

KEYNOTES

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NETWORKED IDENTITIES

"Every decoding is another encoding"
Morris Zapp

The Seventh International Symposium on Electronic Art, like the six that preceded it, covers a very broad domain. During the next five days, in an impressive number of lectures, panels, poster sessions and round table discussions recent developments in computer graphics, computer animation, computer music, video art, interactive art, including CD ROM and Internet applications, artistic applications of robotics, computer aided literature and dance will be discussed. However, there will be a special focus on two subjects: Networked Art and Education as a means to bridge the gap between artists and scientists. Focusing on these two subjects is not really surprising. The interest in networked art reflects the enormous growth of computer-mediated communication during the last decade, whereas the renewed interest in the relationship between art and science reflects the fact that the present day computer technology changes the relationship between art and science as it developed during the era of modernity in a fundamental way.

In this lecture I will discuss a topic that - according to me - is highly relevant for both networked art and the changing relationship between art and science. I will present some philosophical reflections on how information and communication technology affects both our personal and cultural identity. Information technology, I will argue, not only creates new objects of experience, but new subjects of experience as well. Information and communication technology turns out to be a laboratory for the construction of multiple human identities. For that reason it is more than just a new tool for artists and scientists. Taking refuge in an oxymoron we might call information technology for that reason an ontological technology. Information and communication technology not only creates new beings in the world, but also affects the conceptual framework we depend on in our understanding of these beings in a fundamental way.

As body and mind are closely linked, information technology affects both our mental and our bodily identity. In my lecture I will chiefly concentrate on the effects of ICT on our mental identity. Stelarc in his lecture will deal extensively with the bodily implications of information technology and networked arts. This without doubt will compensate for the one-sidedness of my thesis.

Computermediated communication

The recent growth of the Internet is not without precedent. Human communication has expanded enormously in the past century. With the explosive development of mass media such as film, illustrated magazines, radio and television, not only has the number of communication media forms significantly increased, but we can also see an enormous growth in the range of such media throughout the world. The past decades have produced the rampant growth of the latest shoot on this plant: computer-mediated communication. Since 1970, the year in which four American universities were connected by the ARPA network, developed by the American Department of Defence, computer networks have experienced an exponential growth. Whereas the ARPA network connected four local uni-

versity networks and with that, a few hundred people in all, Internet nowadays connects more than 10 000 local networks and over six million host computers, which allow millions of computers and even more users access to Internet. At the moment, more than forty million people - still mainly male and white people aged 20 to 30 and living in the North Atlantic area - use Internet regularly. If the number of users continues to grow at the same rate, the network will have more than one hundred million users throughout the world at the end of the century.

When we look at the development of computer-mediated communication, we can see that this new medium is integrating the current forms of mass communication means at a terrific pace. With the development of the World Wide Web, the most recent and fast-growing branch of this medium, Internet became a hypermedium, which unites the possibilities of the printed word, telephone, radio, film and television and will soon make these separate forms of media obsolete.

The significance of the digital revolution, however, is not restricted to the field of communication. Production and transport too, increasingly become digitalized in the post-industrial information society. It is expected, that in the future, an ever-increasing number of people will spend an ever-increasing proportion of their active lives and leisure time in virtual realms which will have become accessible through computer networks.

Virtual space is still largely restricted to the two-dimensional plane of the computer screen, but with the introduction of the Virtual Reality Modelling Language, an illusionistic central perspective has entered the digital domain.

By linking more advanced Virtual Reality technologies to worldwide computer networks, the experience of being immersed in the new virtual realms will become even stronger. For some time, this virtual reality will probably still be seen as a substitute for, or mutilation of, the 'genuine' reality but, because it will colonise and increasingly augment and even exceed 'genuine' reality, it will be used more and more as an ontological standard by future generations. Moreover, if the exponential growth of the world population continues, we will have little choice, but will be forced to establish ourselves in the digital domain. [1]

Media and Identity

A question that arises is what the implications of this emigration to cyberspace will be with regard to our experience of the world and ourselves.

At least since Kant's transcendental critique of reason we know that experience is not a passive mirroring of reality, but a process that involves an active structuring by the human mind. Moreover, because of the work of the members of the so-called Toronto school (McLuhan, Havelock, Ong and De Kerckhove among other [2]- we have begun to realise that this structuring activity is affected by the media of thought. Media are no neutral ways of communicating information, but they influence the way in which we think and feel, the way we experience ourselves, and the way we act and treat others. For example, the influence of the discovery of writing on the cultural evolution of mankind cannot be overestimated in this context.

There are good reasons to suppose that the new electronic media also will have fundamental implications for human experience. Raymond Barglow in his recent book *The Crisis of the Self in the Age of Information*, (1994) expresses this view as follows: "Computers, like automobiles before them, echo back to us metaphorical representations of our own experience and agency. Human identity itself is entwined with techno-

logical circumstance: information technology, like previous forms of mastery of nature, serves to fashion not only objects outside ourselves but also human subjects" [3]

As we are just beginning to enter cyberspace, it is not easy to grasp the full implications of computer-mediated communication for individual and collective identity. We may compare this to the reflection on the implications of the industrial revolution for human life and society. Only in retrospect we will be able to understand the fundamental impact of this perhaps most important revolution since the agricultural revolution in the Neolithic era and the industrial revolution in the nineteenth century. [4] It would be naive to believe that at this very moment we would be able to describe all of the implications of the digital revolution. Not only, because this revolution only recently has started, but also because we always tend to understand new media by means of the old.

However, despite these obstacles, we need not resort entirely to speculation alone. Although our emigration to cyberspace only recently has started, some of the consequences already become clear. My reflections mainly concern developments which are already taking place, here and now.

Moreover, the development of computer-mediated communication is not an isolated phenomenon, but forms part of the complex transformation from a modern to a postmodern culture. Therefore, we can elaborate on the reflections which, in this context, have been devoted to the postmodern identity. Here we find a remarkable convergence: the new electronic media - as Mark Poster has recently argued, seems to put into practice the postmodern deconstruction of the traditional experience and concept of identity.[5]

Postmodern Identities

The concept of 'identity' - in Latin *identitas*, which has its root in *idem*: the same - traditionally has two related connotations, which should be distinguished conceptually. On the one hand, identity refers to that which remains constant in time. In this case identity means permanence amid change. When we mention the identity of a person or a culture, we often refer to that which remains constant in a person or a culture despite all changes in personal circumstances or in history. In his *Essay on Human Understanding* (1690) John Locke has argued that for that reason identity is closely connected with memory. "For, since consciousness always accompanies thinking, and it is that, which makes every one to be what he calls self, and thereby distinguishes himself from all other thinking things, in this alone consists personal identity, i.e. the sameness of rational being, and as far as consciousness can be extended backwards to any past action or thought, so far reaches the identity of that person". [6] The same goes for the identity of a culture. Cultural identity is closely connected with collective memory, that is: history as it is maintained in language, traditions and books.

The second connotation of the concept of 'identity' refers to a unity in diversity. In this case, the identity of a person or a culture refers to something that is common in a variety of characteristics or activities. For example, when a person at a certain moment has the two obvious different experiences of seeing and hearing a car passing, we are inclined to say that it is the same person that is having these experiences. And when we speak of the identity of ancient Greek culture, we suppose that the different aspects of this culture have something in common that enables us to recognise these aspects as belonging to the same culture.

When we combine these two connotations of the concept of identity with regard to the human individual, the result is a conception of the self being a coherent entity which is centred

around a stable core. In modern philosophy, since Descartes, this core is normally conceived of as an autonomous and rational subject.

Although there have been criticisms of these two connotations of the concept of identity from the very beginning, especially in the twentieth century they have become the subject of radical criticism and deconstruction. For example the philosopher and developmental psychologist Piaget, prepared by the historization of the world view in the nineteenth century, queries the temporal identity of a person. In Piaget's genetic structuralist view, the human subject is no determined and timeless identity, but the result of an ever-continuing construction.[7] In the development of the subject, there are qualitatively different stages - cognitive structures - which are responsible for the fact that our childhood memories are difficult to recall when we have grown up. Whereas Piaget still attributes a strong continuity to the development (in the sense that there is a persistent self that experiences the development), Foucault in his archaeological and genealogical writings emphasises discontinuity in his analysis of the historical construction of the subject. According to Foucault, the modern subject is a contingent product of an entanglement of representations and social technologies. [8]

Around the turn of the century, the 'spatial unity' of the subject was radically attacked by Freud's theory of the unconscious. According to psychoanalysis, the self is no unity, but a battleground between conscious and unconscious thoughts and feelings. Like Piaget, Freud and later psychoanalysts such as Lacan argue that the subject is decentred in a radical way. Psychoanalysis undermined the image of the self as an autonomous and rational subject. The rational I is, as Freud expresses it, 'no longer master in his own house' [9] he is constantly under attack by sub- and unconscious thoughts and emotions.

Cognitive psychology attributed more recently to the fragmentation of the modern self. Partly with reference to Freud and Piaget, Minsky interprets the human mind as a Society of Mind a combination of a great number of simple agents which most of the time co-operate and carry out complex tasks, but also sometimes hinder each other. [10] And in Dennet's *Consciousness explained* we find a multiple-version model of the consciousness, according to which all variants of perceptions and mental activities in the brain are the result of parallel, multiple processes [11] In an article on *Multi Personality Disorder* Dennet states: "The possibility of developing multiple selves is inherent in every human being. Multiplicity is not only biologically and psychologically plausible, but in some cases it may be the best - even the only - available way of coping with a person's life experience." [12]

Besides this, in many contemporary theories it is emphasised that, to a significant extent, the self is also a social construction. Gergen states in his *The Saturated Self: Dilemmas of Identity in Contemporary Society* that our self is not detached from our social relationships and roles. This not only means that a person's status as an individual self depends on recognition, by others and oneself, of that status. [13] It also means that a person is a complex interplay of social relations: "We realise increasingly that who and what we are is not so much the result of our 'personal essence' (real feelings, deep beliefs' and the like), but of how we are constructed in various social groups. Previous possessions of the individual self - autobiography, emotions, and morality - becomes possessions of relationships. We appear to stand alone, but we are manifestations of relatedness". [14] The self does not so much precede social interactions, but is more or less a result of them. And according to feminist thinkers, our sexual identity is not a natural fact but - at least partly - the result of a social construction, which is quite different in the cases of male and female subjects. [15] And the same is true for the identity of a com-

munity. This can not be explained as a natural entity - seen as race, populace or culture - but instead it is a complex, ever-changing entity which has no constant core, but only acquires its identity in contact with other (equally fluid) communities (Often, as in former Yugoslavia, identities are constructed by means of ideological constructions and rather violent confrontations).

In summary, it may be stated that postmodern thinkers no longer see human identity as an unchanging unity, but as a changing, multiple entity, which is subject to the influence of libidinous, social and ideological forces. "A self", as Robert Stam's summarises, "is constituted by acquiring the ambient languages and discourses of its world. The self, in this sense, is a kind of hybrid sum of institutional and discursive practices bearing on family, class, gender, race, generation and locale. Ideological development is generated by an intensive and open struggle within us for hegemony amongst the various available verbal and ideological points of view, directions and values." [16]

Perhaps we should call it multiplicity or multiple identities rather than identity. It is important to realise that the aforementioned transformation of the concept of identity has not just appeared out of the blue, but is closely related to the social transformation our society is experiencing. The postmodern theories of multiple identities do not pretend to be eternal truths, but reflect the explosive growth of social interaction, which is the result of the increase in human mobility and the introduction of new means of communication.

The Postmodern Computer

Before entering in detail with regard to the influence computer-mediated communication has on our identity, I would like to dwell on the ambivalent place the computer occupies in the transformation from the modern to the postmodern society. Sherry Turkle remarks in *Life on the Screen: Identity in the Age of Internet* that the computer itself has gone through remarkable changes in the past decades. On its introduction in the fifties, the computer seemed the perfect embodiment of the modern world view. The computer was seen as a transparent technology which enables us to reduce complex phenomena to a conveniently arranged and controllable whole of mathematics algorithms. This modernist idea of the computer can still be found in the MS-DOS operating system which dominated the first generation of personal computers in the eighties. It enables the user to master the computer at an elementary level down to the last detail. The relationship of the user with his computer is abstract here, formal and monological: The user instructs his computer by keying in commands which are characterised by a strict syntax and a wealth of exact parameters.

The Macintosh computer by Apple, which was introduced in 1984, radically abandoned the modernist aesthetics of the MS-DOS computer. With the Macintosh, the user is separated from the operating system by a graphic interface. He is forced to take things at interface value. By using his mouse, the user double clicks icons in order to activate facilities. Here, the contact is concrete, concerning content and dialogue-like. The user simply deletes a file by 'dragging' it to an illustration of a waste-paper basket and enters into a dialogue with the computer by selecting the possibilities relevant to the context which the computer shows him. The MS-DOS computer permits his user to use only one application at a time, but the Macintosh user can 'zap' to and fro between the different windows which all give access to a specific application.

MS-Windows is a hybrid operating system because it unites both approaches. On the surface it is an imitation of the graphic interface of Macintosh, with the distinction that it still gives

access to the underlying MS-DOS operating system. In this respect, Windows is a perfect metaphor for our present culture, which shows the same ambivalent mixture of modern and postmodern motives. [17]

This, however, does not mean that they are not essentially different. Turkle interprets the transition from the modern to the postmodern approach of the computer as that from calculation to simulation. There is much more at stake here than the development of a new kind of interface: the change is symptomatic of the broad cultural change happening at the moment. We can also see this in the various ways in which the computer functions as a metaphor for the human mind. In the artificial intelligence research in the sixties and seventies, the human mind was described modernistically in terms of centred structures and explicit rules. Nowadays, postmodern theorists no longer pretend to be able to program intelligence, but they rather expect that intelligence, and possibly artificial life, will emerge from complex, not fully transparent and controllable interactions between subprograms.

"If these emergent simulations are 'opaque', that is, too complex to be completely analysed, this is not necessarily a problem. After all, these theorists say, our brains are opaque to us, but this never prevented them from functioning very well as minds". [18]

The Postmodern Computer as a Metaphor for Postmodern Identity

The postmodern computer is a fruitful metaphor if we try to grasp the multiple self of contemporary individuals. The multiple self can be compared to a computer with different windows. Just as the different windows can be alternately active on a computer with graphic interface, the different selves can be active in the postmodern individual. There is no complete exclusivity here: like being able to 'run' programs in the background and the possibility of a continual exchange between the programmes, our selves are also part of a complex, combined action which is difficult to predict and control.

With regard to the social dimension of the postmodern 'multiplicity', one of those windows, that of the Webbrowser which gives entrance to the World Wide Web, forms an elucidating metaphor. Those who like to express their identity by way of a personal homepage, cannot only do this by the contents and form of this page, but, equally important, also by making connections to other pages on the Web. This part of the identity is literally a multiplicity of associations and connections. The fact that modern notions such as originality and authenticity do not go well with postmodern identities can be seen in the easy way and the shamelessness in which other homepages, or parts thereof, are copied.

Multiple Personae and Virtual Communities

The computer, however, is more than a mirror in which we recognise our postmodern identity. It is also an 'ontological tool' with which we construct this multiple identity. Grafting a phrase from Michel Foucault onto the discourse of information technology we might say that the computer is "a technology of the self which permit individuals to affect on their own bodies and souls, thoughts, conducts and ways of Being, so as to transform themselves in order to attain a certain state of happiness, purity, wisdom, perfection, or immortality" [19]

In *Life on the Screen*, Sherry Turkle pays considerable attention to the experiences of users of the so-called Multi-User Domains (MUDs), virtual worlds which are created by the

'inhabitants' themselves. They are often Tolkien-like fantasy worlds, some-times based on famous science fiction stories. The virtual cities, shooting up like mushrooms, are also part of these MUDs. The population varies from a few dozen to sometimes over a million, such as, for instance, in the Japanese Habitat. At first, these virtual worlds existed exclusively in words but, here too, the visualisation has begun, as, for example, in Alphaworld. [20]

What makes these worlds so irresistible to many inhabitants is that they are constructions with no other limits than those of the human imagination. The same applies to our own appearance in those worlds. Those who feel the need, can act as though they belong to another sex, class or race, [21]The MUD enables the visitor to play social roles he is not familiar with in everyday life and to develop qualities which do not normally arise or - often for good reason - are suppressed. The digital personalities they assume certainly have their influence on the 'real' personality. A man who pretends to be a woman in a MUD not only has a more or less lifelike experience of what it means to be approached as a woman in a male dominated society, but he also identifies himself with that role and experience, which sometimes has far-reaching consequences for his 'own' identity. Because most players have several identities in different MUDs, they seem to be the forerunners of a future homo zappens, who restlessly clicks himself a path through the many windows of his personality and of the virtual, post-geographical societies to which he - or at least part of him - belongs.

To many inhabitants, however, the MUDs are more than a transitional space in which they tinker with their own identity before returning, enriched, to real life. This is caused by the fact that a considerable proportion of the inhabitants of the virtual worlds mentioned, spend more time in these digital constructions than in the real world. To many who, for whatever reason, did not manage to build up a suitable life in RL (real life), life in cyberspace has become an everyday reality. To them, RL has been reduced to 'just one more window'. (Or should we say that Windows has become 'just one more reality'.) However, the dividing line between the real and virtual world evaporates not only for the escapists, who try to find in cyberspace the community which is lost in modern society, but also for those who like to keep one leg in RL. Howard Rheingold, a prominent inhabitant of the Californian virtual community The Well (Whole Earth 'Lectronic Link), expresses it as follows in Virtual Communities. Homesteading on the Electronic Frontier:

"Not only do I inhabit my virtual communities; to the degree that I carry around their conversations in my head and begin to mix it up with them in real life, my virtual communities also inhabit my life. I've been colonised; my sense of family at the most fundamental level has been virtualized". [22]

Springtime for Schizophrenia?

MUDs are perhaps the forerunners of a the type of experience that will be dominant in our digital future. As far as identity is a construction - a human being does not start out as single or as multiple, "she starts out without any Head of Mind at all" [23] - information and communication technology may act as a technology to create multiple personalities, a multiplicity of selves that will scatter in parallel around innumerable virtual communities. This is what Nicole Stenger seems to have in mind when she writes in an article entitled 'Mind is a Leaking Rainbow'- the Nietzschean tone of her statement is apparent:

"Of course don't expect to keep your old identity; one name, one country, one clock. For be it through medical reconstruc-

tion or through fantasy, multiplied versions of yourself are going to blossom up everywhere. Ideal, statistical, ironical. A springtime for schizophrenia!" [24]

The question remains whether this homo zappens will also experience multiple and parallel happiness. You do not need to be a notorious pessimist in order to develop an eye for this "spring-time for schizophrenia". Anyway, it seems realistic to suppose that the transformation from our pre-modern or modern identity to the described postmodern multiplicity - certainly for the first generations - will not be without difficulties. The more the number of selves increases, the more the chance of mutual conflicts and misunderstandings. On the one hand, this will make people revert, in a nostalgic and frantic way, to the pre-modern or modern identity ideal. The anti-pluralism of today's fundamentalist-religious movements - also in technologically highly developed societies like the United States - can be considered as a modest taste of what we can expect in our digital future. [25]On the other hand, on the other side of the spectrum, we can expect a further growth of dissociative disorders like schizophrenia and multiple personality disorder (MPD).

In the case of MPD - which probably in most cases is caused by traumatic experiences, but which is probably also partly a construction of therapeutic intervention - the multiplication of the self is related to an often irreparable interference in the communication between those selves. [26] would venture to say that there is a link between the spectacular increase in MPD and the multiplication of the identity in postmodern culture forced by information technology. It is the task of the present homo zappens not to go to the described extremes and to learn how to live with numerous selves which continually communicate with each other and which constantly transform.

Exercises in Virtual Existence

In my opinion, there is an important task here for art. One of the merits of art is that it enables humanity to envisage new ways of existence. The development of the central perspective in Renaissance painting enabled pre-modern man to create a new worldly space and to orientate himself in this modern space. Likewise the art of novel-writing played an important part in the exploration of the mental, psychological space of the modern subject. It is left to contemporary and future art to explore and organise the virtual worlds which are revealed by the world-wide network of computers, and also to picture and experiment with the flexible, virtual identities which these worlds have in store. Seen in this light, MUDs are ideal laboratories for the contemporary artist. Here, at the interface of technology and human imagination, they are able to experiment with new practices and conceptions of individual and communal identities. In creating imaginative digital domains the artist of today offers us mental and bodily experiences which can help us to construct liveable multiple identities.

As history suggests, experiments with the new digital technology will also affect the identity of art itself. One of the challenges art is facing now is that it enters into a new relationship with sciences. In the modern world-view - which continues in this sense the platonic tradition - a sharp and evaluative distinction between science and art is made. Sciences aim at knowledge of the world as it is, whereas art - depending on the artist's imagination - only creates apparent worlds. In the digital domain, however, this distinction does not longer seem to be useful. Postmodern sciences like genetic engineering and artificial life no longer are mimetic activities, but are a kind of poiesis: they create simulacra, beings without a precedent object. The become what Claus Emmeche in his book Garden in the Machine: The Emerging Science of Artificial Life has called modal sciences: "Artificial life must be seen as a sign of

the emergence of a new set of postmodern sciences, postmodern because they have renounced or strongly downgraded the challenge of providing us with a truthful image of one real world, and instead have taken on the mission of exploring the possibilities and impossibilities of virtual worlds. It is a case of modal sciences, passing freely between necessity and possibility. Science becomes the art of the possible because the interesting questions are no longer how the world is, but how it could be, and how we can most effectively create other universes - given this or that set of computational resources" [27]

Whereas modal science becomes the art of the possible, digital art, by using exact methods, becomes a science of the virtual. The worlds created by digital artist are no longer apparent worlds, but worlds we are actually living in. In this respect the digital revolution resembles the revolution of the Renaissance in which art and science were not yet separated and instead were closely working together in the disclosure and habitation of the geographical space of the modern world. In the present digital Renaissance art and science together aim at the disclosure and habitation of a post-geographical Lebensraum

In yet another sense postmodern art resembles pre-modern or (maybe better: protomodern) art. Artistic creation in cyberspace again will become a collective activity - in this respect we can compare the place of MUDs in virtual space to that of mediaeval cathedrals. Digital technology, in blurring the dividing line between reality and imagination, and consequently between science and art, gives the artist of today the world-creating role of which avant-garde artists have been dreaming since the Romantics. In the future, we will inhabit innumerable art works. Whether we will feel at home there, will - at least partly - depend on the power of our technological imagination.

Endnotes

1. Cf. J. de Mul, Imagination without strings: A virtual look in the future of the visual arts. In: Liubava Moreva and Igor Yevlampiev (eds.), *Paradigms of Philosophizing*, StPetersburg 1996, 246-252.
2. See for example W. Ong, *Orality and Literacy: The Technologizing of the Word*, London/New York 1982 and D. de Kerckhove, *The Skin of Culture: Investigating the New Electronic Reality*, Toronto 1995
3. R. Barglow, *The Crisis of the Self in the Age of Information: Computers, Dolphins and Dreams*. London/New York 1994
4. A. Toffler, *The Third Wave*, New York.
5. Compare M. Poster, 'Postmodern Virtualities' in M. Featherstone and R. Burrows (eds.) *Cyberspace, Cyberbodies, Cyberpunk: Cultures of Technological Embodiment*, London, 1995, pages 79-95.
6. J. Locke, *An Essay Concerning Human Understanding*, New York 1959, A7 11.
7. See J. Piaget *Insights and Illusions of Philosophy*, London 1972, 57f.
8. Cf. Foucault, *The Order of Things. An Archaeology of the Human Sciences*, New York 1970, *Discipline and Punish: The Birth of the Prison*, New York 1979. For a more detailed reconstruction and comparison of Piaget's and Foucault's views on the construction of the subject, see J. de Mul, 'Structuralistic and Hermeneutic Approaches to Development'. In: A. W. van Haften, M. Korthals en T. Wren (eds.), *Philosophy of Development*, Dordrecht 1996, chapter 16.
9. S. Freud, *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, London 1953-74, XVII, p.143
10. "I'll call 'Society of Mind' this scheme in which each mind is made of many small processes. These we'll call agents. Each mental agent by itself can only do some simple things that needs no mind or thought at all. Yet when we join these agents in societies - in certain very special ways - this leads to true intelligence" M. Minsky, *The Society of Mind*, New York 1985.
11. D. C. Dennett, *Consciousness Explained*, Boston 1991.

12. N. Humphrey en D. C. Dennett, *Speaking for ourselves*. Raritan. A Quarterly Review IX, no. Summer 1989 (1989), pp. 68-98

13. Cf. R. Barglow, *The Crisis of the Self in the Age of Information: Computers, Dolphins and Dreams*. London/New York, 1994, pages 104ff

14. K. Gergen, *The Saturated Self: Dilemmas of Identity in Contemporary Society*, New York 1991, p.

15. See for example J. Butler, *Gender Trouble: Feminism and the Subversion of Identity*, New York 1990

16. R. Stam, *Mikhail Bakhtin and Left Cultural Critique*. In: E. Ann Kaplan (red.), *Postmodernism and its Discontents*, New York 1988, 120

17. Already the windows metaphor itself is hybrid. On the one hand it reminds us of the modern metaphor of knowledge as a transparent window: suppressing the sensual nature of every medium of knowledge, language included (cf. M. Jay, M., *Downcast Eyes: The Denigration of Vision in Twentieth-Century French Thought*, Berkeley 1994, 503). On the other hand, because of its scaling powers the graphical interface directs our attention towards the very materiality of the sign and in doing so deconstructs the very transparency of the computer window. Cf. Richard Lanham's analysis of the oscillation of looking THROUGH and looking AT on the computer screen in: R. Lanham, *The Electronic Word: Democracy, Technology, and the Arts*, Chicago 1993, 42-44

18. S. Turkle, *Life on the Screen: Identity in the Age of Internet*, New York 1995, 20

19. M. Foucault, *Technologies of the Self*, Amherst 1988, p. 18

20. "AlphaWorld is a virtual environment that you inhabit along with all other users who are logged in at the same time as you. You can communicate with other users, and you can see their avatars. But what makes AlphaWorld a special place is the ability to claim a piece of this virtual space and build your own creations there. The location and specifics of the objects that you place are sent to the central server, so almost immediately your buildings and creations will be visible to anyone else in AlphaWorld. Building with objects is tactile, visual and intuitive. And as you can see from some of the marvellous construction already present in AlphaWorld, the only ultimate limit on what you can build in AlphaWorld is your own imagination. So go out there and build! AlphaWorld is just the first of a whole web of interconnected virtual spaces." This quote is taken from the help-files of AlphaWorld. AlphaWorld-software can be downloaded from Internet: <http://www.worlds.net/alphaworld/>

21. Cf. A. R. Stone, *The War of Desire and Technology at the Close of the Mechanical Age*, Cambridge 1995, 25, 65-81

22. H. Rheingold, *The Virtual Community: Homesteading on the Electronic Frontier*, New York etc. 1993, p. 10

23. N. Humphrey en D. C. Dennett, (ibid.).

24. N. Stenger, 'Mind is a Leaking Rainbow' in: M. Benedikt, *Cyberspace: First Steps*. Cambridge/London 1991, 49-58, 53.

25. We should not forget that the growth of the number of windows of experience (television channels, magazines, newsgroups, websites) and the transformation from mass media to information and communication technologies (that is: from the one-to-many communication of television to the many-to-many communication of Internet) does not necessarily lead to a more pluralist experience. On the contrary: it often leads to a narrowing of experience, because the developments mentioned enable us to have a non-stop experience of uniform information (provided by television evangelists, soap channels or MUDs)

26. In his book *Shattered Selves: Multiple Personality in an Postmodern World* James Glass points at the remarkable similarities between the postmodern deconstruction of the self and MPD. However, though Glass "is not unsympathetic to many of the postmodern arguments", he passionately criticises the affirmative tone of the postmodern theories: "Postmodern philosophers such as Baudrillard and Lyotard use the experience of texts to ground their theories of multiplicity, from these texts they create an aesthetic that celebrates a certain limitlessness and contempt for conventional value, a release from prevailing norms and an embracing of what Lyotard refers to as the 'loss of meaning,' a 'nostalgia for the unattainable,' and 'a war on totality' (J.-F. Lyotard, [The Differend. Phrases in Dispute, Minneapolis] 1988, 26, 81, 82). But for a real person the psychological reality of being multiple, of actually living it out, is an entirely different issue. When multiplicity appears in reality, as identities frozen in time and trait, when consciousness lives in a psychological nexus distinguished by separable identities each of which possesses idiosyncratic imperatives and languages, the self encounters multiplicity not as an expan-

sive dynamic but as a dreadful commentary on the ends of power". J. M. Glass, *Shattered Selves: Multiple Personality in a Postmodern World*, Itchaca/London 1993, xviii-xix)

27 C. Emmeche, *The Garden in the Machine: The Emerging science of Artificial Life* Princeton (Princeton University Press) 1991, 161

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