# Terminal Art

I. The electronic screen
II. Six laboratories on Gestalt technology

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**TERMINAL ART**

The thesis underlying this exhibition can be formulated in two questions. The first one: Can the technologies that have developed rapidly over the past three decades be carriers of artistic processes? Secondly: Will an interlacing of the various technologies be feasible that could foster any artistic processes and products?

In the short history of the Linz Ars Electronica since 1979, the first question has come up again and again, and has to be raised anew considering a continuing and still expanding technological development producing new carrier technologies year by year. It also has to be raised for the purpose of a continuous review, a constant verification of artistic results.

The second question aiming at an interlacing of the individual systems is new. It is our special concern and the concern of this exhibition, which can, however, not supply an answer. It will continue to be our concern until the end of the eighties and beyond then even. More later on.

**The Title**

TERMINALS are familiar to us as places of arrival and departure. A terminal is also that downtown facility on our way to or from an airport. In some way the terminal (from the Latin terminalis) always relates to an end, an extreme. This is also the medicobiological implication of the term: close to, leading to death. The technological implication of the word terminal is a point of connection in an electric circuit. And most recently it has come to signify that device that enables the user of a computer to feed instructions into it and to receive information from it.

For our purposes, we may define the terminal as an appliance for transmitting and/or receiving messages, signals. The microphone, for instance, is a transmission terminal; the TV set a reception terminal. Some terminals, like the telephone, may even be used both for transmitting and receiving. This is a promise made with the advent of technology but not quite kept yet.

As to ART: connected to the term terminal is the creation of visual forms, of images, the production of images—or their deletion; the graphic product, the creative process, the result of visible, often verbal, and frequently even three-dimensional possibilities of exchange, communication through eyes, depictive interpretation (never solution) of the world, visible and invisible spaces, invention and experience in the coordinate system of visibility. Art: age-old and contemporary, never one-dimensional, never only one stencil, never a dictate of style. ART A FORM AND EXPRESSION OF ENERGY IN THE VISUAL SPHERE. Magnetic field of the visual. Art: the visual and its reception by the observer whose eyes, in the words of Willi Baumeister, are the "outpost of his mind".

The "TERMINAL ART" is by no means a computer terminal only and is presented in our exhibition in a more comprehensive manner. What is important, fundamental even, apart from the technical, mostly electronic device is the action of the participating human being: It facilitates the interaction which is the purpose of this exhibition.

## The Art Concept of the Exhibition

It seems to be inevitable that once again the art concept is being challenged. And the concept of the exhibition, too. If in the course of a medical check-up of a patient the computer discovers the focus of a disease that was not to be detected with the naked eye or by palpitation, its finding will be accepted by the patient (and his relatives), because it serves the purpose of diagnosis and KNOWLEDGE. No one will question the concept of medicine expanded as it has been. This is not so in the wide sphere of arts. Here too, numerous new, modern manifestations of electronic, technological, or media art serve the purpose of knowledge. But we are used to inquiring immediately into their meaning. And this personal decision is preconditioned by a multitude of factors, as education, attitudes and beliefs, standards of comparison, and others.

Which is the art concept underlying our exhibition? It is the aim of "TERMINAL ART" to present to the visitors predominately interactive systems of electronics and their application and development by artists, to take them into laboratories of electronic and digital art where they may share in the creative process. The exhibition is dedicated to the creative process of contemporary electronic art rather than to a fixed product. The term art is here being used as a working concept to set off visual, creative work against other forms of work. It is meant to include the forms of an expanded art and an expanded concept of art. In this context, we might also speak of a "GESTALT TECHNOLOGY" comprising marginal areas of art such as design, architecture, ecotechnology, as well as acoustic events, visual scientific statements and visual documentation. (1)

Like other concepts of human exploration the concept of art is not a static one; it is subject to change due to an expanding spatial situation in the experience and understanding of macro- and microcosm, due to a revolutionary development of videocarriers and videomedia, due to changing social structures of the Atlantic-Pacific post-industrial society, and other factors.

Each visitor to the exhibition will decide himself/herself, if and to what extent a work of Gestalt technology stimulates him/her to a new, hitherto unknown experience, compells him/her to formulate new definitions, and possibly, leads him/her from irritation to a new approach. This personal decision is at the same time an important learning process towards survival in our present age, confronted with sudden social, cultural, media-technological change.

More than two decades after having been formulated the analysis by the Canadian Marshall McLuhan has remained valid, stating that the new media and technologies "constitute enormous collective operations carried out on the body of society without antiseptic precautions. If these operations are inevitable, an infection during such an operation must be expected. If a new technology is used to operate on society, it is not the immediate site of the surgery that is most concerned. The sore or cut is anaesthetized. The entire system, however, is being changed."

In this period of change "there is no example of any conscious adaptation of the various factors of individual and social life to the new expansions apart from the timid efforts of artists, more or less incidentally".(2)

## The Other Tradition

Aware of the superficial art of the art trade pretending to be in command of the "Zeitgeist", we had better remember a different tradition. Ideas, achievements, names like Walter Gropius, Laszlo Moholy-Nagy, El Lissitzky, and many others stand for it in our century. The extent to which this different tradition was overlaid by the time immediately before, during, and after the war, becomes evident in the lack of dialectics within the art of the mid-eighties. Art in Germany, for instance, is summarized as being expressionist, a completely one-sided view not at all reflecting the historical "national character".

The present development of design technology cannot be judged without historical knowledge. Thus also the "ELECTRONIC SCREEN", to be dealt with later on, will remain an alien element within society and the private, individual sphere of life unless there is an active, creative, analytical interaction of the artist. This social interaction of the artist is difficult to explain in a democracy for various reasons. The many and fundamental effects of the market do not facilitate a consensus. An artist can hardly have any effect on society without formative forces.

The Bauhaus was to be such a formative force in the 20th century.

It had been conceived by Walter Gropius as a "pioneering school" not with the purpose of propagating a certain style, system, or dogma but of exerting an active influence on design. Bazon Brock pointed out recently that inspite and even because of all falsifications in the reception of the Bauhaus, the Bauhaus concept and teaching has remained of topical interest: "From product design via sociodesign to communication design, this is a development necessitated along the lines of Gropius by new technologies and their social consequences."(3)

Moholy-Nagy certainly is a key-figure among the Bauhaus artists, if we think of the "other tradition", as I call it, and this is also the history of design technology. Many aspects of his work, pictorial, graphic, three-dimensional, mainly, however , his film and written work point to our time. The space-time-continuum developed and analyzed by him are a major concern of contemporary digital art.

In assessing contemporary design technology, it would be foolish and dangerous to do without the models of thinking, the findings, the concepts offered to us by the other tradition in this century. Notwithstanding the disastrous consequences of two world wars, there is such a tradition even if it is hidden and ousted from presentation in schools and museums.

In the fifties a younger generation of artists, writers and painters asserts itself in Europe making vigorous use of the technological possibilities. To name a few: the scenographer and media theorist Jacques Polieri; Nicolas Schöffer who with his light and sound sculptures introduces the concept of cybernetics into art; Frank Malina who apart from his Lumidyne system furnishes a scientific foundation to the discussion in the magazine "Leonardo" founded by him; Wolf Vostell making his first electronic déoll/age-blurs through TV distortion and electro-acoustic objects; Nam June Paik who has collaborated in the studio for electronic music of the West German Radio Cologne from 1958 onward. At the same time Max Bense publishes his scientific, one might also say technological aesthetics in the Federal Republic of Germany. He and his group were like a globally functioning broadcasting service of information aesthetics. Bense pointed out that any civilization has a communication between its technical and its aesthetic reality aiming at an exchange like a system of COMMUNICATING TUBES. In 1957 Bense wrote in the preface of his "Aesthetica III" which he dedicated to Max Bill: "We have now invaded the sphere of aesthetic elements, aesthetic atomism, that deals with signals, signs, functions, shapes, cells, moduli, frames, arrays, structures, 'open' and 'closed' systems. The advance of the statistic and microcosmic today combines at least methodically aesthetics and physics ... In its relation to civilization the scheme of aesthetic communication proves to be both a scheme of information as of amusement."(4)

Again: The fifties furnished us not only with the kidney table and other novelties but also with the ELECTRONIC SCREEN. In different words: Young artists discovered the radar screen of that time to be the material of technology. That system of communicating tubes of which Bense had spoken, started to transform the foundations of artistic creation and design.

**Ecotechnology**

Together with the inclusion of technical-technological materials and instruments, artists at the end of the fifties also wanted to open up a new space of nature. Nature no longer to be understood as "still life" and model, but in its elemental capacity. This is where Gestalt technology opens up micro- and macrocosmic spheres. It is not technology per se that is taken up and expanded by the artists.

Dialectic relations between technology and elemental nature, the energy forces of wide spaces like heaven, sea, air, desert, start to develop. The age of the first satellites circling our planet earth gender a new awareness for a new definition of our appreciation of nature. This also has been a concern of Ars Electronica from its very beginning. I want to point to presentations like that of Sky Art 1980 and 1982 in Linz. Concerned with the terrific consequences of technology innovation on the one hand and the threat to our environment on the other, I want to raise the issue of "ECOTECHNOLOGY". Ecotechnology means application of instruments, materials, processes of technology in such a way that it truly harmonizes with nature, with the habitat of plant, animal, man, also with the wider zones of our ecological home, indeed, with the entire globe and the cosmic space. A concrete example of ecotechnology is the use of light as a

source of energy, PHOTOVOLTAGE, which, as do other technologies of our time, effects the transition from the mechanical principle (steam-turbine) to the electronic principle. To use light as a creative medium or to interpret it as such came more natural to older civilizations than it does to us. If we strip such conceptions of their mythical and religious content, we find them absolutely up-to-date. They point to the coming, feasible, and perhaps inevitable solar age.

This apparently takes us from art and in our case from "TERMINAL ART". The pictorial art of our 20th century contains not only a wealth of expressivity, of individual manitestation, but also a wealth of meaning in the various models of world perception. Most relevant are the Bauhaus lectures by Paul Klee, this eco-artist par excellence.

What is needed today is the incorporation of the technologies into our appreciation of the world, the assessment of these technologies in their relation to the laws, the manifestations, the energetic forces of the world in and around us. This could be the topic for another exhibition—provided our exhibition halls were not only dedicated to history, to the service performances of our galleries. The "TERMINAL ART" as it is presented in the Brucknerhaus at Ars Electronica 86 can be but a transition, the sketch of an exhibition, a work-in-progress. I do believe, however, that it is revealing to present Gestalt technology in the process, in "statu nascendi". Everyone concerned knows of the restrictions, the limits set to the formation of an intensified, interlaced strategy of art. Financial and instrumental shortcomings are obvious. Personal failure is always included. Nevertheless:
The American William I. Thompson, founder of the Lindisfarne Association (1972), writes, in his book on "The Pacific Shift": "The reporters of the transformation are called artists".(5) The communicative system of the fourth culture ecology, in the words of Thompson, is the electronic system. This justifies any attempt of presenting it, rudimentary as it may be.

Electronic art conveys a notion of reality, nature, space, and our existence in these which differs absolutely and qualitatively from the traditional. Art has always interpreted nature. Nature thus became culture, history through art and its representations. Actually, it stands to reason that the polarization of our perception of nature from the microscopically minute to the most distant cosmic sphere effected in this 20th century has also brought a change to our dimensions of interpretation.

At the turn of the century science and art embrace the micro-worlds. When the artist introduced the abstract as the concrete into his creative work and theory, in the first decade of our century, the micro-worlds of nature entered artistic creation.

At the same time, to quote Felix Philipp Ingold, "a revolutionary change of paradigms" happened, which he summarized in the following statement, "The telluric consciousness gave way to the planetary one; man who, by means of his dirigible flying machine, could now take off from the ground and stay and move about freely in the air, all of a sudden found himself in an active but also excentrically relativistic relation to the universe, to space and time."(6)

ENERGY becomes the carrier in the continuum of space and time which now enters pictorial art. (See the early Italian and Russian futurism.) The concept of energy is probably the common rationale of the spheres of natural and artistic phenomena. In a lengthy conversation I had with Heinz Mack, the former "Zero " artist, we discussed the focal concept of energy. I want to quote him in support of my own view:
"Modern art", Mack said, "actually is an expression of energy. This may be psychical energy, vital energy, as it is in expressionism. It may also be visual energy, the energy of a colour, for instance ... The artistic idea is at the same time mental energy and undoubtedly it is the most expressive of all mental energies. The crisis of mental energy is the cause of all the other crises. Today we lack vital energy, we lack the mental energy of imagination, we lack the energy of enthusiasm. The consequences thereof, commonly called energy crises, are actually secondary. Unfortunately, the secondary crises are thought to be the primary ones. This is not the way to solve the problems.

This inner, cosmic constellation of our existence of which the artistic existence appears to be a bright star is at the same time an immense system of energies of inconceivable abundance. We are not lost within this cosmic "supply of energies" provided our mental and spiritual energies remain active. Thus it is not foolhearty if we dare to send our imaginations into the open space of future, to invest our hopes where they may turn into reality, that is in the age in which we live and in the age that we are approaching."(7)

Attempting a synopsis of what has been achieved in a rapid development within five years between 1966 and 1970 in the field of interaction of art and technology and what has become the foundation of contemporary design technology, we may say that the new media have expanded our awareness and consciousness. The new media, cybernetic methods, computer controlled processes and objects, intermedia theatre, laser, holography, and others have been used like the "organs" of an expanded consciousness. The concept of an organ-expanding technology was related to spatial design. Space in theory and practice have become an essential dimension. This is why this discussion must be related to ENVIRONMENT ART. Here is where the idea of ECOTECHNOLOGY originated.

At a time when electronic media like television merely act as critics, art is called to use these media as a creative potential. The artists will succeed if he/she links the media immediately to his/her range of experience. In this way he/she will use the ecological opportunity in lighting up the significance of relations between the organism and the environment. The ecological opportunity of art must not be mistaken for a "green art" making simple use of natural materials.

Ecology happens in the interrelation of spaces of varying sizes. Since contemporary art has opened up micro and macro spaces to be experienced by man, the ecological structures of art also have entered very complex relationships.

The artist is a dissident of established, rusty experiences. He is, however, the best of allies to anyone seeking to experience the open space of nature and the spaces of human consciousness yet to be opened up. In him, the real and the imaginary space are at war. His vision serves to filter the real space. An expanded field of media may also serve this vision. He/she, the artist, was the first to make use of the revolutionary medium of relief printing, as the woodcut, for example, of five-hundred years ago. He was aware then, and is today, that the print medium (like the electronic media today) would immediately serve to propagate political power. He availed himself of the medium for his vision and thus also for the vision of the beholder.

This holds true today. The artist can make use of the expanded technology of our days by connecting it to his/her vision, that is to a fundamentally human, fraternizing experience.

**Notes:**

1 I want to remind of my having presented the concept of expanded art in Linz almost two decades ago at the University Week on "New Forms of Art" (October 1967, at the Arbeiterkammer). The lecture was entitled "Expanded Arts—the new definition of the limits of art today" and was accompanied by four films. In 1970 I published the book "Expansion of the Arts" (publ. by rowohlts deutsche enzyklopädie).
In my paper for the catalogue of Ars Electronica 1984 (p. 145) 1 have introduced and outlined the concept of " Gestalt technology".

2 Marshall McLuhan, Understanding Media, 1964, German Edition, Die magischen Kanäle, Düsseldorf/Wien 1968, p. 75.

3 Bazon Brock, The reality of the mind—What is design in the age of the microchip? From the Bauhaus concept to communicative design, publ. by Richard Kriesche in "Artificial Intelligence in the Arts, Nr. 1 'Brainwork'" Graz 1985.

4 Max Bense, Aesthetics and Civilization (aesthetica III), Baden-Baden 1958 p. 11.

5 William I. Thompson, The Pacific Shift, 1984, German edition, Die pazifische Herausforderung, München 1985, p. 22.

6 Felix Philipp Ingold, Literature and Aviation, Frankfurt 1980, p. 15.

7 The complete wording to be found in "kunstreport" 1/80 (Berlin), p. 11 ctd., under the heading: Heinz Mack Kunst als Ausdruck von Energie (Art as an Expression of Energy).