

The Evolution of Future

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"Since we have no idea of the future, we have no idea of the present either."
[Fernando Pessoa]

The future isn't what it used to be. The joke is funny only because it plays on the future as something that is not but is always yet to be. The chronic future is the whole joke.

The world it is said, is that which is the case; and the future is that which is not. However, it seems somehow appropriate to consider the future as a case of the world outside of its customary existence. The world gives the impression of becoming chronic. As a result, it also seems appropriate to be a bit more cautious in passing judgment on the joke — it could come from out the future.[1]

This is also, more or less, the way it has gone with art — and, indeed, not only that art which still ultimately formats itself in tacit complicity with the process of its exploitation through the control over the spheres of art's manifestation, by which, as a blanket generalization, I refer particularly to the mainstream art of recent decades. This has proved to be a case of its own, out of the world. Art that presents itself in cultural formats rather than in those of its own disciplines — in general, computer-assisted art — also displays traits recognizable in its presentations which replicate this system crash. The question I am concerned with here is, on one hand, how art can be applied to a chronic future, which I postulate as a case which "the world is," and, on the other, how its special nature as a "cognitive pixel" in the possible appearance of this world could be. Art in the sense of a way of thinking — not only of itself but also of the complex, of the sphere of its manifestation; and of an emergent effectiveness, as it were, of a viral characteristic not only in the program of its sphere of manifestation but also in its own program. Even if it is regularly written off in discussions as merely the field of science fiction, the future can not be gotten around. Whereas SF most certainly can.

The theme of Ars Electronica 96 is "Memesis," to which the subtitle "The Future of Evolution" has been added. An assumption is contained in this formulation, knowledge about evolution that is claimed from the vantage point of the future. "The Evolution of the Future" has less questionable implications in that a process of development, something incomplete, is being addressed. In any case: our attention is increasingly directed toward the future and the speed of technological development is an important reason why. The seemingly accelerating reduction of distance to the future makes prediction seductively attractive. Admittedly, now and then, these discussions proceed in a way as if the future had already begun.

Long before the rhetoric of industrial society connoted the modern concept of technology, society [in the sense of the social/political organization of orientation in the culture[2]] and technology have been interrelated. Just think of the use of fire or the invention of moveable type. Nevertheless, throughout most of human history, the speed at which these innovations were promulgated both spatially and temporally was so sluggish that they had no consequences in the lives of individuals. Human history seemed to be something essentially static. The future was discovered when the consequences of the changes and the magnitude of their effects on society became large enough to be perceived even during an individual's lifetime. Today, permanent, inevitable change dominates our fate. It is actually no longer possible to reach a rational decision without taking into consideration in the decision-making process not only the world as it is but also the world as it will be. A precondition for this is a

rather precise conception of the future world, and as a result of this, there exists the constant danger that, in its course, a conception of the future as a static element is implemented.

The expression that the future has already begun implies observations of things which are merely predicted. Since, at most the prediction itself is observable, this constitutes a contradiction. If physicists use the word "predict," however, they do not mean it in the sense of a prophesy. The question "Does this theory predict the speed of light?" does not apply to the theory's capacity to arrive at the magnitude of the speed of light the next day, but rather the theoretical determinacy of the speed of light without measuring it. To paraphrase Stephen Hawking, a [good] theory, on one hand, provides the description of a class of observations on the basis of a model and makes possible certain predictions about the results of future observations. On the other hand, it should also suggest observations which would be able to demonstrate its own erroneousness. Interpreted in the sense of the natural sciences, the statement "the start of the future has already occurred" is not based upon observations of this start but rather upon observations on the basis of the model of a future that — in accordance with the attributes of a theory — on one hand, predicts possible observations and, on the other hand, specifies the results of observations which prove its predictive power to be inadequate. Prediction thus has nothing in common with reliably arriving at results — quite the contrary. The scientific theorist Karl Popper refers to this very point with the explanation that no observation is able to prove a theory; the best that it can do is to enable the theory to survive until it is once again put to the test. Applied to the uncertain course of the world, that would describe the theoretical plan detailing the direction that course takes — and whose determinacy stands or falls with the theory. It is not necessary that the theoretical construct actually come to pass some day. What is required — and herein may lie the equivalent of the factor of uncertainty in a theory — is that these events were to be expected. That means that it has a meaning which is fundamental for orientation in the world. Hegel was still capable of seeing his misfortune in the fact that, in the outside world, he would lose himself, and at home, the world. Today, our misfortune has a far more complex make-up: it actually seems necessary for me to give myself over to the future in order to keep from losing myself in the present. Art, conceived as a dynamometer of cultural movement, is the first to perceive this misfortune. Art does not just devote itself to the future; rather, by subjecting itself to the future's uncertainty, art puts the future to the test.

Thus, if we speak of the future as the factor dominating our lives today, then we are speaking of its uncertainty. Certainty would be tantamount to ignorance of everything besides the present, and the interpretation of the present as something essentially static. Certainty, through its capacity to lead one astray, would become an ensnarement, in the sense used by Popper, since it would mislead one to reach irreversible decisions. On the basis of a model of the future that allows for uncertainty, though, decisions must be reached with a view toward their reversibility. The "Evolution of the Future" which we referred to above thus takes place in the process of cultural organization which orients itself upon reversibility.

The world has become chronic and even art does not find its meaning in that world without taking into account the world as it may someday be. The model of the future which is urged upon us when the model is constructed as a result of observations is, naturally, that of a culture determined by high technology. We have observed what we take to be the tendency toward the merger and collapse of the political and social spheres with the sphere of information, leading to a global mediatization[3] as a result of the expanded scope of digital communication and data. And this diffusion of spheres seems to have advanced not only in the diffusion of the data into which the objects of our cultural orientation have broken down

— into media, having come back with a vengeance — but rather, beyond this, in the alteration of the informational character of things.

When we refer to things, we have long included information that we produce. To attribute meaning to these things/information means to informationalize them. This corresponds to the culture's conception of itself and a profoundly humanistic understanding of culture. To bring something into a form means its *Gestaltung*, a way of imprinting things with new information [imparting a new meaning to information]. Informatization means putting these things/information into a format. Of course, we have long produced information beyond the specific content of these things/information by means of the forms into which we force them, such that they may be communicated and through which we receive them — defined as mediatization. A daily newspaper is a format corresponding to the manifestation and reception of information; television and radio are other formats, as is Internet. Information and reception assume correspondingly different forms. In the sphere of data[4] [the network], how-ever, familiar meanings are irretrievably broken down. In the magnitude of the diffusion of spheres, the meaning of things is increasingly determined by the formats through which they are mediated, and this diffusion takes on a concrete form in the model of the world whose manifestations are subject to a process of global informatization. In the data sphere, music is not just music, it is also a collection of data. The picture of an eye represents not only the eye but also the data on which it is based. This data can denote not only "eye" but also a transfer of funds or the code for the launch of a rocket. The difference to mediatization, which characterizes the media-assisted relationship of human beings and their environment, is the indifferenciability between human being and environment in their formats. The state of mediatization can still be ascertained from a critical perspective; not so the state of informatization.

For the time being, the future may well have begun in a real sense, initially in the form of an acknowledgment of technological designs; nevertheless, this acknowledgment gives rise to the impression that, with it, a phenomenon has appeared which psychology labels as a self-fulfilling prophesy. Thus, for example, art, technology and society have shared the thematic spectrum of *Ars Electronica* from the very start. Through *Memesis*, the way of looking at this problem is focused quite narrowly: primary attention is directed toward the interconnections of the effects produced thereby. What is obviously intended is that these interconnections are less a problem for academic contemplation and aesthetic discourse of format and more one of format shaped by technology — a problem of software design. I believe that precisely in this point[5] a chance for art can be recognized which it has never had before.

Art — the way that it has defined our conception of its freedom, from its liberation in the Romantic Movement, and in modernism as well — has had, along with its monetary value, at best pedagogical value to society — propagated and executed by means of "humanism" [used independent of its meaning as an intellectual and cultural secular movement, and referring here to principles which are implemented in everyday life by, for instance, the educational and political systems]. Humanism has indeed laid claim to the meaning of art, although art was never able to exert upon it — upon its fundamental principles — any sort of effect in return. To presume to locate in this impotence the cause which has led these two value systems to drift apart is, I think, legitimate. Art as a means of endowing life with meaning has been a failure; art, through the ascription of meaning, has been misused as a projection. Art had to avoid this instrumentalization. It had to literally lose consciousness. The reappearance of expression and authenticity, claims to autonomy and corresponding retrospective concepts, nothing and anything goes, were characteristic of this.

The flight of those who propose an idea of art which offers a way out of this unconsciousness should not, however, end in a utopia. It would then prove itself to be a fraud — like the image which would be presented by a museum [like the AEC] that calls itself a "Museum of the Future" but which would, naturally, not display art from any future whatsoever, no matter how far distant, but rather only that which claims to refer to the future, and if it did not constitute a new organizational form suited to the scope of artistic possibilities. Since it is uncertain what art will bring, the institution of the museum also organizes itself as a workspace for art and no longer as its final destination. The meaning of the institution thus undergoes — the necessity of forming a bond with the world is not the least of the reasons why — a radical change, transforming itself into the opposite of what it originally was. With its own vanishing point looming before its eyes, one consisting of a future as theoretical construct of a culture organizing itself anew in the data sphere, art, to avoid staging its own disappearance, was forced to organize itself concomitantly in order for it to display effectiveness for the organization of the data sphere. Assuming that the sphere of informatization establishes itself in a predicted way, such as one analogous to the monetary system, art would transport itself out of the perceptual context and finally forfeit the chance to ever again constitute more than a matter of pedagogical interest. Established, as we have said, as a matter of pedagogical interest of, at best, a minority of society, art exists, so to speak, only as a result of the cultivated viewer [or also as a result of the disapproval which this viewer displays toward it]. Organized for this viewer, art's social/cultural relevance is dependent upon conditions of perception. Organized pedagogically, art implies a form of perception separated from the viewer; thus can it be easily overlooked in everyday life. Organized with regard to a programmatic quality in the program of a culture, its perception implies the self-perception of the viewer. Art would then be more difficult to overlook, and perhaps only if the viewer were completely oblivious to everything around him and totally ignorant of his environment [which simultaneously calls into question his status as viewer]. Trusting in art's fundamental strength to endure in the sphere of data, and thus to not be newly organized into a form of effectiveness in accordance with informatization, it is to be feared that it — analogous to the way in which art history and administration, by means of its own methods of perceiving art [through concentration upon objects of art and not their structure, their structural organization] generate [and thus absorb] objects of art which are adequate to their own methods — will be once again left to the mercy of this process of absorption and absorbed [i.e. to become undifferentiated] as mere data [generated images, sounds, texts in all their traditional formats] by the data sphere.

However, what now already distinguishes this predicted data sphere that we are equating with the state of informatization is, first, its parasitic utilization possibilities; that is to say, its structure is conducive to other ends besides those to which it has been linked by its providers. Secondly, precisely this basic structure is open to a process of redirection in favor of artistic action and through artistic action. If the outstanding feature which characterizes the state of informatization [as opposed to mediatization] is that of indifferenciability between human being and environment, and this state can thus no longer be grasped critically in traditional fashion, then it would be the task of art to introduce the element of critique in the form of the organization of its manifestation in the data sphere. Co-determination and critique are questions of software design. A virus [a program adapted to the program] whose effects unfold in a program in correspondence to data regarding, for instance, the [catastrophic] state of the biosphere could prove to evoke a far more efficient perceptive quality than mere information about that state.[6] Differentiability is therefore a question of interface design. The format of differentiability might be regarded as the function of the meme in cultural dissemination of information: in the sense of art as cultural technology for the perception of the program of a culture. Cultural technology would thus no longer be something which

serves rational understanding and the orientation of [or within] our culture like reading and writing [receptive and affirmative], but rather an actually operative quality in the true sense of the word. It would manifest itself [even though as a transient phenomenon] as an art of the differentiability of the spheres of its manifestation. This differentiability is an operative quality and not a pedagogical one.

Reversibility, which we mentioned earlier as a necessary orientation in the process of cultural organization, does not have to be first introduced into this process by means of art, of course. In the data sphere in which this process is consummated, not only data itself but also the very creation of data/information become matters of public concern and are thus open to critique and diversification. Therefore, in any case, reversibility is one of its determining characteristics. The practice of cultural technology as the art of the sphere of information based upon digitalization, the art of informatization, changes [at least in its predisposition] the cultural structure in which the depiction and perception of art take place. The space which the sphere of informatization represents today is to be regarded as open as long as viruses are capable of existing in it. To bring the viral idea of openness, which is nevertheless certainly not immanent in the network, into a perceptible form would be an orientation toward the artistic organization in the data sphere. Art has formatted itself precisely to this end, equally in the sense of its own claims to being an open realm of possibilities. Its freedom from restrictive ties [at least in its predisposition] makes art something characterized by a high degree of reversibility. And art as idea of reversibility could put the future to the test. Formatted into art, uncertainty, too, would be operable.

Memes, analogous to genes, are, like genes, only then relevant as units of information of decisive importance for the development of the future if they convey a difference. In this sense, art organizes itself with regard to it and in the data sphere implicitly as a temporary differentiation to the organization of the sphere. Memetically organized, art changes the system in its sense, since it is a cognitive stimulus in the field of global perception. Implicitly subject to criticism [i.e. subject to processing], it manifests reversibility. No matter how the scenario will finally appear, it develops. Art provides reversibility as stimulus quality so that the formation of the scenario takes on reversibility.

For the first time, art would have already occupied that place at which the access to all of the institutions influencing the formation, information and perception of our culture have not yet been finally established. For tomorrow, that may already be yesterday's news. Nevertheless, in the history of modernism, that would be the chance for art to establish itself where the structures of arts administration have not yet actually occupied this territory. It should, therefore, be organized in such a way that, in the future as well, art is capable of escaping the clutches of the administrative apparatus aimed at art's informatization to its own ends and can be maintained as an independent manifestation of cultural relevance. Having freed itself in the Romantic Movement from the constraints imposed by the commissions dispensed by its patrons, only to be fettered once again by the concepts of modernity and modern administration, art could now, for the first time, establish itself in a sphere which gives every indication of constituting the new organization of the program of our culture.

Organized according to the differentiation of spheres, a repeat of failure seems rather unlikely. The crux of the whole beautiful theory is, of course, the social organization of artists, of cultural technicians. They once again run the danger of starvation if they fail to have significant input into the program of cultural art-work/cultural technology as well as in the process of cultural organization. An additional field of orientation thus opens up for the

organization of artistic influence upon the culture of informatization. Since applied cultural technology can no longer be sold [that is to say, administered].

Early in this essay, we positioned uncertainty in connection with the concept of the future as its central characteristic, and we spoke of the loss of consolation of absolute certainty. Natural scientists must also accept this and, therefore, must live with the fact that their most beautiful theories may someday be proved false. This message, of course, has not been lost on your author. In this sense, it goes without saying that his text as well should be partaken of with caution.

[1] This is a joke! [You never know...]

[2] I define culture to mean the process of transformation which takes place by means of informational imprinting, whereby naturally occurring objects are made into cultural property with their own canon of significance. Water, for example, is forced from its natural state into a new form [information], and the electrical power thus produced, as well as its production, are established as cultural property. The ecological crisis which results from this also underlies this principle. Instances subsumed under this principle can be labeled methods of translation, methods of usage and, in a certain sense, the critical as well as affirmative reception granted them, as a result of which new methods must be designed. In this context, however, I associate reception with the highly pronounced social form of [the organization of the orientation towards property of the] culture.

[3] We ought to keep in mind that an artificial system has already been completely adapted from the program of our culture: the monetary system. What are presumed to be our real problems today — ecological survival, the crash of the biosphere — are based upon this virtual system which determines political policy as an organized authority in charge of decisions regarding money or life — and that's what it's all about. It provides us with textbook examples on a daily basis and, as a system, has long begged the question of how the maintenance of its appearance creates conditions [once again, artificial systems] which in turn influence political policy; as the model of a reality which generates a reality that invalidates the original model and which nevertheless constitutes the mechanism of simulation in holding fast to it? How else could we possibly interpret the despicable failure of decision-making concerning the environment? Dietmar Kamper's formulation in this connection is most trenchant. "What must occur — in order to save what can still be saved of the basic resources of life such as water, air and earth — can not occur without bringing "vital" sectors of production to extinction. The alternatives are totally clear: your money or your life — though, as everyone knows, you need money to live." [suhrkamp 1994] In the link-up of this system constituted by simulated decisions with the dawning mediatization [whose glow illuminates the data sphere], the complexity of these problems may well continue to rise. Anyway, it is already the case today that the catastrophe more or less will not take place as long as the media continues to report about it and it is not plunging headlong toward them.

[4] The data sphere as the emerging sphere of informatization is also, of course, commonly referred to in the sense of the sphere of the perception of data.

[5] Also in the design of interfaces between different spheres which are in the process of shifting towards congruence.

[6] See the last sentence of Endnote 3.