

## **Art, Technology and Society**

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#### **The New Computer Culture**

"It is incredible, but true: One single new technology will radically change the lives of all of us", this thesis is the top motto, which Dieter Balkhausen puts in front of his books about the "Third Industrial Revolution", renowned standards by now. What Balkhausen formulated about micro-electronics in the seventies, seems to apply even more impressively to another of the key technologies, to biotechnology. Both are basic innovations, changing our economy, our society and the whole of our lives: they are responsible for a new cultural stage of our civilization.

The designations for the new era are still manifold. It is not yet clear, which term will definitely be used in a historical review of the closing decades of the 20th century: Information Society, The Era of Electronics, Post-Industrial Society, Third Industrial Revolution, Age of Cybernetics, Silicone Age, Computer Culture, High Technology Culture, New Age.

The trends visible today are presumably not more than primary tendencies. The new era will not establish itself before a period of transition. Innovations and changes have one thing in common — they have a new raw material: not gold, not steel, not petrol, but information and knowledge. Information is the currency of the New Age.

As the Industrial Society, starting from Ford's T-Model, made the automobile a mass product, so does our decennium use the production of information as the propelling force of its economy.

And as in those days when the transition from the agricultural to the industrial society changed society as a whole, as well as the life of the individual, the change from the Industrial to the Society of Information entails changes as far-reaching as then, with the difference that today's transition is a much faster one, taking even less than one fourth the time of the former.

Through the speed of this change, the old system and the new, growing structure are very close to each other, which is the cause for conflicts and negative consequences on one hand; on the other it implies that only a "new ground of thinking" (Frederic Vester) can cope with the passage from the technocratic to the cybernetic era.

The challenge of the new High-Tech Era is met with different attitudes — in America, but above all in Japan, the high-tech future is accepted as a vision and all powers are concentrated on its realization. After the development of semiconductors and robots, the fifth generation of computers is envisioned at present. Those computers of the fifth generation will come close to Man in a way that has been considered pure fiction until only some time ago — they will use human language, make decisions and pronounce judgements. If the Apple II computer can make 500,000 operations per second, the goal for the new supercomputers is not less than ten billion operations per second.

While in America and Japan high technology is a supreme goal in society and economy and has effectuated a strong innovational and economical shove, here it was not even a topic of public discussion unless referring to the dangers. In Europe, technical and scientific innovations became known in the public in the last decade mostly through those who

criticized them. Not so much the possibilities of new key technologies are the focal point, as rather rejection and fear.

With regards to these developments, it could well be that Europe be economically overrun in the last decades of this century and that it become dependant on imports as to the new technological key-industries. But however this economical development may work out, the transformation will in any case bring along far-going changes for the individual.

Culture, art and leisure are integrated parts of this coming process of transformation — they are influenced, are given additional possibilities, but also new threats. Labour has undergone a remarkable change in its rank in the life of mankind during the last twenty years, labour changing in its temporal dimension, but also in terms of quality. The change within labour is expressed through a displacement of the process of work. A new shape of cottage-industry is developing, new systems of communication produce a hitherto unknown integration of private and working areas. According to a prognosis by the American "National Science Foundation", in the year 2000 about 40 percent of the gainfully employed Americans could be "electronical cottage workers".

The high technology of the Information Society or the "Computer Culture" — to use the term of the "Kursbuch" from March, 1984 — imply a double change for Art and Culture: for the artist as well as for the public.

The artist is given new instruments, new media, new auxiliaries. For the public this also means new possibilities in their cultural activities, a change in cultural needs, changes in cultural behaviour.

Step by step the computer technology creates new situations for all areas of art: the typewriter is enlarged by text-processors; to the musical instruments are added the digital synthesizer and music-computers; alongside the painted, drawn or photographed picture comes the digital image; the printed word meets the monitor as a universally employable device.

The invention of writing ranks among the most revolutionary human inventions — writing means to overcome time and space, means the invention of permanent storage of data, a basis to retain the achievements of an era for the following generations. Ere printing was invented, every book was a unique piece. The art of printing made it possible for everybody to have access — by buying a book — to its contents. The next step will be the "computer-book": a small piece of silicon mailed by post or spontaneously transmitted by micro-waves. The cost will be a fraction of today's book prices. This does not at all mean, that printed matters will disappear, but rather an additional offer. The past shows that a new innovation does not necessarily displace the former, but rather changes the apprehension of its value and offers new possibilities.

In the field of architecture the computer has become a common tool. The music-computer introduced itself — in the beginning — to the area of commercial music production. Developments to come open radical possibilities and chances for both composer and musician.

The second great effect of the information society in the field of culture applies to the individual, his creative cultural activities as well as his needs in the field of cultural events. The computer culture allows for use of the computer as a tool for creative activities for the individual: Home Computers and Personal Computers are a further step on the way to a

democratization of art and culture. If certain applications until now were limited to institutions or large companies, the personal and home computers open possibilities for the individual which were off limits and too expensive until now. The music computer will make an enormous advance in the field of software during this decade and is likely to start the next "boom" after the video games. This also applies to the graphics area, to the digital image. Thus the computer culture discloses new chances and opportunities for the individual.

Both cultural need and cultural behaviour of man undergoes a permanent transformation. The American John Naisbitt expressed one of the "Megatrends" due to change our life, in the formula: "The higher the technology, the higher the need for contact." With the growing introduction of technology in the labour area, in the private and public spheres a balance is sought in the strive for the development of personality, for contact, for the spiritual. Processes in intellectual history and society take place in an irregular up and down, following each other like waves, every trend evoking a countertrend. One of the main effects of high technology on the cultural behaviours is the growing need for contact. John Naisbitt: "The more we introduce technology into society, the more people cuddle together, want to be near to each other and not alone, in the cinema, at rock concerts, on a shopping stroll ... You do not go to the cinema only to see a movie, you rather go to the cinema for to laugh and cry with 200 other people. It is an event." People develop a new feeling of the "WE"; in the areas of culture and art the need for events and adventure increases. The common experience comes to the foreground. In the last two decades, a world-wide increase in open-air concerts can be noted, tours by the Rolling Stones, rock concerts, great events serve as a signal of collective experience.

This is the context in which Ars Electronica, the Linz Festival of Art, Technology and Society is set. Five years have passed since the first Ars Electronica in 1979. Five years ago, the Apple II was presented to the public — and has changed the landscape of technology as the first personal computer. A new gold-rush has started in Silicon Valley, it has become the center of the new technology, a signpost for the High Technology Society.

Ars Electronica is a searching festival searching the impressions of high technology on Art and Culture, but also in Society. So Ars Electronica is a festival determined by the opportunities, problem definitions and needs of the future, the Informations Society, the Computer Culture, the Cybernetic Era. Therefore Ars Electronica is not to be understood as an exclusive forum for "electronic music", not even as a festival of technology and of belief in progress, but as a forum and laboratorium for the effects and changes of the new technologies in art, culture and within society, wherein the above mentioned orientations are relevant to the artists as well as to the changed cultural behaviour. So the program of Ars Electronica is deliberately ambivalent: The application of new media and technologies in the cultural and artistical fields stand side by side with projects in the open space. Thus, two Open-Air Events in the Danube Park form the cornerstones of 1984's Ars Electronica — an offer to many thousands of people to join in a common experience, an event of contact. Those events are on the one side Isao Tomita's "Mind of Universe", a history of our cosmos with music, light and laser, and the "Linz Sound Cloud" on the other, with Ludwig van Beethoven's Symphony No. 9. Both of the events meet the demand for experiencing an event together, for being integrated in a group, for developing a "WE" feeling. The "Linz Sound Cloud" has set a signal in Europe for monumental artistical events in the open in 1979. Encompassed by those open-air events the program shows a wide range between musical theatre, media opera, video-operetta, concerts, presentations of electronic music, workshops about Electronic Art, reflections about chances and perspectives of microelectronics for mankind and the fixing of a new date — 2019.

The single projects have something of a studio dimension, they are new developments and unique in their way — they can work out as a signal for a guiding tendency or throw their flashlight onto a dead end or simply demonstrate the effects of a misdevelopment in the artistic application of technologies. Anyway, the starting point is the conviction that it will be better for our future to accumulate information about the possibilities offered and the effects caused by the new technologies, in order to develop a new quality of consideration, to grasp the new chances — and at the same time to be able to recognize and control the imminent dangers.

The children born in the Orwell-year 1984 will be 35 years old in 2019. They are the generation responsible for our society then. Does 1984 mark the beginning of a revolution of our society — and will it be completed by 2019? Today's new basic innovations will rank among the old technologies by then, their infra-structure will determine our economy, our society, art and culture. The Electronics Society will be in full bloom. Working out the tracks — this is today's challenge.

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