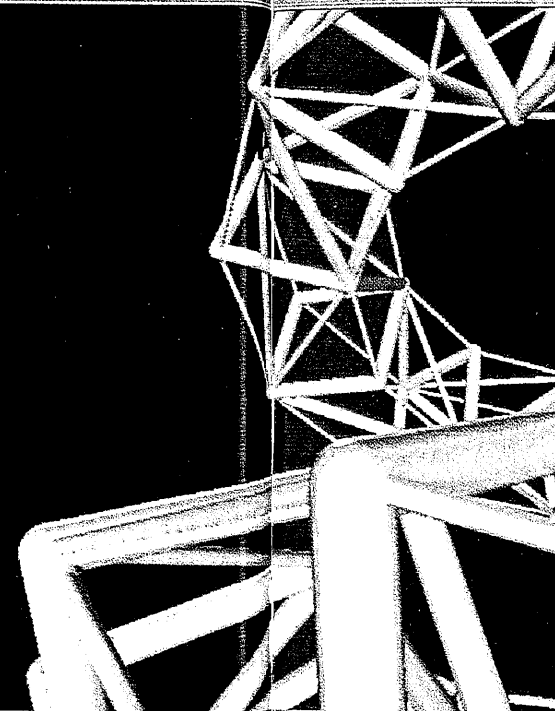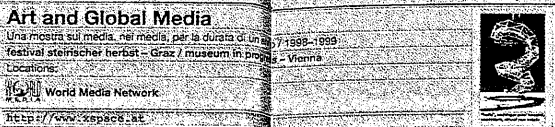# The Project

I (scope)

The *Art and global media*. An exhibition in the media space project took place over a period of approximately two years (October 1998 - February 2000) in a number of cities (Barcelona, Graz, Karlsruhe, Tokyo), in various media, and in collaboration with several partners. The project was launched in 1998 as part of the *steirischer herbst* festival in Graz, Austria, where it focused on the newspaper, poster, video, film and television media. The project was concluded in 1999-2000 at the Center for Art and Media (ZKM) in Karlsruhe, Germany, where the focus was shifted to the network medium. In addition to the *steirischer herbst* festival and the ZKM, the partners of the *Art and global media* project included the museum in progress in Vienna, Austria, the Schubert-Kino cinema and the KIZ-Kino im Augarten cinema in Graz, the Austrian daily newspaper *Der Standard*, Austrian television (ORF), the global newspaper combine World Media Network, the British art magazine *n.para-doxa*, the Media Centre d'Art i Disseny (MECAD) in Barcelona, Spain, and the Intercommunication Center (ICC) in Tokyo and their journal *InterCommunication*.

The *Art and global media* project was a networked, multimedia and multilocal event. The aim of the project was to make us aware of and visualise the way the media change and construct reality with the aid of a media project taking place primarily in the media space. Logically enough, the global network plays a key role in a project exploring the global conditions of art and media. The aim of holding an exhibition in the media space, from print media to electronic media, from television to the World Wide Web, is essentially to leave the traditional places and institutions of exhibitions such as museums, galleries, etc. Ideally, an exhibition focused on the social, economic and political consequences of the new media can only take place within these very media. In what is a kind of placelessness, an exhibition was organised mainly taking

place in the new media themselves. In this case, the traditional material places and cultural institutions served as a basis for extending artistic activities from local physical spaces into the immaterial global information space. The media conditions were geared to the production and distribution conditions of the artistic projects. Poster actions took place, films were screened in cinemas, TV films shown on television, media installations featured in exhibition spaces, and net projects on the net.

The *Art and global media* project tended towards a form of realisation in the global media space, so it was not tied down to any particular venue or local time. The project left behind both the traditionally limited structures of space and time to which an exhibition is amenable and the restrictions in terms of media. The works produced by the artists in the media for the Internet, TV, cable television, radio, film, daily newspaper, magazine and poster media were published at specific points around the globe in these media. The international networking of the artistic contributions corresponded to an inter-media networking. Some of the contributions connected one medium to another and were acted out in several different media - one medium is reflected on in another medium. Television works analyse how news is constructed in newspapers (*Noam Chomsky Reads the New York Times*, Paper Tiger Television, 1985, 1986), or what cultural transformations the telephone brought about (*Avital Ronell, The Call*, GRENZ-film, Vienna, 1998). Media and media constructions of reality and media fictions are reflected on in the media. How is intimacy coded on the net? What kind of news do we see on television? What kind of politics do we read about in newspapers?

The way media construct society, history, memory, politics, market, economy and knowledge is the main focus of the *Art and global media* project. All over the globe we are seeing how the media have formed and taken over the traditional

Art and Global Media

Una mostra sul media, nei media, per la durata di un [...] 1998-1999 festival steirischer herbst - Graz / museum in progress - Vienna
Locations:
World Media Network
http://www.zspace.at

Helix by eichinger oder knechtl, werkraum and virtual real estate (A) in the daily paper *La Stampa* (I), 6/27/1998 (Collaboration with World Media Network)

functions and operators involved in the construction of reality. To an ever increasing extent, the construction of the world is being dominated by the media. Society is increasingly becoming a media society. This is why media observation is increasingly taking the place of world observation in art. From law to financial markets, from leisure to the world of work, from eroticism to politics, there is no social sphere that isn't decisively shaped by individual and mass use of media. Thanks to the interplay of the global economy and global mass media, there are emerging new social structures, new classes and hierarchies, new forms of economic and political power. This project about media in the media was not only about portraying the representation of reality in the media, it was rather about a new approach, namely to shed light on the different methods with which reality is constructed in the various media.

II (film)

A first major project in Graz in 1998 explored film as a medium of the representation and construction of reality. Retrospectives curated by Peter Weibel featuring the overall oeuvre of three outstanding representatives of three generations of critical documentary film, Joris Ivens, Chris Marker and Harun Farocki, provided some typical examples.

Joris Ivens (1898 - 1989), after formal movement studies *Études des mouvements* (1928), *De Brug* (1928) and above all *Regen* (1929), began his actual documentary work with *Wij Bouwen (We Are Building)* (1929), *Philips Radio* (1931), and *Misère au Borinage* (1933), which were protests against the conditions of the economic and social system that engendered so much misery. *Nieuwe Gronden* (1934) was his first collaboration with the composer Hanns Eisler. For many people, *Nieuwe Gronden* (1934) is Ivens' masterpiece. Afterwards, Ivens did not make any more films in Holland for more than 30 years, but rather worked in Moscow, Spain (*Spanish Earth*, 1937, with a commentary by Ernest Hemingway), in China (*The Four Hundred Million*, 1938), and from 1938 to 1945 in the USA. In 1946 he shot *Indonesia Calling* and in 1949 he depicted the constitution of the socialist societies of Czechoslovakia, Bul-

garia and Poland in *Pierwze Lata (The First Years)*. In Eastern Europe he also shot the famous film *Das Lied der Ströme* (1954) with music by Dimitri Shostakovich and texts by Bertold Brecht, a celebration of the world-wide labour movement with material from 32 nations. In 1956 Ivens settled in Paris where he remained until his death, apart from travel for his numerous works abroad. In 1963 he shot *...A Valparaiso* in Chile with a commentary by Chris Marker. In 1965 he made *Le ciel, la terre (The Threatening Sky)* in Vietnam. In 1967 he began working with his later wife Marceline Loridan (*Le dix-septième parallèle*, 1968; the 12-hour film *Comment Yukong déplaça les montagnes*, 1973-76).

Chris Marker (1921, lives in Paris) wrote for André Bazin's magazine *Cahiers du Cinema*, from which the main representatives of the *Nouvelle Vague* emerged. In 1955 he visited Peking with Gatti and shot the film essay *Dimanche à Pekin*. In 1964 he made his only fiction film, the legendary science fiction film *La Jetée*, that consisted solely of still frames apart from the moment in which a sleeping girl opens her eyes. *Si j'avais quatre dromadaires* (1966) is comprised of 800 photographs taken by Marker in 27 different countries over a period of ten years. In 1967 Marker initiated the collective film *Loin de Viêt-Nam* with contributions from Resnais, Godard, Ivens, Lelouch, Klein and Varda. After May 1968 Marker mainly worked for the film collective SLON, that was to become ISKRA in 1974 (Images, Sons, Kinescope, Réalisation Audiovisuelles in allusion to Lenin's newspaper *Iskra*). In 1974 Marker began filming under his own name again. In 1977 he analysed the hopes of international leftists in *Le Fond de l'air est rouge* in a very personal style. In the 1980s he shot *Sans Soleil* (1983) and a portrait of Akira Kurosawa *A.K.* (1985) in Japan. In the words of Michel Chion "Chris Marker has made one of the best documentaries ever filmed on the making of a film." Marker's interest in film as a medium of memory, both in terms of the private and collective, becomes increasingly evident. In *Level Five* (1996) he searches for the traces of memory in a video game database. After the death of Simone Signoret he created the documentary film *Mémoire de Simone*

(1986). In *Sans Soleil* he says "I wonder how people who don't film, don't photograph, don't do video can remember, I wonder what humanity does to remember."

Harun Farocki (1944, lives in Berlin) attended the film academy in Berlin (in 1966) and made his first film, *Nicht löschbares Feuer* (1969), that focused on the war against Vietnam (1998 remake by Jill Godmilow in collaboration with Harun Farocki.) Afterwards he collaborated with Hartmut Bitomsky, *Die Teilung aller Tage* (1970) and *Eine Sache, die sich versteht* (1971). Since 1972 he has been an author and, from 1974-1984, editor at *Filmkritik* magazine. Between 1972 and 1977 he mainly earned a living in television. In 1978 he made his film treatise *Zwischen zwei Kriegen* (1978) on the relation of economy and Fascism and followed that in 1982 with a film about the Vietnam war, *Etwas wird sichtbar* (1982). By the 1980s he was developing his own type of film with *Wie man sieht* (1986) and *Bilder der Welt und Inschrift des Krieges* (1988), a film about the different learnable role plays in life; life as a test: *Leben-BRD* (1990). At the end of the Ceausescu regime in Romania he made *Videogramme einer Revolution* (1992) together with Andrei Ujica. Since 1992 he has been guest lecturer at the University of California, Berkeley, and, with Kaja Silvermann, co-authored *Speaking about Godard*, a book in dialogue form (1998). His recent films are *Die Umschulung* (1994), *Schnittstelle* (1995), *Der Auftritt* (1996), *Stilleben* (1997).

What these representatives of three generations have in common is the fact that their work is woven around the big historical conflicts and political constellations of the twentieth century. The scenes of the anti-Fascist and anti-colonial wars and the great political transformations were their locations - the Spanish Civil War, battles in China and Russia, strikes and demonstrations in Australia and Chile, the Algerian War, the Vietnam War, the revolution of 68, etc. Ivens and Marker were cosmopolitans, tirelessly travelling to the world's flash points and taking a stand for the oppressed, the disenfranchised, and revolutionaries by means of their social documentaries. Their image stories were images of history. Joris Ivens in particular, but also Chris Marker, are film

artists operating at the forefront of the global revolutions. Whereas Joris Ivens, trained as he was by the formal mastery of Walther Ruttmann, Dziga Vertov, Jean Vigo, and by the visual anthropology of Robert Flaherty, was still a convinced humanist who saw film as an instrument of political struggle, Chris Marker had realised that the war of men was matched by a war of images and that there is a common logic in both. His films are personal comments rather than pamphlets in the name of collectives. Where Ivens married the register of perception and the register of the social sphere in a formally differentiated manner, in his film essays Chris Marker shows us how the images of history are constructed by the stories that images tell. A criticism of images begins to take shape in Marker's work. Harun Farocki focuses directly on the registers of the visual as instances of the social, presenting the "images of the world" as an "inscription of war" (1988). "Philosophy asks: what is man? I ask: what is an image? Images have too little importance in our culture." (Harun Farocki)

Chris Marker from political siding in Joris Ivens' pictures to political treatment of images in Harun Farocki's work articulates the transition with great precision. What we see is militant cinema that not only declares war on the political actors but also on the images themselves. The camera is not only found at the great scenes of dramatic historical events, but the cutting room, the cutting of the images, becomes the scene of analysis. Political action continues from the macrostructure of politics to the microstructure of images. Political education also takes effect in the images provided by the camera. Education about political, social and cultural contexts morphs into education about the conditions of production of images and social communication. Ivens', Marker's, and Farocki's film essays show how cutting images and sound already served to create or deconstruct constructions of reality in the classical medium of film.

In his films, Marker translated the political and social upheavals that were taking place around the world into an aesthetics that reconciles the subjectivism of Jean Vigo with the documentarism of Dziga Vertov. Marker, originally a writer,

... ns to the original media of memory, writing and images. Marker uses film as a form of writing, functioning as a medium of memory. His films are film writings that treat events, images and sounds as elements with which the author constructs his reflections. For Marker, culture is memory work. His films oppose the imperial interests of hegemonic political systems to forget and repress certain moments in history, certain utopias. He deploys his discursive images to counter the antidemocratic images of historical unawareness and a loss of experience as supplied by the daily routine of mass newspapers, TV pictures and Hollywood films. Language and images, more so than in the work of Ivens, a child of the silent film era, are united in Marker's films to create the characteristic (film) style of an author who interrupts the endless visual loops of global multimedia systems that destroy knowledge.

Farocki adopts this style of filming, this marriage of language and images, dealing directly with the conditions in which the visual is produced at the global front. He is particularly interested in the social and political conditions of image production. He not only distrusts the industry, but also the images themselves. Thus he analyses how we see, *Wie man sieht* (1986). In his film essays, following the work of Ivens and Marker, he investigates the conditions in which the world becomes images of the world. *Etwas wird sichtbar* (something becomes visible) is the title of one of Farocki's films dating from 1980-1982, a film that makes visible what matters to Farocki: to show how the world is portrayed, to show something of the world by showing how something becomes visible. By showing us the conditions in which the world transforms into a statement about the world, he rectifies the view of the world distorted by the public media and global media conglomerates: *Ihre Zeitungen* (1967), *Ein Bild* (1983), *Videogramme einer Revolution* (1991/92), *Die führende Rolle* (1994). Whereas Joris Ivens depicted civil wars, Farocki portrays wars of images.

But Marker and Farocki not only restricted their film style to the classical medium of film, but also transposed the cinematographic experience to other technical dispositives. Media installations that work with video, CD-ROM and com-

puter, for example *Schnittstelle* (1995) by Harun Farocki and *Zapping Zone. Proposals For An Imaginary Television* (1990/97) and *Immemory* (1997) by Chris Marker, amplify the discursive elements as a result of their intermediality, intertextuality and interactivity. They show us how reality is constructed with the aid of the media.

With their discursive films, Ivens, Marker and Farocki declare war on the "undeclared war" (David Puttnam, 1997) of the Hollywood film industry, a war for global control of image production and distribution. They oppose the industrial mechanisms of image construction and the related media mechanisms of the construction of reality. Their discursive films form artistic, productive and distributive models of independence in the bought-out, commercialised global public space. If film is the real art of the twentieth century, Ivens, Marker and Farocki count among the film artists who have added the language of images and sound to the work of writing and language. In 1977 Michel Foucault called for philosophers to "become more sensitive to events. Philosophers must become journalists." Ivens, Marker and Farocki are exactly this kind of critical philosophical journalist in the global media age. Their film essays provide standards for analysing the media conditions of the construction of the world.

III (symposium)

One of information technology's fundamental effects on the world of today is that it allowed a global economy characterised by an almost instantaneous flow of information, capital and cultural communication. Advanced information technology and the process of globalisation cannot be divided. The outlines of the previous 'world order,' characterised by North-South relations and which resulted in a political landscape of three worlds, have undergone a fundamental transformation in the age of the information society and global media. We are seeing the dissolution of the three worlds theory 1) the Western world of the European/North American axis, 2) the now defunct Eastern bloc and, 3) the poor developing countries, witnessing the emergence of a "fourth world" (Manuel Castells) excluded

from the global information flow and which, as such, can be found in certain places in both the First and Second worlds and in the Third World. The affluence of the industrialised nations of the First World hinges more than ever on exploitation of the Third World. Increasing the efficacy of exploitation is served by an information and economic network that is also linked with Asia, i.e. a global network. Globalisation is gaining the whole world as its marketplace, safeguarding the continuation of First World colonial hegemony in combination with Asian partners. This explains the trend of the so-called 'free market' towards globalisation. The megafusions of big telecommunications, IT companies, print media, electronic media, content providers and distribution providers (e.g. film companies and Internet firms), banks and insurance companies, are symptomatic of attempts to subdue the global market hegemonically. The global greed of the big media associations, capital conglomerates and industrial groups is expressed in cartel-style or monopolistic dominance of the world market. By means of the monopoly in a single service sector, e.g. software, the aim is to put the global market at the mercy of a single company, e.g. Microsoft. Global expansion means global monopoly.

The architecture of the global economy goes hand in hand with the development of media globalisation, a global network. The rise of a global media market in the late 1980s took place accordingly. The new missionaries of capital increasingly became aware of the significance of a global media culture for the liberal economic market. Global telecommunications systems and the world wide web thus do not serve the previous cultural, instructional purposes of public media companies, e.g. as with state-controlled European TV and radio stations, but rather - as can be seen by the example of private US media systems - we can recognise the negative consequences of media globalisation for the public sphere. The rise and triumph of global neoliberalism can only be seen and comprehended in context with the installation of global media conglomerates and transnational groups that take advantage of world-spanning communication technology, from the telephone to the Internet. The anti-democratic tendencies of neoliberal-

ism and the mass media reciprocally augment their power. Thus, it will be all the more important for us to be informed about the social construction mechanisms of media and the media construction mechanisms of society. This is why media critique and social critique can no longer be divided.

In a society in which civil rights are constantly being diminished by the media construction of the world, art has a historic opportunity to put communication technology in the hands of the individual and to wrest it from the dictates of capital, commercialism and the military. Art has a chance to contribute to recivilising global media technology.

At a symposium curated by Peter Weibel, which brought together a selection of the first social and media theorists to introduce into their writings the data, facts and theoretical concepts that allow a criticism of global media culture, the aim was to investigate and name the effects of the global media on culture and economy. Parallel to the real-world symposium in Graz (featuring Christa Blümlinger, Timothy Druckrey, Edward S. Herman, Diana Johnstone, Bruno Latour, Gerhard Johann Lischka, Robert W. McChesney, Vincent Mosco, Florian Rötzer, Dan Schiller, and Siegfried Zielinski) with the lectures printed in this book, a virtual symposium was also held in the print media and on the net, in which Pierre Bourdieu, Manuel Castells, Jürgen Habermas, Immanuel Wallerstein and Peter Weibel took part.

IV (newsroom)

The film programme and symposium were accompanied and extended in a local material newsroom in Graz and in the multilocal immaterial newsroom of the media.
As a local indication of the exhibition project Art and global media taking place in the immaterial, global public media space of the print and electronic media, there was a physical, local public space, dubbed 'newsroom,' at the steirischer herbst organisers' building in Graz, in which visitors were able to inform themselves on site about this project or log in via the website http://www.xspace.at. In this room, visitors were not only able to regularly follow and read all the contributions continuously published in the print

..a, but also view some of the videographically documented lectures of the participants in the symposium (Siegfried Zielinski, Bruno Latour), specific works by Paper Tiger Television and the essay film Der Angriff der Gegenwart auf die übrige Zeit (1985) by Alexander Kluge, etc. This video programme was supplemented by the STROBE trailer by TIV - True Image Vision, Vienna, and productions of the alternative cable TV producers XXkunstkabel, Graz, e.g. with Peter Fend speaking about the Ocean Earth and News Room projects. A comprehensive media-specific library on the subject of global media was also installed for visitors. Visitors to the newsroom were thus able to inform themselves in depth about the Art and global media project with the aid of books, newspapers, videos and the Internet.

In the public space of the print media, the Austrian daily newspaper Der Standard not only featured the contributions of the participants in the symposium, but also published contributions of the artists Martine Aballéa, Peter Fend and DeeDee Halleck & David Thorne. Alongside artist interventions and theoretical essays, Der Standard also featured a specific series of publications curated by Christian Muhr and Walter Pamminger entitled Signs of Trouble which focused on international positions in information design of the 1990s. A new generation of designers, developing aesthetic strategies for the age of global media and mobile information and the knowledge society, was presented: The Designers Republic (GB), Mevis & Van Deursen (NL), David Crow (GB), Michael Rock & Susan Sellers (USA), J. Abbott Miller (USA), Anne Burdick (USA), Cornel Windlin & M/M (CH/F), Tomato (GB) and Jonathan Barnbrook (GB). At the same time, it was also possible to place a visual logo developed by the team of architects eichinger oder knechtl, which served as a link to the http://www.xspace.at website of the project in Graz/steirischer herbst, allowing visitors to view all information on the Art and global media project globally; the logo appeared in international daily newspapers affiliated with the World Media Network: Le Soir (B), Libération (F), La Stampa (I), To Vima (GR) and La Presse (CAN).

In addition to artist contributions in daily newspapers, there were also artist contri-

butions in art magazines. n.paradoxa Vol.3, 1999 (London), published works by Susan Hinnum (DK), Copulo Ergo Sum; Edda Strobl (A), What they do; Sonja Gangl (A), REBEKA underwear; and Lou Ann Greenwald (USA), Untitled, while InterCommunications, No.30, 1999 (ICC, Tokyo), featured works of Haim Steinbach (USA), dirty dozen, and more or less, and Ontological Loneliness within the Alphabet by Markus Huemer (A). Another public space constructed by the print media were the public billboards. A specially designed poster Jardin Voyageur/Travelling Garden by Martine Aballéa, curated by Ulrich Obrist, was shown in collaboration with the museum in progress (Vienna) in the period of October/November 1998 in Graz and in November/December 1998 and January 1999 in 23 European cities.

In addition to these discursive and artistic interventions in the classical media space, i.e. the public space constructed by the print media, there were also discursive and artistic interventions in the public space constructed by the new electronic media. In the electronic media space of television, in collaboration with the Austrian broadcasting company ORF, the kunst-stücke series featured existing films on the subject of global media: Stilleben (1997) by Harun Farocki, Manufacturing Consent – Noam Chomsky and the Media (1992) by Peter Wintonick and Mark Achbar and Avital Ronell. The Call (1998) by Susanne Granzer and Arno Böhler. On the other hand, specially produced programmes on the subject of Art and global media were also screened under the series title STROBE (with contributions by participants in the symposium and news correspondents around the world) by the alternative TV producers TIV - True Image Vision, Vienna, in kunst-stücke on ORF television.

V (net condition)

Under the heading net_condition. art/politics in the online universe, the ZKM presented an exhibition that took place in the form of a multilocal networked event simultaneously in Karlsruhe (ZKM), Graz (steirischer herbst), Tokyo (ICC Intercommunication Center) and Barcelona (MECAD Media Centre d'Art i Disseny).

This exhibition, featuring some 100 works, aimed not only at providing a comprehensive overview of the current status of international net art; but above all, to introduce visitors to the political and economic ideas, social practices and artistic applications of on-line communication.

The title net_condition is meant at several levels to reflect the conditions introduced by the net, both artistic and social. There are social conditions that necessitate and promote the development of the net. The net, in turn, creates the possibilities and conditions with which the information society can continue to develop. The title is to be seen in this sense: as a social and technical condition. This exhibition is not called net.art, but rather, for the aforementioned reasons, net_condition, as it focuses on the social conditions forced into existence by the net; while at the same time exploring the conditions that the net itself imposes on society. In addition to these social conditions, the focus of the exhibition project is on investigating which new conditions the net imposes on the historical media and historical social forms of communication and art. Every new medium relinquishes several characteristics as compared to the previous media, but generally introduces a host of new characteristics that are superior to historical media in terms of certain aspects. Thus, the result of the emergence of new media is not the eradication of the old media, rather the new media subdue the old media to their conditions. "The Photographic Condition" (Rosalind Krauss) has changed painting, video has changed film, digital technology has changed film and video, etc. As a technical dispositive, the net changes music, visual culture and literature.

This is why, alongside net-based two-dimensional images and texts on screen, we see net-based installations that adequately widen the overly narrow definition of net art. Net-based installations are the latest stage of media art after the video-based sculpture of the 1980s and the computer-based, interactive installations of the 1990s. In net-based installations, the changes and advances of net art are particularly clearly demonstrated by two traits: firstly, the net forges a link between the local, physical, real and material space of the hic et nunc and the dislocated, virtual, immaterial space of

the information sphere. The net, then, consists of islands of non-locality. We are not driving as if in a car along a continuous space-time, as the information highway metaphor would erroneously have it, but rather we are jumping from one local time to another, from one location (locus) to another. The structure of the non-locality, introduced by the telephone and television, is amplified by the net. The arena of the action is enlarged from the image to the global information space.

For the first time, dislocation and non-locality allow communication beyond the local horizon. Up to now of course, the viewer and the image were in the same local horizon. Even in an interactive computer installation, the viewer and the image were in the same space at the same time. Interactive net art makes it possible for the image and the viewer to be at different places at different times. For the first time, images, texts and sounds are not tied to specific localities, to the viewer's locality. Secondly, the inter-action is not unidirectional, monosensory and irreversible, as was previously the case. Even in computer installations the viewer's movements, e.g. touching a plant, triggered movements in the image, e.g. the simulated growth of artificial plants. The movement in virtual space, however, had no repercussion on real space, the growth of virtual plants had no effect on real plants. In a computer-based net installation, for the first time the relation between the image and the viewer is reversible, i.e. it takes place in two directions: the information flow passes from the viewer to the image, from real space to virtual space, and from the image back to the viewer, from virtual to real space. Net activity in virtual space controls the sequence of events in real space and the events in real space control the sequence of events in virtual net space. The reversible nature of the effect between real and virtual, between local and non-local, is the next stage of radicality after interactivity. The virtuality of storing information, the variability of the image content and the viability of image behaviour in the interactive computer image is followed by the reversibility of the effect and simulation of non-locality, two characteristics of the algorithmic artificial image that are perhaps even more radical than interactivity. Interactivity which is reversible and which dislocates, is the
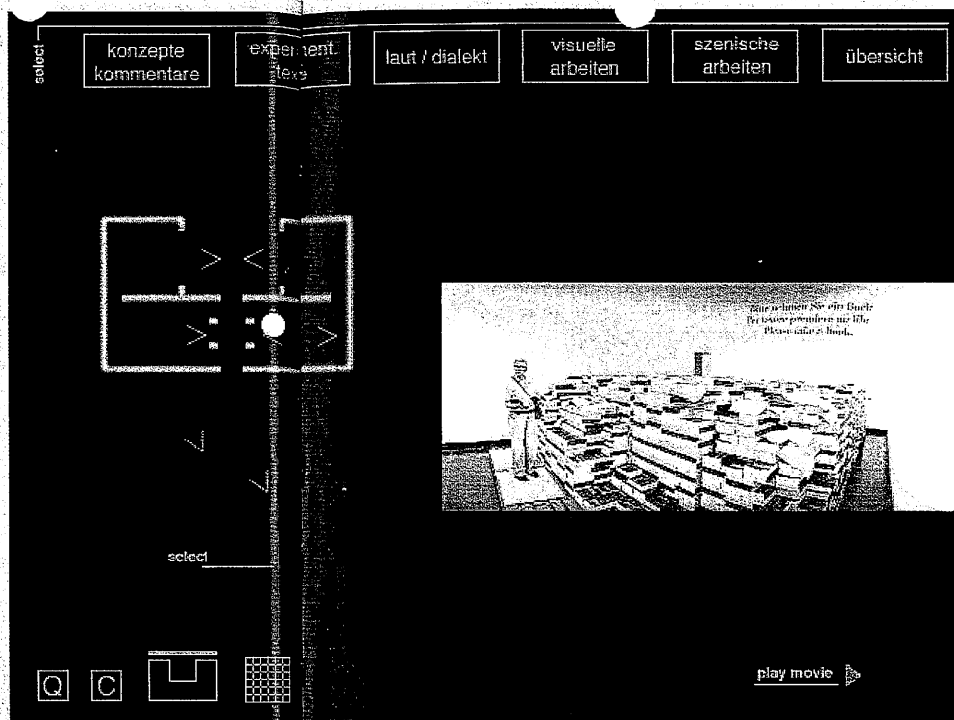
Die Wiener Gruppe (The Vienna Group), 1997

new characteristic of net-based computer installations.

Distributed virtual reality, shared cyberspace, non-local communication, multiuser environments, web TV and net games are thus the focal issues of this exhibition. In this context, the net_condition is not only explored in terms of image media, but also with regard to sound media. Net-based music and NetRadio are thus important aspects of the exhibition.

VI (examples)

As artistic director of *Ars Electronica*, I already dedicated the festival to the net phenomenon in 1995, under the heading "Mythos Information: Welcome to the Wired World." As part of this festival I myself performed an Internet opera that took a critical look at the ideological conditions of the creation of Wagner's music: *Wagners Wahn oder das heilige Land des Kapitals. Cyberoper für Bühne und Inter-
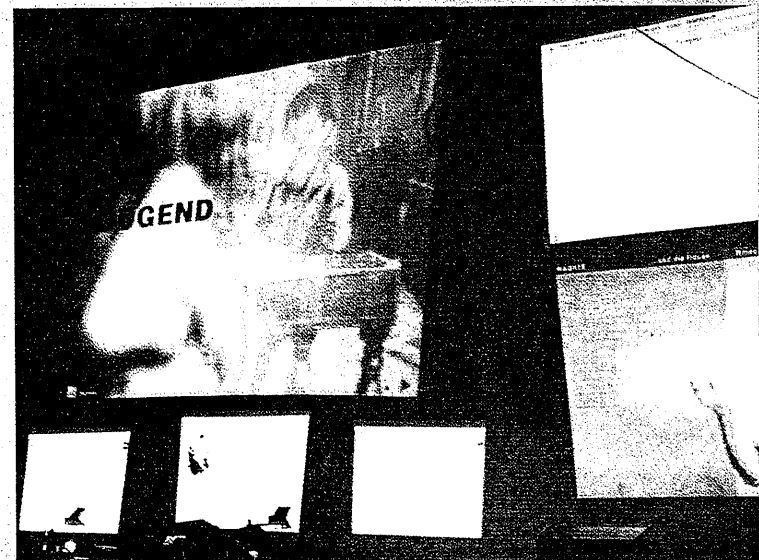
net (1995). (Wagner's Mania or the Holy Land of Capital. A Cyberopera for Stage and Internet)* I also commissioned an Internet game, implemented by Orhan Kipcak from Graz, as an art game at the virtual Brucknerhaus (the base of the Ars Electronica festival). At the occasion of the *Biennale di Venezia* 1997 I also commissioned an internet presentation of *Die Wiener Gruppe (The Vienna Group)* by Orhan Kipcak.

Internet project: *The Vienna Group, Biennale di Venezia* 1997

At the *Venice Biennial* 1997, a digital multimedia information system was introduced on the net that presented the history and works of the Austrian avant-garde group Die Wiener Gruppe from the 1950s and 1960s (H.C. Artmann, Friedrich Achleitner, Konrad Bayer, Gerhard Rühm, and Oswald Wiener). The work was commissioned by the Austrian Commissioner of the Biennial, Peter Weibel, who also played a substantial role in editing the contents of the project.

The version showed in Venice totalled 3 GB (hard drives were used as data storage media). The information system was installed on two terminals; a spin-off version in the form of a web database with a VRML interface, produced by adm, was accessible for one year on the net at http://wienergruppe.at.

A CD-ROM version of the project was completed in summer 1998 and added to the publisher's list in September 1998 as a digital supplement to the printed publication *Die Wiener Gruppe – ein Moment der Moderne* (Springer-Verlag, Vienna/New York). The CD shows key works of The Vienna Group, interviews with the protagonists and documents the exhibition situation at the Austrian pavilion. In order to give an impression of the size of the Biennial version, which could not be accommodated on this CD for technical reasons, we added the *Text-und Bildmatrix feature*. The application attempts to synchronise both diachronic and thematic access to the contents from a single interface.

ARSDOOM, 1995
Orhan Kipcak/adm (con-
cept, production design),
Reinhard Urban (scripting),
Curd Duca (sounds), Helmut
Blasch (connectivity) and
others (a total of 16 indivi-
duals worked on implemen-
ting this project). The virtual
exhibition was curated by
Peter Weibel and Orhan
Kipcak. ARSDOOM was
available free of charge via
the Internet.

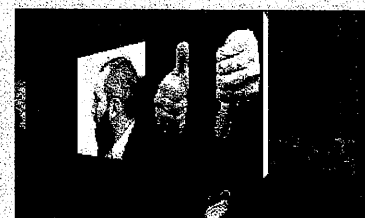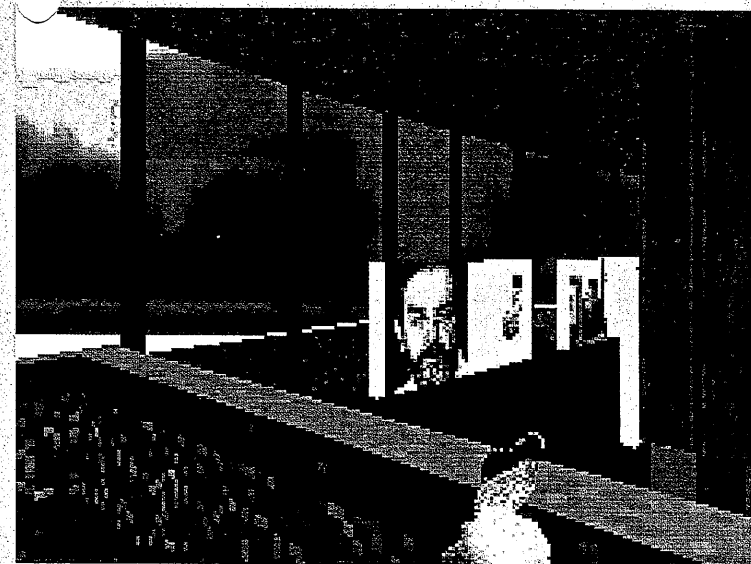**Internet Project: Wagners Wahn oder das heilige Land des Kapitals. Cyberoper für Bühne und Internet**

During Ars Electronica 1995 (June 20–23) information about Richard Wagner was made available to the public via www. A worldwide online-discussion on the subject of Wagners Wahn, moderated and participated in by Peter Weibel, took place via IRC-server during the perform-ance.

In the Foyer Brucknerhaus two multime-dia-terminals were installed which gave visitor access to the Ars-Electronica-soft-ware Wagners Wahn. At the same time video-inserts from the Wagner-www-infopages, which had been especially set up for this event, were fed into the termi-nals along with inserts from the online-discussion via internet and the events on the stage. The paths of information that the users of the Wagners Wahn software travelled became part of the performance in the auditorium. In the Brucknersaal (Bruckner Auditorium), during the per-formance of Wagner's Wesendonck Lieder, video projections of the Wagners Wahn CD-ROM (operated from the multi-media terminals in the foyer), web pages on the subject of Wagner and of the on-line discussion constituted a telematic, electronic stage set.

Another important internet project I commissioned at Ars Electronica 1995 was ARSDOOM by Orhan Kipcak.

ARSDOOM, an art adventure (1995) was the first digital, virtual exhibition to allow action and interaction at the technical level of computer games. ARSDOOM was presented at "Mythos Information" and was accessible via LAN and the Internet. The computer action game about art and artists showed the works of approx. 20 artists from Austria and the US.

A digital model of the Brucknerhaus (the venue of Ars Electronica) served as a virtual exhibition site. Based on the action/adventure game DOOM, there evolved a world of real-time 3D anima-tion, texture mapping, and ray casting, populated by modernist artist icons. Virtual visitors and artists interact amidst digital objects and images. The visitor was able to slip into the stylistic signa-tures and artistic techniques that turned the artists into trade-marks. The visitor roaming around the virtual exhibition at the Brucknerhaus was able to turn over every object and every work with the Baselitz tool, spray everything black with the Rainer gun, etc. However, visitors to this exhibition were also attacked by digital alter egos of the artists present, but they could also defend themselves.

The work was one of the attractions of Ars Electronica 95. ARSDOOM came to be the legendary precursor of numerous interactive 3D environments brought forth by media art in recent years.

The network capacity of ARSDOOM allowed up to four users to interact. In addition, it was possible to visit the vir-tual environment we had created from anywhere in the world via the Internet – ARSDOOM thus became an event in the space of information technology.

VII (from DEW to DOCS)

The technological revolutions, to which the civil society at the close of the twentieth century owes its technical advance, are for the main part the results of mid-twentieth century military research or applied research in the service of the military. Control and communication technologies, e.g. the computer, which constitute the foundations of post-industrial information society, were developed particularly during World War II. The takeoff of the Russian *sputnik* on 4 October 1957 not only marked the advent of space travel and the manifest peak of the Cold War, but was also indirectly the beginning of the net age. The Department of Defense was so shocked by the Russian lead that they commissioned a defense system intended to identify and thwart air strikes early. The superiority or rather equal strength of the Russians in terms of atom bombs and long-range bombers was a cause of concern to the US government at a very early stage. Thus, in 1951, the US Air Force commissioned the Lincoln Laboratory at the military, industrial think-tank (MIT, Boston) to devise an air space defense system that could discover, identify and attack enemy aircraft. This system was dubbed DEW (Defense Early Warning). In 1951 the psychologist J. C. R. Licklider was also called to the Lincoln Lab, one of the founding fathers of cyberspace, for which he laid the first foundations with his "Man-Computer Symbiosis" paper in 1960. 'Symbiosis' was not only the first draft of interactive computing in real time, but also the first blueprint for a "computer network, connected to one another by leased-wire services." In 1962, J. C. R. Licklider published a first Internet concept, "Online Man Computer Communication," together with Walden Clark. The group at the Lincoln Lab began using computers very early on, withdrawing them from the Whirlwind project, another military MIT undertaking. Whirlwind was replaced at the Lincoln Lab by SemiAutomatic Ground Environment (SAGE), another defense project operating on the basis of room-sized storage systems and vacuum-tube computers. SAGE was the first computer network to span the United States and thus the basis for the computer and digital communication industry. IBM was the main contract partner for SAGE computers and went from being business machine spe-

cialists to the world's biggest computer manufacturers. Two of SAGE's employees were Kenneth Olsen and Harlan Anderson, who could build computers cheaper and smaller than IBM. They founded the Digital Equipment Corporation (DEC). Another employee of the Lincoln Lab was Len Kleinrock, who published his seminal work on "Information Flow in Large Communication Nets" in 1961, that contains the sentence "The nets considered consist of nodes that receive, sort, store, and transmit messages entering and leaving by way of links." In 1964, Kleinrock published a doctoral thesis entitled *Communication Nets*. Internet technology is not only indebted to him for its theory, but also for "packet switching," the key invention behind the Internet. In 1962 Paul Baran at the Rand Corporation published his report "On Distributed Communication Networks."

After the Russians had launched a second sputnik, President Eisenhower founded the Advanced Research Projects Agency (ARPA) in 1958, whose aim was to cluster all space and strategic rocket research. ARPA began their hi-tech research in the field of information processing on an initial budget of 150 million dollars. The department of ARPA that was actually to supply the foundations for today's networked information society was originally called Command and Control Research, and as of 1965 Information Processing Techniques Office (IPTO), and its first director in 1962 was J. C. R. Licklider, the prophet of the "Intergalactic Computer Network" (1963). Licklider recruited Robert Taylor, manager at NASA, to his department at ARPA in 1962. Ivan Sutherland, inventor of Sketchpad, succeeded Licklider in 1965. Sutherland appointed Bob Taylor associate director of IPTO. Taylor took over from Sutherland in 1966. Taylor, in turn, hired Larry Roberts (from Lincoln Lab) to be a program manager for ARPA in 1966. Roberts was to become the primary architect of the ARPAnet. Roberts, a friend of Kleinrock's, performed the first network experiment to link two remote computers, the TX-2 at Lincoln and the Q-32 mainframe in Santa Monica, in 1965 by commission of Sutherland, Director of IPTO at ARPA. In 1966, Larry Roberts and Thomas Marill published a report on this network experiment "Toward a Cooperative of Time-Shared Computers."

The first original ARPAnet design paper was published in 1967 by Lawrence Roberts, "Multiple Computer Networks and Intercomputer Communication." ARPAnet first went public in 1969 in the form of computer installations (distributed computing) at UCLA and at Stanford Research Institute. There Doug Engelbart, the inventor of the mouse, headed the Augmented Human Intellect Research Center and at a famous lecture held at the Fall Joint Computer Conference in San Francisco in 1968 demonstrated networked computers, video conferencing, hypermedia and hypertext, windows, etc. Bob Taylor left ARPA in 1969 and Larry Roberts became the fourth director of IPTO. Bob Taylor founded the Computer Science Laboratory at the newly opened Xerox Parc in 1970. In 1970, Norm Abramson developed the Alohanet, while Bob Metcalfe from Xerox PARC developed the Ethernet in 1973. He had expanded the Alohanet packet radio concepts and applied them to cable technology. Robert Kahn and Vincent Cerf published "A Protocol for Packet Network Interconnection" in 1974. The first personal computers began to appear between 1975 and 1976, from the Altair 8800 to Apple. In 1980, Tim Berners-Lee wrote a program entitled 'Enquire Within,' a precursor of the WorldWideWeb from 1990. The CSNET (Computer Science N1ETwork) for universities and research facilities was also created in 1980. IBM announced its personal computer in 1981, while Microsoft, numbering 40 employees, created the DOS Operating System. In 1984 there were 1000 hosts on the Internet, and in 1989 there were already 100,000 hosts. In the 1960s Bob Taylor, Len Kleinrock, Frank Heart, Severo Ornstein, Larry Roberts, Wes Clark, Dave Walden, Bob Kahn and others began implementing the idea of computer networking with ARPA at the Pentagon, Washington, that was to change the world.

A new world is constructed. The world goes on-line. On-line communication creates new technical conditions for globalisation. A new global economy emerges, no longer primarily based on products, but rather on time. The net allows the economy to restructure: no longer do people pay for the product, but rather use of the product is billed on the basis of units of time. As a result, the key forces of economic development shift from the pri-

mary and secondary sphere of production to the tertiary sector of marketing, communication, information and other services. A net-based economy requires an unprecedented upheaval in our historical perceptions of society and the subject. Questions of the social and private sphere - from new forms of a community shaped by information technology to gender identity politics - are posed in new ways through the net. Society has attained a complex state of development in which a technological instrument such as the net has become necessary for it to work. Society invents the net in order to differentiate and distinguish itself as an information society. The global net is the driving force of a radical economic, social and cultural revolution at the beginning of the next millennium, whose contours are made visible for the first time at this exhibition.

Net art, from physical local installations to world-wide networked computer games, has become the forum in which many of the emancipatory hopes of the historical avant-gardes are being rephrased. Web art is a form of art to which the great political hopes are linked. The socio-revolutionary utopias of the historical avant-gardes and educational movements such as freedom of contract, equal opportunities and inter-cultural emancipation are now set to be redeemed by technology.

Modern art created the aesthetic object as a closed system as a reaction to the machine-based industrial revolution. Post-modernism created a form of art of open fields of signs and action as a reaction to the post-industrial revolution of the information society. At the moment, net art is the driving force most radically transforming the closed system of the aesthetic object of modernism into the open system of the fields of action of post-modernism (or Second Modernism). A Cold War military project, DEW (Defense Early Warning), evolved to become a global medium of communication, DOCS (Defense Of Civil Society).

The net has not only become a new medium for artistic practises but comparable to the revolution of plein air peinture, which led to Impressionism and modern art, artists for the first time operate with the net in a global medium beyond geopolitical borders.