PHILOSOPHY OF MODERN ART AND PHILOSOPHY OF TECHNOLOGY

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1

Art is something visible. But everything we see we see under certain conditions. What are the conditions of what is visible in art?

These conditions are, on the one hand, *historical*, and on the other hand *natural*. The natural ones include certain psychological laws of sight, for instance, the effects of colors, optical illusions, etc. To the historical ones belong, first, the material which is used—for instance, oil, colors, and the canvas—second, a certain style, i.e., a certain system of rules by which things visible are submitted a priori. There is a *general style*, for example, the style of Impressionism, and there is a *particular style*, for example, the different and individual ways in which two painters, both impressionists, paint.

Now the conditions of art are nothing but a certain way of *interpreting reality*. To understand this the difference between the classical Greek and the classical Egyptian style may serve as an example. For the Greeks the reality of the visible was given by the perspective and the situation in which the object appears; for that reason they presented a person in his individual movements. For the Egyptians, on the other hand, it was only the appearance of a transitory moment which according to their opinion is not really real; consequently, they searched for the permanent essence and the typical character of an object. So for the Egyptians Greek art was in truth illusion; for the Greeks, on the other hand, Egyptian art was unrealistic constructivism (Gombrich, 1977).

This means: A style of art reveals not only a certain historically given and historically changing relation to reality, but it is also like a language. Whereas language determines a priori by means of its vocabulary and grammar, what we perceive of reality and how we can perceive it, in art style determines a priori, among other things, the way in which reality appears in its scope. And, due to this, people often learn to see a landscape the way a famous artist sees it.

However, the way in which reality appears in art must not be regarded on its own. It is connected with many other ways of recognizing reality, such as political, religious, economic, intellectual, and social ways—in short, all the phenomena of human life. In other words, art is always the art of a certain epoch, with its relation to and its conception of reality. Thus, we talk for example about the art of ancient myth, about the art of medieval Christianity, and last but not least about the art of the technological age. By this we want to express that in these eras myth, Christianity, technology and their different interpretations of reality were each the center of the epoch.

This means that art makes visible objects and the contents of other fields of experience of a certain epoch within the scope of its special aprioristic conditions. That is, the epoch's "visible as such" is manifested through art, because in other fields of experience we really do not regard objects and contents from the aspect of what is visible but from the point of view of cognitively tangible aims for which they are useful. So, for example, we know where the house we want to visit is situated and we have a rough idea of what it looks like, but its visible-as-such, which interests the artist, we do not notice at all. Thus, objects and contents in a certain historical cultural connection are reflected by art in the proper artistic medium; i.e., they take shape under the a priori conditions of the artist's consideration of reality.

Consequently, it is paradoxical to understand art as some kind of*copy* of the fields of experience connected with it. So, for example, it is not important for the work of art as such if we compare the landscape of a painting with the landscape which served the artist as his model. Even if the artist had tried to make what he painted as similar as possible to the model he used— whatever that may mean—nevertheless, the landscape which he saw is only the matter from which something completely different emerges, since he has submitted its view to the a priori conditions of art: namely to the material used (colors, canvas, etc.), to his style, and even to the fact that he paints on a plane surface. Thus we must contemplate a work of art by itself, and even if it is also connected with other fields of experience it nevertheless displays something unique which appears in that piece of art and only there. This is the visible-as- such.

Also, the connection of art with objects and contents of different fields of

experience must not be misunderstood, in the sense that art should serve only their illustration. An illustration does not exist per se but serves something else, namely, the thing which it illustrates and which it is aimed at. But the visible-as-such has its aim in itself, and a work of art will not open up to us as a work of art if we do not concentrate only on this quality of being visible that appears in it.

The previous considerations have shown that art is neither a copy (mimesis in Plato's view) nor a mere subjective aspect of reality as many people still believe (see Vischer, 1889, or Adorno, 1970).

Every conception of reality is subjective in the sense that it is of necessity founded on a priori presuppositions; but it is nevertheless objective in the sense that these presuppositions are not arbitrary but are rooted in a *general historical context*. In this respect, there is no principled or formal difference between the cognition of reality through art and other cognitions of reality. If somebody were to object by saying that the painting of a landscape is not real because we cannot take a walk in it, we would have to reply that the reality of the painted landscape is of a kind that we cannot walk in. In this respect, it is not an exception.

To summarize: In pictorial art *the non-artistic cognition of reality is turned into a specific cognition of reality which refers only to the visible-as-such. In art, everything takes on a visible form.*

2

Now how can we develop a *philosophy of modern art* on these general foundations? If art, as I have said, is inextricably connected with the interpretations of reality of a certain epoch and if the modern epoch is widely determined by technology, then art must reflect in its particular medium that idea of reality which is at the bottom of this modern, technological world. But what does this idea of reality consist of? The response to this question is possible only within the framework of a *philosophy of technology*. Thus, a philosophy of modern art requires not only a general philosophy of art but also a general philosophy of technology. Now let us consider the latter.

First of all, we must keep in mind that it is not possible to speak of technology in general. As art has changed thoroughly in the course of history, so

also has technology changed. The reason for this change is that the aims which technology serves have changed by providing the material means for their realization.We are not asking here about this or that aim but rather about the *system of aims* which determines a certain historical epoch. So, for example, in antiquity this system was given by the needs of the state, of a cult, and of art. Technology served these needs. Indeed, this did not change during the Middle Ages, though after Christianity abolished slavery and therefore cheap labor was no longer available, the scope of technology was extended enormously. Nevertheless, an immensely more important revolution took place when technology not only served a given system of aims but itself *dictated* this system to a great exent. This happened when technology was inextricably connected with the exact sciences.

From the beginning of modern times the exact sciences worked with technological equipment and in part used it to define science's terms operationally. On the other hand, technology used cognitions of the natural sciences for products which by way of feedback furthered knowledge in natural sciences. So what has fundamentally changed is the complete *theoretical penetration of technology* which in former times was completely unknown.

As a consequence of this theoretical penetration technology proceeded in the course of a long development period not only to solve individual practical questions but also to explore *systematically* the *possibilities of practical aims* and their *technological realization*. From a theoretical viewpoint every technological product turned out to be a *transmission system*. A transmission system is understood as the transformation, governed by operators, of certain entities (those of input) into certain other entities (those of output). In this way control, regulative, and matching processes are produced, which in general we call *feedback processes*.

Generally it is a question of the *conservation of states*, *the use of energy*, and *the acquisition of information*. With regard to the conservation of states, the input factors are the modes of intervention by which states can be altered, whereas the resultant output factors are those states which have to be maintained or conserved (e.g., dikes, preservatives, or heating systems). Likewise in the use of energy we are dealing with a regulative process of transformation, namely, that of energy, and thus with a transmission system (automobiles, airplanes, etc.)

Finally in the acquisition of information, words (messages) are fed in, transformed into electric waves, printed letters, punch cards, and the like, and then read out again at the end as words (messages, for example in a computer).

Now the decisive point is that transmission systems can be described by *mathematical models*. These models provide a *systematic and theoretical exploration of technological possibilities*, in the following way.

First, by utilizing the model and disregarding the immediate purposes and particular forms of the technical objects involved, we can explore the scope and free play of the potential these objects may have. Here, the model merely serves the same purpose as a theory in that it allows us to present individual phenomena as being derivable from it and, by arranging and classifying these phenomena within a large systematic context, we gain a clear overview of these elements of the system.

Second, the structure of the transmission system formulated in terms of mathematical models can be checked for possible reciprocal substitution by other transmission systems. For instance, when it has been determined that an isomorphic or homomorphic relation exists between a technical and a natural transmission system—when there is either complete or partial structural agreement—the technical system will produce, either in full or in part, what is produced by the natural transmission system.

Third and finally, beginning with given transmission systems we can move—via combinations and variations, etc.—to the free construction of other transmission systems on a multiplicity of different planes, so that we can examine how these might be utilized practically.

We find these three levels of progressive abstraction and theorization in numerous fields—for example, in switching theory, in the theory of automata, in control or steering theory, in game theory, in the theory of matching systems, in neuron models, in information theory.

In this way the *system of aims underlying modern technology is defined*. The essential point of this system is not, as in former times, that aims are prescribed to technology from the outside which it then has to realize—although

this still happens today; its essential point is, on the contrary, that technology devises aims on its own and systematically.

It is a fact, however we may try to explain it, that modern technology, with the system of aims just characterized, dominates our age. That does not only mean that it produces, in its proper systematic manner, more and more new aims—and that simultaneously it thrusts more and more traditional aims into the background if it does not even make them totally disappear—but that also means that as a result of technology reality is widely considered exclusively from the point of view of its *rationalizability* and of the unlimited *progress of this rationalizability*. Because, as has been shown, transmission systems of technology are not only presentable in exact mathematical models and have the same function as theories in the exact sciences; they are also inextricably connected with these theories. And exactness always is rationality, even if not everything rational is at the same time exact.

The impressive successes of technology not only continuously strengthened this aspect of reality but they finally also caused the rise of the epistemological dogma that science and technology offer the only access to reality.

Now I will turn to a *philosophy of modern art* which is an art of the technological age.

3

If, as I have said, the aim of art is to make visible-as-such contents and objects of an idea of reality which is characteristic of a particular historical epoch, then, if this is the case, the following question arises for modern art. Which aspect of that kind does a reality dominated by science and technology offer?

Before I go into this, I have to warn against a potential misunderstanding. By no means must art always be adjusted to a given concept of reality as is the case in the technological age. Although in antiquity the idea of reality was rooted in myth, art and myth presented an inseparable unity. On the other hand in the Renaissance art was to a certain degree predominant. Leonardo da Vinci may

serve as an example. His artistic exploration of nature was the origin of his studies in natural science and technology. So the essential is only the *correlation* between the artistic and the non-artistic aspects of reality.

Now in which manner has art answered the following question: which artistic aspect does that reality which is dominated by science and technology present? To answer this question we must go back to the nineteenth century, and for that reason the philosophy of modern art cannot be restricted to the present time.

Confronted with the claim made by science and technology that they are in possession of the only access to reality, art at first switched over to the *subjective conditions* of sight. This was the origin of *Impressionism*. On the one hand these conditions of sight were themselves an object of scientific-technological exploration, but on the other hand art could grasp the *visible as such* of that kind of sight. So for example Pointillism as a version of Impressionism was based on certain scientific theories of perception (I draw attention here to the theories of Helmholtz), where the object of perception is investigated in a way in which it appears as freed from all its mythical, religious, metaphysical, or other intellectual implications, and is allegedly seen in a quasi pure view. Reality now falls into two parts. On the one hand, that of the objects of scientific and technological cognition, and, on the other hand, that of the subjects as their perception of objects is itself the object of scientific or technological research. In this situation the task arises for art to expose the visible-as-such *in* those perceptions, which on the other hand are objects of the exploration mentioned above.

Another approach is taken by Cubism. Cubism does not consider reality, as Impressionism does, in the quasi-positivistic aspect of its purely sensual impression; on the contrary, it considers reality as the result of notions produced by rationality. For that reason Cubism is also called *art conceptuel*. It makes the object visible as a construct of thinking, not only showing what we can see directly but also what we complement by thinking: its volume, its surface, its elements, its back, etc. Nevertheless, Cubism also agrees with that idea of subjectivity which arises from the scientific-technological conception of reality. But, this time, the *perceiving* subjectivity is not meant, as in Impressionism, but a subjectivity that *constructs* objects by the process of rational thinking. Cubism is,

so to speak, painting by the new "Cartesian man" as the man of the technological age could be called. This painter wants to master nature, to see himself as its sovereign *maitre et possesseur*; so Picasso can dare to commit the monstrosity of transforming the face of a man deliberately, to paint it with three eyes. In this sense Apollinaire could say that Cubism is scientific painting, and Gleize could maintain that Cubism tries to make visible the operations of thinking.

We find another variant of art which reacts to the scientific-technological world in *abstract painting and sculpture*. Since the world of objects seems to be completely occupied by a scientific-technological interpretation, art turns completely away from that and turns to the contemplation of the *internal structures* of subjectivity, making visible on the one hand the mental processes of a pure rational constructivism as such (Malewitsch, Kandinsky, Mondrian), and making visible on the other hand the dynamics of the soul as it is guided by the unconscious (Miró)—which too is an object of scientific, in this case, psychological research.

But there is also an art in the technological age which is devoted to objects—however, to objects which to a great extent are not part of nature but are largely artificial. This is called Pop Art. Its objects are technical products, especially consumer articles. These objects present no problem of interpretation or epistemology, like objects of nature where, for example, a question arises whether their truth is given scientifically or technologically or in some other way. As to technical products, we mainly think about their use or the satisfication of material wishes, since the principles of their construction, as made by humans, include no mystery. Consequently the style of Pop Art has its origin in advertisements. Pop Art is enthusiastic about the glittering of automobiles and airplanes, about the packaging of industrial products (food, cigarettes, etc.). And whenever Pop Art depicts humans, they are freed of all the burdens of myth, religion, and metaphysics in the same way as the objects of technical production. Humans are presented as mass-produced articles or shadowy figures. That is the way in which pop-artists—like Warhol, Rosenquist, and Wesselmann—paint man and his world of advertisements.

But art reveals also the dark side of the technological age. By this I do not so much mean certain *contents*, as for instance criticism of social conditions, but rather styles; since, as I already said in introducing the philosophy of art in

general, only by styles can contents be artistically connected with the reality of the epoch. Would it not be paradoxical to try to present a modern factory in the Baroque style? Among styles which reveal the dark sides of the technological age, I would mention Surrealism, Dadaism, and Expressionism.

Surrealism (e.g., in Dalí) tries to expose the arrogant Cartesian*homo technicus*, by turning to the irrational of the human soul, and for that purpose expressly using the theory of psychoanalysis. The psychoanalytical symbols of dreams require symbolic forms and special effects of colors and light, which give the impression of something mysterious, puzzling, and impenetrable.

Dadaism renders dubious the widespread dogma of the technological age, that the world is principally an object of rational explanation. According to Dadaists, this dogma veils the fact that reality is not only closed to a totally rational explanation, but is also basically dominated by chance on the one hand and by individual things on the other hand. These individual things Dadaists believe to be in fact something absolutely concrete; the usual cognitive and rational generalizations are nothing but mere fictions. Consequently, Dadaism tries to free objects from all the rational connections with which they are surrounded, as in a network, and thus to make them visible exactly in their pure facticity and fortuitousness. This is effected mainly by the so-called*objet trouvé*; for example, the toilet bowl that Duchamp removed from its function, in such a way that it looked totally absurd. The style of the Dadaists consists of a special rearranging of objects in a way that emphasizes their alienation.

In contrast to Dadaism, Expressionism presents the dark side of the technological age rather indirectly—namely, by displaying the lost paradise of myth, where man still experienced nature as something completely alive. (I use the word "Expressionism" here in a very broad sense, so that, for instance, the landscapes of van Gogh, Vlaminck, Nolde, Kirchner, and Schmidt-Rottluffs can be integrated in an all-embracing view, as different as they may be in detail.) Here all objects—a house, a mountain, a field, the sun, the sea, the trees and clouds—are related to man as living beings. Differences between the internal and external, the ideal and material, vanish in a typical mythical manner. And yet, even Expressionism bears the stamp of the technological age since its mythical view is really a protest, a revolt. What Expressionism claims to see is not a secured possession; consequently, its passionate, sometimes poster-like

style—with glowing colors—may only reveal the effort to revive something irrevocably lost.

Let us finally consider so-called Postmodern art. This art too doubts the dogma that the scientific-technological world is in possession of the only access to truth and reality. But, for that very reason, if Postmodern art does not regard the ideas of reality as rooted in the European tradition of myth and religion as something absolutely remote and strange, neither does it believe that these ideas could be actually revived. Therefore Postmodern art searches for a synthesis of these opposites, a synthesis which the post-modern architect Jencks has called double-coding. By double-coding he means that something which, today, we actually cannot maintain seriously any more is expressed in a manner that nevertheless can be generally accepted. This happens by using the thing, on the one hand, as a mere *quotation*, but on the other hand in such a way that its character as a quotation is simultaneously neutralized. Correspondingly, Postmodern art constantly shows quotations of past epochs of the history of art, but it presents them with a certain irony and alienation, so that we are never sure whether we really have to take it seriously or not. Jencks has convincingly demonstrated this by examples of how it is effected. (I can just mention a Mariani painting of an allegory of Parnassus, but unfortunately I cannot enter into this here in detail; see Jencks, 1986.)

4

After this *tour d´horizon*, which of course can only provide a very short and a very incomplete sketch of modern art, let us come back to the general foundations of a philosophy of art. According to these foundations, art is neither a pure product of subjective imagination nor a mere copy of a reality outside (mimesis), but it is based on a peculiar way of considering reality. It actually *is* a consideration of reality, because like every way of considering reality it lets the world appear under certain a priori conditions. And it is a *peculiar* consideration of reality because these a priori conditions refer to a *certain aspect* of reality—namely, the visible-as-such, which at the same time is in correlation to other aspects of reality which are characteristic of a certain historical epoch. Art refers to these other aspects in a kind of uncertainty relation. As the results of the measuring of the momentum of a particle vanish if its position is measured, so in the same way cognitive aspects of reality are thrust into the background if they are

displaced by the aspect of the visible-as- such and vice versa.

Now such a philosophy of art presupposes two principles of a general theory of cognition. First, cognition of reality, of necessity, takes place under a priori conditions. Second, it is impossible to make a choice among different groups of a priori conditions of appearances (in the sense that some of them could be regarded as the conditions of truth and reality, whereas others are the conditions of deception and falsehood).

I cannot further discuss these principles here, but I would like to refer to my book, *Critique of Scientific Reason* (1983). Regarding the objection of relativism, I want to remark here that it is not a question of arbitrary but historically developing a priori conditions, and such conditions are not applicable at will to the *same thing;* they define and constitute completely different fields of reality—for instance, those of art and those of science, even if these different fields of reality are correlated to each other in the manner I have described.

It follows from the general principles of the theory of cognition that we have to speak of different dimensions of reality, in short, of the *multidimensionality of reality* (see Goodman, 1968). That means, in the case of art: On the one hand, art generally discloses the dimension of the visible-as-such, which, for example, vanishes in the uncertainty relation in those fields where cognitive intentions are in the foreground. On the other hand, art has a special way of disclosing this quality of being visible, by showing it under the conditions of a given historical situation which itself is characterized by a certain dimension of reality and by those a priori conditions which define this dimension.

Now if the rise of modern art is indebted to an impression that the idea of reality which dominates the technological age is either inescapable (Impressionism, Cubism, and Surrealism), or that an opposition is only possible by revolt (Dadaism) or longing (Expressionism), then the situation would be fundamentally changed if artists would become aware of the multidimensionality of reality. Is not Postmodern art perhaps a first indication of that? (See Hübner, 1994.)

REFERENCES

Adorno. T. 1970. *Aesthetische Theorie*. Frankfurt.
Gombrich, E. H. 1977. *Art and Illusion*. Oxford.
Goodman, N. 1968. *Languages of Art*. Indianapolis.
Hübner, K. 1983. *Critique of Scientific Reason*. Chicago.
____. 1994. *Die zweite Schöpfung: Das Wirkliche in* Kunst und Musik. Munich.
Jencks, C. 1986. "Post-Moderne und Spät-Moderne." In Koslowski, Spaemann, and Low, eds., *Moderne und Post-Moderne*. Heidelberg.
Vischer, F. T. 1889. *Das Schöne und die Kunst*. Stuttgart.