

New Space in the Electronic Age

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THE WORLD AS A MERE INTERSECTION: THE RÖSSLER-BOSCOVICH-COVARIANT THEOREM

Classical physics is like classical space, a world of the external observer who, if necessary, is constructed theoretically. Ernst Mach's depiction (around 1900) is originally just such a model of that somewhat naive abstraction of the external observer whose absoluteness goes so far that the logical and real consequence, namely of showing a drawing repeating the observed situation, is simply negated. This is meant to avoid the truth that we ourselves are a constructive

part of that world we are observing. Gödel's theorem of incompleteness is the first example of considering

the consequences of what happens when we are part of what we are describing or observing. The laws of the physics which proceed from this principle of an observer-relativity, i.e., the endophysics established by O.E. RöSSLer, are different from those of classical exophysics. Modern electronic space is close to endophysics, as in the electronic world the observer is almost inevitably a construction element of this world, i.e., an inner observer, for whom parts of the world are distorted in a non-correctable or non-recognizable way. What began with perspective, the relativization of the world by the location of the observer, has become generalized in the electronic age: by and large, the world loses its binding character of objectivity and becomes simply

observer-objective (O.E. RöSSLer). The electronic world tends to become a mere interface between inner observer and objects. As an intersection between observer and objects, the technical world increasingly becomes the subject of artificial manipulations. As R.J. Boscovich recognized as early as the 18th century, the world is becoming a rubber world, a matter we do not notice because we ourselves are made of rubber. In the electronic age, the observer-relativity of the perspective has been generalized into the sole observer-objectivity of the entire electronic space and of all worlds. The computer-produced virtual worlds are, so far, the best models of this new endo-physics of space, i.e., of the

mere observer-objective electronic world.

The question of what a machine or system looks like if the observer operates within this machine or as part of this system is the endo-access to the world. Observation of the world is only possible from inside, which means that observer-relativity must be recognized instead of inertial systemrelativity, with the incomplete depiction of its distorted and bent simultaneity-hyperareas. Electronics suggests this endo-approach to the world. Real electronic art is therefore not based on the space of classical physics or on natural space, but on the space of endo-physics, i.e. on that of blind-sight experiments, of simulation, of virtuality. After all, all art reacts to this state of the modern technical world. Sculpture anchored in the space of 19th-Century

classical physics is based on continuity, on the human body, on complete visibility. Contemporary spatial art, on the other hand, is based on non-local phenomena, on the machine and on the dislocated object, on language, on the immaterial constituent of the wave form, on number, on the distorted and bent space layers themselves, on observer-relativity and observer-objectivity. Electronics has built the endo-gate to the world. Now we need a form of art to create the endo-gate to the electronic world.

The new space of the electronic world no longer differentiates between outer and inner spaces, but in this new space they are perforated, discreetly penetrated. The space of the inner observer, the endo-space, has a second exo-objective side. The space of the outside observer has a second ignored side. As a product of the observer-relativity of the world, these two levels of reality can turn outside spaces into inside spaces at any time, and vice versa. The question of absolute

space and the object as such gives way to the problem of intersection. The observer-dependence of the object area of experience, in which, in an extreme case, we ourselves are the subject of observation and experience, makes of the world a realm of Duchampian doors, on whose endo-gates it reads: "Entrance from the world" and on whose exo-doors: "Exit into the world". In the new space of endo-physics and the electronic world, there are only double gates to outside and inside spaces. The world as a mere intersection of observation, as a possible double access to exo- and endo-spaces, this is the Rössler-Boscovich-covariant-theorem. The media world is one such covariant, it is the world of the inner observer. Internal and external observers create intersections which bend under the eyes of the observer. The transformation of the Machian model of how man sees the world is an example of this. The media are therefore not only masks, mappings, models depicting or simulating reality, but also measuring chains, constructing reality.

TECHNOLOGY & THE LANGUAGE OF ABSENCE

Language and technology have developed from a common root, namely the experience of insufficiency. As the

"language of absence" (S. Freud), technology continues the work of writing. In the technical language of images, in the polytropy of electronic culture, extending from the artificial brain to artificial images, the culmination of the complexity of a language takes place, a language commensurate with the complexity of technological society. The invention of writing, approximately 5000 years ago, was the first communications

revolution, as it meant, for the first time, an abandonment of direct local communication between persons living isochronally and isotopically, i.e., in the same time and the same space, previously the only possibility of communication. The localized universe of communication had already been penetrated at an indexical level, for example by smoke signals or bush telegraph. However, with an almost universal perforation of space effected by electromagnetic waves (1887), the media have transformed a multitude of local universes into one universe of non-locality, in which virtually anything can happen anywhere.

The ability to symbolize allowed, for the first time,

"dis-location" and "dis-temporality", the surmounting of space and time.

By means of writing, spatial and temporal absences could be

filled and distances could be bridged. Information on past events, or events which had occurred elsewhere, could be stored and passed on to people living in later times or different places. By means of writing, incorporeal information could be pushed around in time and space. This was the beginning of polytropic and polychronal communication. The second communications revolution was brought about by the invention of letterpress printing, some 500 years ago. What writing had achieved for individual communication now became possible for mass communication, which was actually opened up by this invention. The symbolization of messages by electromagnetic fields, as introduced by the

telegraph developed by mathematician C. F. Gauss and physician WE. Weber in 1844, and providing the basis for electronic information processing by computer, is the third, the telematic communications revolution. It individualizes mass communication and intensifies polytropy and disembodiment. Signs travelling

at electronic speed create new spatio-temporal arrangements.

Here, time dislocates space and produces a placeless space. The signs of the telematic communications revolution are more immaterial and incorporeal than the earlier ones, due to the separation of (material) messenger and (immaterial) message. As a result, the bounds of space and time are alternately reduced or expanded.

Tool technology is the key to human evolution. We need technology to survive. The scarcer the space and the larger the population, the more vital is the overlapping and simulation of spaces, times and bodies, so that more objects and subjects can be present at the same time. Technology must therefore develop further towards teletechnology, the tools must become teleoperators and telefactors, society must become a tele-technotronic civilization. In the same way, the tools of art must develop further if they are to belong to the survival

strategies. Even stone tools indicated the close integration of technology and survival. In the complex, hierarchically-woven,

spatio-temporally overlapping society of today, the tools and therefore the arts also have to be more complex. If there had been any cultural policies at the time, man would have subsidized dinosaurs and kept them alive artificially, as is now the case with complete art institutions from stone sculpture to the opera. Technical development is inevitably accompanied by loss. A changed form of tool art, which stimulates man's ability to abstract and symbolize, as happens, for example, through the polytropy of polychronism and polytopy in media art, is now the only human art. The polytropic development of tools and binary language is, and requires, man's aptitude for the abstraction and symbolization necessary for survival.

PSYCHO-TECHNOLOGY

A technical victory over space and time basically also means a victory over insufficiency, absence. The media have become a second virtual body which never leaves man. As long as the television is playing, as long as a telephone can speak as a second mouth, as long as a photograph can still suggest presence, so long can people ward off their fear as well as the devastating consequences of an imaginary castration complex.

Technology helps to fill, to bridge, to overcome the

insufficiency emerging from absence.

Every form of technology is teletechnology and serves to overcome spatial and temporal distance. However, this victory

over distance and time is only a phenomenological aspect of the (tele-) media. The real effect of the media lies in overcoming the mental disturbances (fears, control mechanisms, castration complexes, etc.) caused by distance and time, by all forms of absence, leave, separation, disappearance, interruption, withdrawal or loss. By overcoming or shutting off the negative horizon of absence, the technical media become technologies of care and presence. By visualizing the absent, making it symbolically present, the media also transform the damaging consequences of absence into pleasant ones.

While overcoming distance and time, the media also help us overcome the fear with which these inspire the psyche. The media triumph by affirming the withdrawal from existence, as they can heal the effects of this withdrawal and transform them into a symbolic triumph. The media therefore achieve a piece of advanced cultural work by raising and complicating the symbolic presence. They mark the place of absence, overcome absence, spatially, temporally and psychologically. Schizophrenia and technology are like synchronized couplings. Are they, therefore, also psychotic systems? The media are the ways and means of Western logocentrism, the way and duration of thinking. Those who picture life without the media

instead of seeing that the media show the way, become slaves to symptoms of masking. However, a symptom is not only the effect of a disturbance, but also a medium of truth. The media, even as a mask, are therefore both medium of truth and endo-gate, the dual access to the world.