

Introduction

The technological look

The first two words that come to mind to describe the theme of the **Book for the Electronic Arts** are 'transformation' and 'technology', whereas the book is about art. With paintings it is not unusual to speak admiringly of the artist's technique. However, when an artist exhibits only the technology and the audience has to operate machines to call the art into existence the concept of 'technology' suddenly becomes an issue. Why would a technological installation be art? This technological art is not about beautifully designed devices; it is the technological functioning of the machinery itself that moves us esthetically. You literally see only technology – until you overcome your diffidence and you step in, join in, play along: then another realm of experience opens up to you. But even there the technological aspect of this art is not disguised: in electronic art you are always aware that it is technology that gives you the experience, just like you know it is you who makes art out of technology. Art historically speaking, this takes a little getting used to.

No one will deny that in the 20th century technology has improved the world beyond repair. The landscape has been rearranged to accommodate highways, city districts and national parks. Our daily life is electrically lighted and rearranged around washing machines, televisions, personal computers and cars. Our bodies have been invaded by surgery and drugs. All living creatures have been reduced to an idiosyncratic genetic code that determines their physical shape as well as a good part of their social behavior. Nothing needs to be accepted as a natural given anymore, as everything can be adapted and surpassed. Nature itself has been placed under technological guardianship, either as nature reserve or tourist attraction. Wonder and concern about all these technological transformations of the world we inherited have always been short-lived.

The power of technology is this: while it is highly visible and openly turns the world upside-down, it disappears from sight as soon as users have learned to manage their machines. Or as soon as the machines have changed their users in such a way that they can handle the new technology. People can adapt to anything, or in other words: people change in order to remain the same. True, this book is about technology, but there is a hard and a soft side to technology, a compliant and a resistant side, a comfortable and an awkward side, an ergonomical and a social side. One can no longer speak of technology without mentioning beliefs. Technology is as much a mentality as it is machinery.

Every technology creates its own social and mental 'environment', in which it is seen as a normal thing. This reassuring normality numbs the awkward realization of how much the users have let themselves be transformed by the technology. According to Marshall McLuhan, art is one of the few means humanity possesses to understand the kind of blow

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dealt to the human psyche when our sensory capabilities are enhanced by technological media. Art creates a 'counter-environment' that puts technological normality in disorder, enabling you as it were to look at it from a distance or to foresee what it will do: only then can you ask yourself if this is really how you want to be or become.

The other way around, new technologies question the normality of art created in older media. A book about electronic art should not just investigate the technological view and turn it insideout but should also reinterpret, rearrange and broaden the traditional concept of art. As soon as you know a thing to be art, no matter which technology was used, you can use it as a means to grasp the blows to the human psyche we have already had to deal with and the blows that still lie ahead. Not just to avoid falling victim to technologies we no longer can do without, but also to be able to enjoy those technologies without becoming twisted. Nowadays it is no longer obvious what art is; it is produced with all kinds of materials and all sorts of processes and can be found anywhere, not just in museums and homes but in the streets and on the World Wide Web as well.

Transformation by frustration

The **Book for the Electronic Arts** is about an approach rather than about a social movement or a trend in art, about a sphere of interest rather than about a trade you can learn, about a cloud rather than about a box. As the computer becomes more widely accepted in all art forms and disciplines these will tend to blend together more and more. The traditional distinctions between music, dance, animation, film, video, architecture and robotics have all but vanished already. Similar mergings can be seen at what were once rigid borderlines like those between nature and technology, body and machine, history and database, matter and information, proximity and distance, location and thought, planning and accident.

As soon as technological thinking touches a phenomenon in practice and in theory, this phenomenon will start to transform until it fits within a model that can be applied to many fields – the architect learns from the biologist, the biologist learns from the informatician, the artist learns from the scientist. Ironically, the rule here is that misunderstandings are the vehicle for the cultural transfer: other people will do something with your expertise you never intended it to do. Electronic art is the art of misconception; misconceptions that put every normality in disorder and make it turn against itself, with happy and illuminating results.

Since the end of the 1940s cyberneticists and their successors – cognitive psychologists, artificial intelligence researchers, system theorists, game theorists – have attempted to connect everything with everything else by a few simple principles. Natural phenomena showed patterns that were similar to those of pure mathematics, statistics, electrotechnology, information theory, neurophysiology, sociology, anthropology, psychology, opinion polls, the use of prostheses, architecture, music, et cetera. That these attempts have as yet not resulted in a unified field theory of all life on earth does not alter the fact that they constantly produce new insights that deeply influence the way we feel about life: concepts such as uncertainty, instability, interactivity, complexity, self-organization, emergence, fractal, attractor.

A similar attempt at the bigger picture can be found in media

theory, sociobiology, ecology, chaos theory, cognitive science and other more or less speculative but always thoroughly technological and interdisciplinary branches of study. The possibility that all this knowledge may one day be unified in a handful of mathematical formulas is less impressive than the urge that lies beneath it: to use human inventiveness to fearlessly search for ways to further promote human inventiveness itself. From this perspective all of these fascinating studies, devices and books of the past 50 years are not ways of getting a grip on the world (with all of the resulting social, political and economic control technologies), but ways to push imagination, creativity, critical sense and playful tendencies to higher grounds. Science and technology are then an invitation to continue reinventing life in one's own age.

The electronic art that is documented, interpreted and contextualized in this book is preeminently an international phenomenon, as are the technologies it applies. The treatment of this international occurrence, however, carries a definitely Dutch signature. Modernization in the Netherlands was late in coming. Here, it wasn't until after the Second World War that the phase in the history of technology started that Lewis Mumford dubbed 'paleotechnological': industrialization, characterized by the large scale use of coal and steel. In this energetic and material respect the paleotechnological phase differed from the one preceding it, i.e. the 'eotechnological' phase, which was characterized by the large-scale use of wind, water and wood. However, only thirty years later the big coal mines were shut down again and the Netherlands – after going through the massive unemployment which is typical of such revolutions – entered the 'neotechnological' phase, characterized by the large-scale use of electricity and plastics, of electronics and silicon. Industrialization here took only two generations (in England it took ten to twelve generations, roughly two hundred years). If there is such a thing as a typical Dutch attitude towards technology, its origin lies in this circumstance. Industrial and postindustrial technology has always remained a novelty, a source of enthusiasm and grumbling but seldom giving cause for reflection. As far as technological developments are concerned, the Netherlands has been a 'do'culture since the 1950s. A moped, a car, a refrigerator, a television and an Internet connection for everyone. In the Netherlands the experience of technology has never needed theorizing. This not only explains why this book concerns itself with theorizing but also why it does so in a rather carefree manner. The field lies unexplored, so let's get on with it!

The book as a building

In order to do justice to the diversity of the subject of this **Book for the Electronic Arts** and without sacrificing the coherence it time and again demonstrates, we will explore and dig up the field along three different routes: through essays, interviews and photographs. The essays take their starting point from five concepts and practices that characterize the field of electronic art – machine, media, art, interface and network – but here treated as counter-environments. Hence: non-producing machines, unstable media, imageless art, counterintuitive interfaces and incommunicative networks. These essays explore the technological view, both historically and structurally, and test what can be seen this way. Starting from an interpretation of artworks that belong to the canon of electronic art, the essays analyze the technological belief

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system. This is to say they embrace their theme unconditionally to find out what has been thought and done around these five concepts and what thoughts may yet come – which ideas are evoked and which are excluded. They explore the conceptual riches of electronic art. This essayistic approach yields an inventory of the entire domain of electronic art; our aim is insight, not belief. It is up to the reader to draw his or her own conclusion or judgment.

In the interviews a number of artists and art organizers tell of the whys and hows of their activities in the field of electronic art. An amazing quantity of interesting electronic art has been made over the past 25 years, both locally and internationally. One problem that immediately presents itself here is the fact that there is considerable terminological confusion concerning this type of art and this confusion is very much subject to fads and fashion. What started out in the 1970s as 'video art' is nowadays called 'media art' (surprisingly suggesting that there is also art that doesn't use media). The words 'technoart' and 'cyberart' are a bit 'eighties' by now. 'Net art' refers to the work of a small group of people who presented their work on the Internet in the mid-1990s. The concept of 'electronic art' has been reserved more or less for installations, performances, interventions, festivals and symposiums, which in practice took place and still are taking place under the names of electronic music, postindustrial music, machine art, squatters' party, machine party, cyber-whatever, multimedia, interactive art, inter-disciplinary research, theory performance, e-art and other terms, depending on the preferences and aversions of those involved at any given moment. The term 'electronic art' has the advantage of having several festivals dedicated to it – **Ars Electronica** in Linz, the **Dutch Electronic Art Festival (DEAF)** in Rotterdam and the meetings of the **Inter-Society for the Electronic Arts (ISEA)**. There is international consensus as to what is and what is not electronic art. In any case the distinction between electronic art and video/media art is rather an artificial one: Steina and Woody Vasulka are pioneers of both.

In the interviews with some of its exemplary instigators, this whole range of 'electronic' activities is probed to find the drive behind it, the reason, the content, the result. Also, these interviews offer a chance to confront the interpretation of the works analyzed in the essays with what the artists themselves think of them. Here, too, fruitful misunderstandings produce clarifying contrasts. The photographic documentation, finally, demonstrates the variety of artists' activities and performances that have taken place in the field of electronic art. Grateful use has been made of the archives of **V2_Organisation** in Rotterdam (formerly in Den Bosch), which over the past twenty years has presented just about everything and everybody that has contributed significantly to the development of electronic art. The tireless efforts of **V2** were both the reason and inspiration for writing this **Book for the Electronic Arts**.

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