war

All three examples of a viral transfer of meaning here refer to a threat and indicate an attack. A pattern clearly emerges: The intrusion or intervention of a so-called foreign body into an existing system, into an organism in so far as a computer network or an organic cell are understood in these terms. Currently the situation regarding medially produced transfers of meaning of a viral attack has shifted: Before September 11, 2001 the media had focused their attention on effectively disseminating information about computer vi-

[2] There is also talk of the Bin Laden-virus, feared as a meta-virus. It is considered highly unlikely that Bin Laden actually uses the aid of a computer in his campaign. (Comp.: www.vmyths-com, last access: 28.10.01)

ruses, *"I love you"* or last summer's *"Code Red"* were popular, while at the same time paying little attention to the topic of biological weapons and the threat they might pose, or any conventions called upon to ban their use. The situation has changed dramatically since then. Today the biological model is so virulently effective, that panic, fear and hysteria have become indistinguishable from one another as reactions to the threat of biological weapons.

The result is a printed conglomerate of the rhetoric of war and specialist terminology. Of course this is not the first time that the rhetoric of war has not hesitated to use microbiologically coined language and, vice versa, neither does the rhetoric of virology shy away from metaphors of war.[3] However, today, in the context of the so-called "biological-terror" through anthrax letters, the immune system of the body is becoming more than ever the scene of a war in the media. In this way the anthrax attacks become interpretable as a kind of subcutaneous spreading, communicating just such hysterical epidemics, paranoia and death.[4] Bio-terrorism has infected the media so deeply that even people not infected start to feel an itch at the mere thought and doctors seriously warn us of the psychoneurotic effects of the anthrax fever sustained by the media. This works so well because the configuration of such a scene of war is made not through the actual use of a virus, but through the mere warning about them. The amalgam of biological and information technology presents itself as a hoax: as the fake copy of a computer virus, then again as a fake biological virus or bacterium, anthrax by mail for example. The letter filled with dextrose or baking powder sent from imitators or opponents of war launch anti-terror machinery and reveal the limits of health and surveillance systems similar to computer hoaxes that activate anti-virus programmes in order to increase sales. Letters filled with anthrax-spores or letters pretending to contain them have, with respect to their dissemination, much in common with computer virus. In both cases the latency of the viruses, that is, their attribute of being present without being noticed, is a central notion.

If the biological virus is understood as a carrier of information, we can speak – in the language of the secret services – with respect to both biological and media viruses, of "sleepers" who rest in the host's organism without doing any harm until the time comes when they are activated.[5] The examples

[3] Frequently used words in the discourse of immunology are: defence strategy, extermination and virus attack. The body is conceived of as a war zone. "Man or microbe: who will be victorious...? Will the immune system be able to assert itself in this battle?" in: Avrion Mitchison, "Mensch oder Mikrobe: Wer gewinnt?" in: *Das Immunsystem*, Spektrum der Wissenschaft, Spezial, 3rd edition, 2/ 2001, Heidelberg, 88.

[4] Goedert Palm, "Do Not Touch, Do Not Inhale, Do Not Taste," in: Onlinemagazin *telepolis*, www.heise.de, 21.10.01

[5] Cf. Walther Zimmerli, "Information und 'kleiner Unterschied': Viren jenseits von

are meant to illustrate the shifting analogies between biological and information viruses. Not only the transition from information to biological-technology but also from scientific research in biology to war-technology – always a fundamental starting point for scientific research in computer science – is difficult to determine. The conclusion: currently the biological-virus is adapting structures of the information-virus. What, however, happens at the borderline? The angle bracket of the **C<>F** virus marks as an operator a space to be filled. The ideological image of dissolved borders as a strategy of feminist politics, as suggested by Donna Haraway for example, would prevent the possibility of action along the lines of this border, which makes the space to be substituted available.[6]

Experimental System: the Bio- and the Info-Model

The perception that the supposition of a ***C<>F-Virus*** is thus based on operational models of viral infection constitutes the experimental system posited here. The system wants to investigate the transfers (T) of these models. This is why the setting is called Experimental System T, or abbreviated *EST*. As *productive EST* it also operates on the indistinct borderline between the trivial and the complex. One could describe *EST* as a machine for the reduction of complexity. For it always works with models. The models supply the measurements necessary for navigating within the *EST*, here following the etymological sense of model (modulus lat.), measure or standard or form. From the perspective of the respective system – here, that of "cyberfeminism" – complexity fulfils the function of an epistemic horizon. The individual attempts at reduction can therefore run in all kinds of directions and there is

Gut und Böse," in: *Virusexpress*, Matthias Michel, Isabelle Köpfli, Meret Ernst (eds.), Edition Museum für Gestaltung Zürich, Basel/Frankfurt am Main (Stroemfeld/Roter Stern) 1997, 37.

[6] The following procedure underlines this displacement: Scientists at the National University of Canberra in Australia were trying to produce a mouse contraceptive vaccine for pest control. The virus normally triggers off mousepox but was genetically modified and weakened so that it would render the rodents infertile. But the operation created a killer. A great number of rodents died. More than half the rodents vaccinated against the disease they were exposed to were also killed by this new pathogen, once it had destroyed the immune system at great speed. As such the scientific report gives instructions how to turn a harmless microbe into a monster. Transferred to the context of "bio-terror" this means: Researching possible defences against biological weapons may generate new types of biological weapons. For every procedure to recognise substances used in biological warfare, or their vaccines, presupposes the cultivation of the pathogens in the laboratory . Compare Philip Bethge, "Baukasten für Gruselkeime," in: *Spiegel*, 43/2001, 236-238.

no golden rule to either avoid dead ends or find silver bullets.[7] The viral models of *EST* demonstrate a fundamental structure: they all distinguish between virus and host, inside and outside etc.. This structure however foils itself, because the virus enters its host, links up with the foreign code and thus inscribes itself there. Is it really that simple to distinguish between host and intruder? Can the strange be put in concrete form or is it produced by the respective experimental situation?

In the fields of immunology or virology these questions are met with the following answers: If anti-genes (that is, viral proteins or peptides) are to be recognised as such by the responsible receptors, they must make it clear that they are able to distinguish between the "self," that is their own cells, and the anti-genes or super-anti-genes; thus they must be able to probe the difference between self and foreign; the cells of the immune system must differentiate between an uncountable number of intruding organisms without hurting their own body. The immune system is not equipped with all the information necessary to detect its host; in fact it only learns during its development what the "self" is, i.e. the antibodies can only develop after a specific infection has already taken place.[8] Viral-genetic research has produced the following image of the virus: it is able to constantly change its surface structure. Consequently, for example, it has been impossible to find a life-long vaccine against influenza, the destructive flu from the years of 1918/19. The constantly changing virus can no longer be detected by the immune system. A transformation occurs, for example, when the genom of two viral subtypes merge, that is, both simultaneously invade the body of a host and the viral particles then unite. Regarding the influenza pandemic, one assumes a co-infection of human and animal viruses.[9] An infection without an outbreak of the disease is also possible. The distinction between host and intruder, foreign and self, virus a and virus b – fundamental to exploration in *EST* – proves to be in a state of constant dissolution. In order to label the setting of *EST* more precisely, the models used in *EST* need to be specified and reduced first.

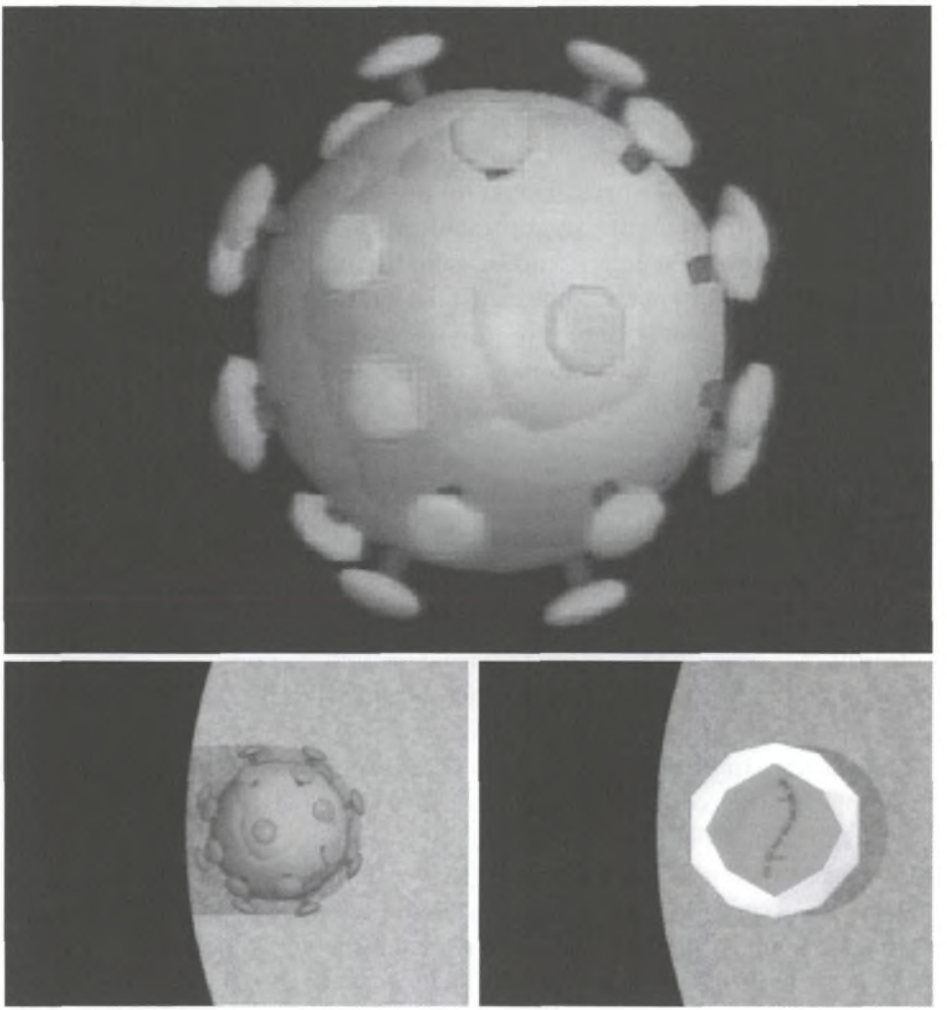
The Bio-Model: A virus largely consists of nucleic acids and for the virus these encodings provide access to the virus with access to the central functions of an organism: bacteria and cells. Their genom contains only a limited amount of genetic information and can only multiply in the cells of the host. The replication may be described by the following steps: It attaches the tail

[7] Hans-Jörg Rheinberger, *Experimentalsysteme und epistemische Dinge, Eine Geschichte der Proteinsynthese im Reagenzglas*, Göttingen (Wallstein) 2001, 247.

[8] Philippa Marrack, John W. Kappler, "Mechanismen der Selbsttoleranz," in: *Das Immunsystem*, Spektrum der Wissenschaft, Spezial, 3rd edition 2/2001, 34-42.

[9] Michael Krauthammer, "Kleine Virologie für Quereinsteiger," in: *Virusexpress*, p. 26.

fibres to the cell membrane, enters the cell and releases the viral genom, then transcribes the viral genes and translates the messenger RNA for the production of virus-compatible proteins and finally replicates the viral genom and assembles new virus particles in the host cell. A release of the now finished virus becomes possible.



The Info-Model: Generally speaking, a virus consists of a small programme that is tucked away in some inconspicuous file format so that it is not detected and removed by an anti-virus-programme. This programme is, should it remain undetected, activated by particular sections of the operating system or applications. A classic example is the forwarding of a computer virus via the internet, with the virus becoming active only after an infected mail attach-

ment has been opened.[10] In contrast to biological viruses, computer viruses are described as self-replicating programmes.

Both models reduce and split up complex facts in order to make them more operable and transferable. By working with these models in this paper I am imitating the principles of research in molecular biology on homologous model substances – synthetically matching substances – because I define here a synthetic model substance, the ***C<>F-Virus***. This also means that in the *EST* the virus shows itself as an epistemic thing, as an object of discourse, as Hans-Jörg Rheinberger has put it in relation to the synthesis of proteins for example.[11] Here the parameters of representation create ambivalence. The following representations, investigated and published as visualisations, may be compared: in vitro-, and in vivo- representations, or representing the virus as data. In Vitro in this system would be called synthetic, in vivo – the organic and data representation would be called the simulated. The research in virology as well as the models themselves can serve to demonstrate how these representations – vitro, vivo, computer – cross and displace one another. The virus is constituted in the oscillation of representation.

Indexical Structures of the Virus

Following Peirce's theory of signs, the meanings of viral representation – vivo vitro and computer related, as featured by *EST* here, can range from substitution over embodiment to physical realisation. This description of the process of representation distinguishes between symbol, icon and index; meaning that we are confronted with an analogy or a hypothetical construct (thus a symbol in Peirce's sense) in the first case, in the second with a model or simulation (Peirce's icons), and in the third with an experimentally realised fact) to be compared with an index in Peirce's semiotic system, i.e. a trace. "If the sign, in its individual existence (physically), is linked to an individual object, then I call the sign an index," writes Peirce in his fragmentary semiotic writings.[12] Smoke indicating a fire is a typical index for Peirce for example.

[10] This is not always the case, if we take the following story, familiar to all internet users, into account: one receives an e-mail with a warning against the good-friend-virus as a header: If you receive a good-friend-mail you should not open it because it contains the virus. Simultaneously the recipient is requested to send this mail to all the addresses in their address list. A few days later the all-clear arrives: the message did not contain the virus, it was the virus itself. Cf. Ch. Walther Zimmerli, "Information und 'kleiner Unterschied': Viren jenseits von Gut und Böse," in: *Virusexpress*, p. 35.

[11] Cf. Hans-Jörg Rheinberger, *Experimentalsystem und epistemische Dinge*, Göttingen 2001.

[12] Charles Sanders Peirce, *Semiotische Schriften 3* (1913), edited and translated by Helmut

In the viral *EST* a green or blue colouring of a substance acquired from the body or a synthetically produced substance or a shadow on the x-ray of a lung or also symptoms such as fever or coughing, indicate the presence of a virus etc. The indexical constitution stands at the centre of a realised experimental system. The virus is in its realisation an index and this index can only be investigated within the *EST*. The virus shows itself only in representation. Were it the real part of the virus, it would be an attribute of the representation. For viruses, as the smallest particles, are marked by their invisibility: To visualise them, the visible light on which conventional microscopes rely proves to be too gross and too low in frequency for a proper representation. Only with the invention of the electron microscope at the beginning of the 1930s (in the last century) did the visualisation of the virus become possible. Or to put it in other words, the virus has had a decisive impact on the development of the electron microscope. Electrons contain limited energy to penetrate objects, and only very thin structures can be x-rayed and depicted, and these structures are roughly the size of virus. What can we see though? The viral infection itself, that is, the transition of the particles represented in the electron microscope to their active state, goes hand in hand with their structural dissolution. Viruses lose their complex structure – the very one the electron microscope is meant to capture – in the course of intrusion. This means: The process of replication is generally invisible. The infectious and morbid activity of a virus cannot be made visible only when simulated.[13] The symptom is a sign of its realisation. In the context of such a symptomatic *EST*, as I assume here, the virus can be said to denote an index in the sense outlined in the semiotic theory of Peirce. The ***C<>F-Virus*** would show particular signs of being an index, could be understood as a realised model, precisely because it reveals itself – as any virus would in principle – in the symptom.

On the Question of Virus Detection

On the premise that the virus reveals itself through its symptoms, it becomes recognisable through the signs of the disease it produces. The disease becomes readable through the symptoms. Related to the symptoms, the virus

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Pape and Christiane Koesel, Frankfurt am Main (Suhrkamp) 1993, 135. Also Cf. Hans-Jörg Rheinberger, "Von der Zelle zum Gen," in: *Räume des Wissens, Repräsentation, Codierung, Spur*, Hans-Jörg Rheinberger, Michael Hagner, Bettina Wahrig-Schmidt (eds.), Berlin (Akademie-Verlag) 1997, 266.

[13] Thomas Bächi, "Visualisierung von Viren? 'Seeing is believing'," in: *Virusprozess*, pp. 30-32.

is only then recognisable if it is active and symptoms are consequently produced. In this respect the virus can be interpreted as a symptom-machine. The virus-replications are functions of such a machine.

In relation to Freud's theory of wish-fulfilment, symptoms and dreams can be read in a similar way, for both need to be deciphered: The dream, in the system of consciousness, preconsciousness, unconsciousness is thought of as a representation of an unconscious, but realised wish, i.e. the object the psychoanalytic therapy intends to decipher. The symptom in this theoretical conception, primarily hysterical as a realised unconscious wish and thus as wish-fulfilment, where – here in contrast to the dream – a wish from the preconscious is added.[14] If one supposes a similar structure of dream and hysterical symptom, the following claim can be made: If dream and hysterical symptoms have the same structure, and cyberfeminism is conceptually thought of as ***C<>F-Virus***, then cyberfeminism is a machine that produces and circumscribes the wishes of a feminism as such, that never existed nor will ever exist. Feminism would present itself with its symptoms.

Then cyberfeminism could reveal itself as a platform that disguises, displaces and represents the wishes of feminism, in whatever varied shapes it might present itself. The masquerade of a masquerade would be born. And in the viral model the cyberfeminism could infect such a masquerade.[15] Feminism, as the potential in the viral programming-code enters the host – an already existing system – is unpacked, combined, replicated and released again. But this model is a paradoxical material penetrating and producing short circuits of logic. In this respect it is the potential and procedure of the virus, the symptoms of which it interlinks. Every virus has its own programme, every ***C<>F-Virus*** as well, it shows itself in infinite mutations, the respective codes of which are being replicated. The mutants form a network.

With the ***C<>F-Virus*** we get a technology that conceptualises the mode of a feminist practise and that is at the same time a hybrid term counteracting the concretisation of such a strategy. ***C<>F-Virus*** is a "cyborg," presupposing that "cyborg" is understood as a concept, that seeks to represent the radical transformation of body and senses at the borderline. The virus functions as a transmitter of bio-technology and the science of information – of cybernetics and organism. In case Cyberfeminism is a virus, then it will be a borderliner

[14] Sigmund Freud, Traumdeutung, (1900), *Zur Psychologie der Traumvorgänge*, Studienausgabe Bd. 2, Frankfurt am Main 1972, 542. Compare: *The Interpretation of Dreams*, translated by James Strachey, *The Pelican Freud Library, Volume 4*, Pelican Books, Penguin Books, 1976.

[15] Also compare Andrea Sick, "DreamMachine: Cyberfeminism," in: *Next Protocolls*, Claudia Reiche, Verena Kuni (eds.), New York (autonomedia) 2002. (in print)

and a border-engineer, pertaining to whose representation and realisation different theses can apply – in this respect it always is as it was realised. And the dream of every ***C<>F-Virus*** would be its infinite replication, so it may continue to exist. Its effect would be to disturb the smooth running of a system and generate resistance.

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