Into the Universe of Technical Images

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Warning

With the ideas presented here, I am attempting to follow up a bit more closely on trends noticeable in contemporary technical images such as photographs or television images. In the process, I raise the prospect of a future society that synthesizes electronic images. Seen from here and now, it will be a fabulous society, where life is radically different from our own. Current scientific, political, and artistic categories will hardly be recognizable there, and even our state of mind, our existential mood, will take on a new and strange coloration. This is not about a future floating in the far distance. We are already on its cusp. Many aspects of this fabulous new social and life structure are already visible in our environment and in us. We live in a utopia that is appearing, pushing its way up into our surroundings and into our pores. What is happening around us and in us is fantastic, and all previous utopias, whether they were positive or negative, pale in comparison to it. That is what the following essay is about.

Utopia means groundlessness, the absence of a point of reference. We face the immediate future directly, unequivocally, except inasmuch as we cling to those structures generated by utopia itself. That is what has happened in this essay: it clings to contemporary technical images, it criticizes them. In this sense, it represents a continuation and amendment of those arguments articulated in an earlier essay, *Towards a Philosophy of Photography*.[1] Therefore this essay is to be read not, or not primarily, as the projection of a fantasy into the future but rather as a critique of the present—even

though the critique will be caught up in a sense of the inevitability and superior force of the new.

Taking contemporary technical images as a starting point, we find two divergent trends. One moves toward a centrally programmed, totalitarian society of image receivers and image administrators, the other toward a dialogic, telematic society of image producers and image collectors. From our standpoint, both these social structures are fantastic, even though the first presents a somewhat negative, the second a positive, utopia. In any case, we are still free at this point to challenge these values. What we can no longer challenge is the dominance of technical images in this future society. Assuming that no catastrophe occurs (and this is by definition impossible to predict), it is likely—bordering on certain—that the existential interests of future men and women will focus on technical images.

This gives us the right and the duty to call this emerging society a utopia. It will no longer be found in any place or time but in imagined surfaces, in surfaces that absorb geography and history. The following essay seeks to grasp this dreaming state of mind as it has begun to crystallize around technical images: the consciousness of a pure information society.

This cautionary preface was written after the work was completed, as it is in most cases. It comes to some extent in the wake of the experiences and dangers of the journey just completed into the land of our children and grandchildren. That's why it's a warning: one should expect questions rather than answers from the following essay, even when these questions occasionally dress themselves up as answers. To put it another way, this essay does not attempt to suggest some sort of solution to the problems that confront us but rather to critically challenge the fundamental tendencies on which these problems rest.

To Abstract

This essay is about the universe of technical images, the universe that for the past few decades has been making use of photographs, films, videos, television screens, and computer terminals to take over the task formerly served by linear texts, that is, the task of transmitting information crucial to society and to individuals. It is concerned with a cultural revolution whose scope and implications we are just beginning to suspect. Since human beings depend for their lives more on learned and less on genetic information than do other living things, the structure through which information is carried exerts a decisive influence on our lives. When images supplant texts, we experience, perceive, and value the world and ourselves differently, no longer in a one-dimensional, linear, process-oriented, historical way but rather in a two-dimensional way, as surface, context, scene. And our behavior changes: it is no longer dramatic but embedded in fields of relationships. What is currently happening is a mutation of our experiences, perceptions, values, and modes of behavior, a mutation of our being-in-the-world.

Linear texts have only occupied their dominant position as bearers of critically important information for about four thousand years. Only that time, then, can be called "history" in the exact sense of the word. Before that, during the forty-thousand-year period of so-called prehistory, other media—especially pictures—carried this information. And even during the relatively brief period when texts were dominant, images continued to be effective, dialectically challenging the dominance of texts. And so one is tempted to say that linear texts have played only an ephemeral role in the life of

human beings, that "history" was only a diversion, and that we are now in the process of turning back to two-dimensionality, into the imaginary, magical, and mythical. Many aspects of emerging life structures, for example, the magic that flows from technical images or the magic-ritual behavior of those knowledgeable about technical images, appear to confirm this view.

The present essay intends to show that this view is incorrect. It maintains that technical images are inherently different from early pictures, which will be referred to here as "traditional." More specifically, technical images rely on texts from which they have come and, in fact, are not surfaces but mosaics assembled from particles. They are therefore not prehistoric, two-dimensional structures but rather posthistorical, without dimension. We are not turning back to a two-dimensional prehistory but rather emerging into a posthistorical, dimensionless state. To support this contention, this chapter proposes a model to be used to clarify the difference in ontological position between traditional and technical images.

The model is a ladder with five rungs. Humanity has climbed this ladder step by step from the concrete toward higher and higher levels of abstraction: a model of cultural history and the alienation of human beings from the concrete.

- *First rung:* Animals and "primitive" people are immersed in an animate world, a four-dimensional space-time continuum of animals and primitive peoples. It is the level of concrete experience.
- *Second rung:* The kinds of human beings that preceded us (approximately two million to forty thousand years ago) stood as subjects facing an objective situation, a three-dimensional situation comprising graspable objects. This is the level of grasping and shaping, characterized by objects such as stone blades and carved figures.
- *Third rung: Homo sapiens sapiens* slipped into an imaginary, two-dimensional mediation zone between itself and its environ-

ment. This is the level of observation and imagining character-
ized by traditional pictures such as cave paintings.

- *Fourth rung:* About four thousand years ago, another mediation
  zone, that of linear texts, was introduced between human beings
  and their images, a zone to which human beings henceforth
  owe most of their insights. This is the level of understanding
  and explanation, the historical level. Linear texts, such as
  Homer and the Bible, are at this level.
- *Fifth rung:* Texts have recently shown themselves to be inacces-
  sible. They don't permit any further pictorial mediation. They
  have become unclear. They collapse into particles that must be
  gathered up. This is the level of calculation and computation,
  the level of technical images.

The intention of the model suggested here is obviously not
to diagram cultural history. That would be an absurdly naive
undertaking. Rather the model is intended to focus attention on
the steps that lead from one level to another. It is meant to show
that technical images and traditional images arise from completely
different kinds of distancing from concrete experience. It is meant
to show that technical images are completely new media, even if
they are in many respects reminiscent of traditional images. They
"mean" in a completely different way from traditional images. In
short, they actually constitute a cultural revolution.

One might object to this model on the grounds that simply to
distinguish traditional from technical images, it is not necessary
to set up such a broad hypothesis, spanning two million years. It
should really be enough to define technical images as those that
owe their existence to technical apparatuses. But exactly this defini-
tion, obvious as it seems, turns out to be inadequate for the thesis
presented here. For I am contending that we can only do justice to
the fabulous new way of life that is now emerging around technical
images if we delve into the very roots of our being-in-the-world.
To be this radical, the proposed model must be this broad.

The five rungs on the ladder that lead from a concrete experience of the environment into the universe of technical images are separated by spaces that must be crossed, crossed in both of the ladder's directions. For each of these crossings, we must exchange one universe for another, and each of them needs now to be considered independently, step by step.

- *First step:* Unlike animals, even primates, human beings have hands that can hold the immediate world at bay, bring it to a stop (so that the environment is no longer relevant). This extension of the hand against the world can be called an "action." With this designation, the lifeworld falls into two areas: the area of the fixed, understood object and the area of the "one who understands," the human subject standing apart from objects, the area of objective conditions and that of the ex-istence of human beings. Action abstracts the subject from the lifeworld, brackets the subject out, and what remains is the three-dimensional universe of graspable objects, the problem to be solved. This universe of objects can now be transformed, informed by the subject. The result is culture.
- *Second step:* Hands do not handle things blindly but are monitored by eyes. The coordination of hand and eye, doing and seeing, practice and theory is a fundamental principle of existence. Circumstances can be observed before they are dealt with. Eyes can see only the surfaces of objects to be grasped, yet eyes command a field that is more comprehensive than that which hands can grasp. And they see the relationships. They can construct models for subsequent actions. The overview that precedes circumstances can be called "worldview." It is about taking a deep measure of circumstances and producing from it a two-dimensional realm of images between the situation and the subject: the universe of traditional images.
- *Third step:* Images stand before things. Man must therefore reach through images to change things. Grasping and acting

follow from representational images, and since images are two-dimensional, the representations in them form a circle, that is, one draws its meaning from the other, which in turn lends its meaning to the next. Such a relationship of exchangeable meanings is magical. Grasping and changing the environment through images is magical action. To return to things without mediating through images, to take the magic away from the action, representations must be torn out of the magical context of the pictorial surface and set into another order. The difficulty here is that images aren't graspable. They have no depth; they are only visible. But their surfaces can be grasped with fingers, and fingers that lift representations out of the surface to grasp them can count them and account for them. Linear texts come into being as a result of this gesture called "grasping." Grasping involves a translation from representations into concepts, an explanation of images, an unraveling of pictorial surfaces into lines. This gesture abstracts one dimension from pictorial surfaces, reducing the image to a linear one-dimensionality. The result is a conceptual universe of texts, calculations, narratives, and explanations, projections of an activity that is not magical.

- *Fourth step:* Texts are concepts strung together like beads on an abacus, and the threads that order these concepts are rules, orthographic rules. The circumstances described in a text appear by way of these rules and are grasped and manipulated according to them, that is, the structure of the text impresses itself on the circumstances, just as the structure of the image did. Both text and image are "mediations." For a long time, this was not easy to see because the orthographic rules (above all logic and mathematics) produce far more effective actions than the magic that had come before. And we have only recently begun to realize that we don't discover these rules in the environment (e.g., in the form of natural laws); rather they come from our own scientific texts. In this way, we lose faith in the laws of

syntax. We recognize in them rules of play that could also be other than they are, and with this recognition, the orderly threads finally fall apart and the concepts lose coherence. In fact, the situation disintegrates into a swarm of particles and quanta, and the writing subject into a swarm of bits and bytes, moments of decision, and molecules of action. What remains are particles without dimension that can be neither grasped nor represented nor understood. They are inaccessible to hands, eyes, or fingers. But they can be calculated (*calculus,* "pebbles") and can, by means of special apparatuses equipped with keys, be computed. The gesture of tapping with the fingertips on the keys of an apparatus can be called "calculate and compute." It makes mosaic-like combinations of particles possible, technical images, a computed universe in which particles are assembled into visible images. This emerging universe, this dimensionless, imagined universe of technical images, is meant to render our circumstances conceivable, representable, and comprehensible. That is the topic to be addressed here.

The difference between traditional and technical images, then, would be this: the first are observations of objects, the second computations of concepts. The first arise through depiction, the second through a peculiar hallucinatory power that has lost its faith in rules. This essay will discuss that hallucinatory power. First, however, imagination must be excluded from the discussion to avoid any confusion between traditional and technical images.

To Imagine

The split in the life world between object and subject happened some two million years ago somewhere in East Africa. About forty thousand years ago, no doubt in a cave in southwestern Europe, the subject withdrew further into its subjectivity to get an overview of the objective circumstances in which it found itself. But at such a remove, things were no longer tangible, manifest, for no hand could reach them anymore. They could only be seen. They were merely appearances—objective circumstances turned into apparent, "phenomenal," and therefore deceptive circumstances: in pursuit of an apparition, hands can miss the object. The subject is once again in doubt about the objectivity of its circumstances, and out of this doubt come observations and images.

Images are intended to serve as models for actions. For although they show only the surfaces of things, they still show relationships among things that no one would otherwise suspect. Images don't show matter; they show what matters. And that allowed the hand to probe further into the circumstances than before. Image makers faced two obstacles, however. First, every observation is subjective, showing one instant from one standpoint, and second, every observation is ephemeral, for the standpoint is in constant motion. If images were to become models for actions, they had to be made accessible, intersubjective, and they had to be stabilized, stored. They had to be "published."

The earliest image makers known to us (e.g., at Lascaux) fixed their observations on the walls of caves to make them accessible to others (to us as well); that is, they acted (for hands are required for

this fixing), and did so in a new way, inasmuch as they used their hands not to grasp objects (e.g., bulls) but to manipulate surfaces to represent objects (e.g., bulls). They sought symbols, and the activity was about symbols, about a gesture in which the hands moved back from the object to address the depths of the subject in whom, so stimulated, a new level of consciousness was emerging: the "imaginative." And from this imaginative consciousness came the universe of traditional images, of symbolic content, the universe that would henceforth serve as a model for manipulating the environment (e.g., hunting bulls).

Symbols that are linked to content in this way are called codes and can be deciphered by initiates. To be intersubjective (to be decoded by others), each image must rest on a code known to a community (initiates), which is the reason images are called "traditional" in this essay. Each image must be part of a chain of images, for if it were not in a tradition, it would not be decipherable. Of course, this doesn't necessarily always work. That is what it means to "publish": to put a subjective observation into the symbols of a social code. Of course, it doesn't necessarily work. Because every observation is subjective, each new image brings some sort of new symbol into the code. Each new image will therefore distinguish itself to some small degree from the previous one and so be an original. It will change the social code and inform society. That is just what the power of imagination is: it enables a society informed by images to generate continually new knowledge and experience and to keep reevaluating and responding to it.

Yet it is a dangerous anachronism to regard these constant changes in the image code as a developmental process and to speak of a "history of images" (e.g., from the bull paintings at Lascaux to those of Mesopotamia and Egypt) or to suppose that such a history unfolds slowly in comparison to our own. For what makers of images set out to do was exactly not to be original and to inform society but rather to be as true as possible to previous images and to carry their tradition forward with as little noise as possible.

These makers tried to reduce their subjectivity to a minimum, an attitude that can be observed in so-called prehistoric cultures in the present. The African mask and the Indian textile are concerned with an unchanging, eternal code, a myth. To the extent the mask or the textile is original, it has failed.

The universe of traditional images is a magical and mythical universe, and if it nevertheless changed constantly, this was through unintentional coincidence, by accident. This is a prehistoric universe. Only since linear texts appeared, and with them conceptual, historical consciousness—some four thousand years ago—can one rightly speak of a history of images. For only then did imagination begin to serve (and oppose) conceptual thinking, and only then did image makers concern themselves with being original, with deliberately introducing new symbols, with generating information. Only then was an accident no longer an oversight but rather an insight. Images of our time are infected with texts; they visualize texts. Our image makers' imaginations are infected with conceptual thinking, with trying to hold processes still.

The universe of traditional images, not yet sullied with texts, is a world of magical content. It is a world of the eternal return of the same, in which everything lends meaning to everything else and anything can be meant by anything else. It is a world full of meanings, full of "gods." And human beings experienced this world as one permeated by trouble. That is the imaginative state of mind: everything carries meaning, everything must be appeased. It is a state of guilt and sin.

At first glance, technical images seem similar to the prehistoric images just discussed. But they are on an entirely different level of consciousness, and among them life proceeds in an entirely different atmosphere. Visualization is something completely different from depiction, something radically new, and will now be taken under consideration.

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To Make Concrete

According to the suggested model of cultural history, we are about to leave the one-dimensionality of history for a new, dimensionless level, one to be called, for lack of a more positive designation, "posthistory." The rules that once sorted the universe into processes, concepts into judgments, are dissolving. The universe is disintegrating into quanta, judgments into bits of information. In fact, the rules are dissolving exactly because we followed them into the core of both the universe and our own consciousness. At the core of the universe, particles no longer follow the rules (e.g., chain reactions) and begin to buzz, and at the core of consciousness, we try to sift out the calculable basis of our thinking, feeling, and desire (e.g., proposition theory, decision theory, and the calculation of behavior in actemes); that is, linearity is decaying spontaneously, and not because we decided to throw away the rules. And so we have no choice but to risk a leap into the new.

And it is truly a risk. For as waves dissolve into drops, judgments into bytes, actions into actemes, a void appears, namely, the void of the intervals that hold the elemental points apart and the no-dimensionality and so impossibility of measuring the points themselves. One cannot live in such an empty and abstract universe, with such a dissociated and abstract consciousness. To live, one must try to make the universe and consciousness concrete. One must try to consolidate the particles to make them substantial (graspable, conceivable, tangible). Those who invented calculus in the seventeenth century already solved this problem of filling in

the intervals, integrating the infinitesimal, resolving differentials. But at the time, the problem was methodological, and today, it has become existential, a question of life and death. I suggest that we regard technical images as an answer to this problem.

Technical images arise in an attempt to consolidate particles around us and in our consciousness on surfaces to block up the intervals between them in an attempt to make elements such as photons or electrons, on one hand, and bits of information, on the other hand, into images. This can be achieved neither with hands nor with eyes nor with fingers, for these elements are neither graspable, nor are they visible. For this reason, apparatuses must be developed that grasp the ungraspable, visualize the invisible, and conceptualize the inconceivable. And these apparatuses must be fitted with keys so that we may manipulate them. These apparatuses are essential for the production of technical images. All the rest comes later.

Apparatuses are intractable; they should not be anthropomorphized, however convincingly they may simulate human thought functions. They have no trouble with particles. They want neither to grasp nor to represent nor to understand them. To an apparatus, particles are no more than a field of possible ways in which to function. What we find difficult to see (e.g., a magnetic field, unless we use iron filings) is, from its standpoint, just another possible function. It transforms the effects of photons on molecules of silver nitrate into photographs in just the same way: blindly. And that is what a technical image is: a blindly realized possibility, something invisible that has blindly become visible.

The production of technical images occurs in a field of possibilities: in and of themselves, the particles are nothing but possibilities from which something accidentally emerges. "Possibility" is, in other words, the stuff of the universe and the consciousness that is emerging. "We are such stuff as dreams are made on."[1] The two horizons of the possible are "inevitable" and "impossible"; in the direction

of the inevitable, the possible becomes probable; in the impossible direction, it becomes improbable. So the basis for the emerging universe and emerging consciousness is the calculation of probability. From now on, concepts such as "true" and "false" refer only to unattainable horizons, bringing a revolution not only in the field of epistemology but also in those of ontology, ethics, and aesthetics.

"Probable" and "improbable" are concepts from informatics, in which information can be defined as an improbable situation: the more improbable, the more informative. The second law of thermodynamics suggests that the emerging particle universe tends toward an increasingly probable situation, toward disinformation, that is, to a steadily more even distribution of particles, until form is finally lost altogether. The last stage, heat death, is a probability bordering on the inevitable, and this stage can be calculated in advance with a probability bordering on certainty.

For the time being, however, we are not at this stage. On the contrary, everywhere in the universe, we can observe that improbable situations have arisen and continue to arise, whether these are galactic spirals, living cells, or human brains. Such informative situations owe their existence to an improbable coincidence, an "erroneous" exception to the general rule of increasing entropy. This permits the following fantastic hypothesis: a sufficiently large computer could, theoretically, futurize (retroactively calculate) all the improbable situations that have already appeared, are about to appear, or are yet to appear, that is, everything between the big bang and heat death, including the text that is taking shape here and including the computer itself. To do this, the computer must have the program of the big bang in its memory. The difficulty for the construction of such a computer is not the literally astronomical quantity of possibilities that surround such situations as spiral nebula, living cells, or human brains; rather the difficulty lies in the necessity for the computer to contain not only the big bang program itself but also all the errors in this program. In other

words, it would have to be much larger than the universe itself, an example of the abyss into which the new calculating and computing consciousness is about to fall.

Such dizzying speculations nevertheless permit a closer look at the intentions with which image-making mechanisms were invented, namely, to produce improbable, informative situations to consolidate invisible possibilities into visible improbabilities. As a result, such mechanisms contain programs that contravene the program of the particle universe. For an apparatus is a human product, and a human being is an entity that actively opposes the implacable tendency of the universe toward disinformation. Since a human being stretched out his hand to confront the lifeworld, to make it pause, he has been trying to imprint information on his surroundings. His answer to "heat death" and to death per se is to "inform." And apparatuses, among other things, arose from this, his search for eternal life. They are meant to produce, store, and distribute information. Seen in this way, technical images are reservoirs of information that serve our immortality.

But there is a strange inner dialectic, a contradiction in this undertaking. The apparatus is programmed to generate improbable situations. This means that such improbable situations are in their programs and do not arise as errors, as in the program of the universe, but as situations that are deliberately sought, that become more probable as the program runs. Someone who knows the program of an apparatus can predict these situations and so has no need of a metaphysical computer such as that described in the dizzying speculation introduced earlier. Anyone who watches television can more or less predict the program of the next few weeks. To put this another way: those images produced by an apparatus in keeping with its program are improbable from the standpoint of the universe (it would take billions of years for a photograph to make itself, without an apparatus), but from the receiver's standpoint, they are still probable, which is to say not

very informative. For the receiver of technical images, then, that which was programmed into the apparatus as negative entropy is transformed into entropy—just as surreptitiously.

The inherent contradiction in the apparatus arises because it functions just as the universe does, namely, automatically. Its programs are games in which possibilities occur randomly, programmed accidents. The difference between the apparatus and the universe is that the apparatus continues with its programmed tasks (e.g., with a photograph made by a fully automated satellite camera), and the universe runs past the programmed task toward heat death. For this is, in fact, the definition of *automation:* a self-governing computation of accidental events, excluding human intervention and stopping at a situation that human beings have determined to be informative. The difference between the apparatus and the universe is, accordingly, that the apparatus is subject to human control. But it cannot stay this way forever: in the longer term, the autonomy of the apparatus must be liberated from human beings. This is why the negative entropy of the apparatus changes to entropy.

The danger that lurks in automation, namely, that the apparatus will continue, even when the intended result has been achieved, to unintended results (as, say, the apparatus of thermonuclear armaments), is the real challenge to the producer of technical images. Such producers will be called "envisioners" here to distinguish them from those who produce traditional images and to differentiate between visualization and depiction. These are people who press the keys of an apparatus to make it stop at an intentionally informative situation, people determined to control the apparatus in spite of its tendency to become more and more automated and so to preserve human judgment over the machine. Envisioners are people who try to turn an automatic apparatus against its own condition of being automatic. They cannot create illusions without the automatic apparatus, for the stuff to be envisioned, the particles, are neither visible nor graspable nor comprehensible without the

apparatus's keys. But they can't turn the envisioning over to the automatic apparatus either, for the technical images produced in such a way would be redundant, that is, predictable, uninformative situations from the standpoint of the apparatus's program.

The task set by the inner contradictions of an automatic apparatus is itself contradictory. For example, if we look at the gesture of a photographer with his camera and compare it with the movements of a fully automatic camera (as in a satellite), we are tempted to underestimate the task. For it looks as though the fully automatic camera is always tripped by chance, whereas the photographer only presses the release when he approaches a situation that corresponds to his intentions. But if we look more closely, we can confirm that the photographic gesture, in fact, does somehow carry out the apparatus's inner instructions. The apparatus does as the photographer desires, but the photographer can only desire what the apparatus can do. Any image produced by a photographer must be within the program of the apparatus and will be, in keeping with the considerations outlined earlier, a predictable, uninformative image. That is to say, then, that not only the gesture but also the intention of the photographer is a function of the apparatus. And yet fully automatic photography can be clearly distinguished from the photography of someone who visualizes an image because in the second case, a human intention works against the autonomy of the apparatus from the inside, from the automatic function itself.

The gesture on which technical images depend is doubly contradictory. First, apparatuses are supposed to generate informative situations automatically. In the face of this contradiction, envisioners try to pit automatic production against the machine's autonomy, an effort that itself occurs within the automatic apparatus. Technical images result from a gesture that is doubly self-involved, from an intricate opposition and collaboration between the inventor and the manipulator of the apparatus and an opposition and collaboration between an apparatus and a human being.

In comparing this gesture with that of traditional images (as described in the previous chapter), it becomes clear that the two occur at two completely different levels. With technical images, it is about first programming the computation of particles, then deprogramming them to convert them into informative situations. It is about a gesture that takes place in a particle universe, with fingertips touching keys, and the structure of this gesture is as particulate as the structure of the universe, that is, it consists of clear and distinct mini-gestures. The intention of this gesture is to make particles into two-dimensional images, to rise from no dimensions to two dimensions, from the abyss of intervals to the surface, from the most abstract into the apparently concrete. "Apparently," for it is, in fact, impossible to gather particles into surfaces. Since every surface is composed of infinitely many particles, an infinity of points would have to be assembled to produce actual surfaces. Therefore the envisioner can produce only a virtual image, that is, a surface full of intervals, like a raster. The envisioner must be content with the appearance of surface, with trompe l'oeil.

The gesture of the envisioner is directed from a particle toward a surface that can never be achieved, whereas that of the traditional image maker is directed from the world of objects toward an actual surface. The first gesture attempts to make concrete (to turn from extreme abstraction back into the imaginable); the second abstracts (retreats from the concrete). The first gesture starts with a calculation; the second starts with a solid object. In short, we are concerned here with two image surfaces that are conceived completely differently, opposed to one another, even though they appear to blend together (something like dermis and epidermis). So when we speak about the meaning of images, about decoding them, we need to be aware that the meaning of technical images is to be sought in a place other than that of traditional images.

The decoding of technical images is a task we have not yet accomplished, for reasons to be discussed further later. But as long

as we remain incapable of doing this, we remain at the mercy of a fascination and programmed to engage in magical-ritual behavior. The critical reception of technical images demands a level of consciousness that corresponds to the one in which they are produced. This poses the question whether we as a society are capable of such a change of consciousness. To keep this question in mind, we need to reflect on our contemporary being-in-the-world, our contemporary mode of behavior.

To Touch

Having disintegrated into particles, all recognizable orientation points having become abstract, the world is now to be gathered together so that we may again experience it, recognize it, act in it. This is what envisioners do. Yet the particles that need gathering are neither visible nor graspable nor comprehensible. They can only be grasped with the help of instruments capable of reaching into the mass of particles. These instruments are called "keys." Although we've long been familiar with keys and use them for the most part without thinking, we're still a long way from understanding them. If we want to gain some insight into the world in which we find ourselves when we press keys with our fingertips, we must look more closely at the matter of pushing keys.

Keys are everywhere. Light switches illuminate dark rooms in an instant. The car engine springs to life the instant a key turns, and one press of a shutter release instantly causes an image to be made. What is immediately striking about it all is that the keys operate in a time unrelated to everyday human time, a time that follows another set of standards. For the keys move in the infinitesimal universe of particles, in the realm of the infinitely small, where time ignites like lightning. The second thing about keys is that being infinitely small by human standards, they can also cross over into the gigantic. One flick of the light switch crosses from the universe of electrons into the area in which man is the measure of all things. And one flick of another switch can explode a mountain or finish humanity off. Keys are, accordingly, instruments that bridge

the famous sandwich, according to which the world is made up of three layers, one with atomic, one with human, and one with astronomical dimensions.

Often the keys are not isolated buttons but make up keyboards, offering a selection. If I choose a particular button on the control panel of my television, the image I have selected from those available to me appears instantly on the screen. In spite of the inhumanly small dimension with which the keys operate, they still serve human freedom. Even the generation that did not grow up with computer keyboards can still experience what is ghostly and magical about them. As I run my fingertips selectively over the keyboard of my typewriter to write this text, I achieve a miracle. I break my thoughts up into words, words into letters, and then select the keys that correspond to these letters. I calculate my ideas. And the letters then appear on the piece of paper that has been put into the typewriter, each for itself, clear and distinct, and nevertheless forming a linear text. The typewriter computes what I have calculated. It succeeds in packaging the particles into rows. That is a miracle, despite the transparency of the process. For I can watch as each pressed key sets a hammer in motion that strikes the intended letter onto the page and how the carriage moves to make way for the next letter. Despite this transparency, the thing is not right.

Such mechanical typewriters have archaic keyboards. With word processors, writing by pressing keys has long since become an opaque process, an event that occurs in a black box to which the presser has no visual access. An apparatus is not a machine, and its mechanical aspects have disappeared. By observing how images are synthesized on a computer screen by pressing keys, we can, looking back in a sense, recognize the miracle of mechanical button pressing as well: it is the miracle of calculation followed by computation, the miracles to which technical images owe their existence.

The verb *to touch* means first a blind contact, in the hope of

finding something by chance: a heuristic method. This is, in fact, the method chimpanzees use to write on the typewriter, the way they will eventually have to produce, by chance, a text identical to this one (in a term projected into the future, potentially encompassing a few million years). I cannot claim, of course, that I experience my own typewriting as blind contact; rather I am persuaded that my text is not the result of an accident that has become unavoidable but that I intentionally select my keys. As I write, I command a "universe of alphanumeric signs" (more than forty-five keys), and for me, each strike is the result of a free decision. One is tempted to claim that I am different from a chimpanzee: that I intentionally reduce the astronomical amount of time that would be required to produce this text by heuristic methods, through chance, to a time on a human scale. I distinguish myself from chimpanzees and other ignorant beings in that I produce the same things they do but in a much shorter time, a sobering account of human freedom and value.

But the matter can be presented differently. Whereas the typing chimpanzee is immersed in a blind play of chance and necessity, I transcend this play. As I type, I see past the game (the typewriter) to the text to be written. I won't yet descend into the problem of freedom, that philosophical quagmire that surrounds this seeing-past-what-is to what-should-be, and will restrict myself to what is. I will therefore ask, is there a possibility that the text written by the chimpanzee could be distinguished from mine, even if they were identical to one another, letter for letter? Is it possible to discover in my text, as opposed to the chimpanzee's, an intention to inform, to establish values? If so, then we could define human freedom and value as the capacity to establish values.

What is at issue here is the difference between human and artificial intelligence, between information that is produced intentionally and automatically. Typewriting chimpanzees are surely extremely primitive artificial intelligences. They are rare, expensive, and slow.

By comparison, word processors are more common, cheaper, and above all much faster. So could we distinguish my text from one produced by a word processor if it matched mine letter for letter? If we ask in this way, it becomes clear that the word processor is not pressing blindly but is programmed. The text is predicted in its program. It doesn't strike purely by chance but casts among the available keys for the rules of a game of chance, not in the sense of a pure but rather of an aleatory chance (*aleae,* "dice"). The word processor's text is a "weighted" game, a predictable accident. Can this controlled result be distinguished from my own text—or is this, too, a weighted game with different programming?

But the chimpanzee, too, plays with dice. It's just that he adheres to very loose rules. He is permitted any combination of keys, and that is exactly why it takes so long for him to arrive at my text. Could one say of the chimpanzee, then, that he is "freer" than the word processor? And the stenographer who copies my text, does he not also throw the dice, only according to far stricter rules, inasmuch as he follows the model before him key for key? So is the chimpanzee engaged in more open and the stenographer in more closed play? Perhaps in this way a hierarchy of programs could be set up, according to the degree to which each is open. As a writer, the chimpanzee is the most free, the stenographer the least free, the word processor somewhere in the middle. But where is my own place in this hierarchy? Am I less free than the chimpanzee but more free than the word processor? And can my position be read from the text? It's an uncomfortable question because it dilutes the specificity of human freedom.

Perhaps the specificity may be rescued from the other direction. For striking a key is, after all, about a pressing on an instrument that has been fabricated by human beings. Wouldn't it be in the making of the keys rather than in the pressing of them, then, that one should seek human freedom? Not in the programmed action, but in the programming? Not in the chimpanzee or the word processor

or in the stenographer or in me but rather in the inventor of the typewriter? That would be the one who took Latin letters, Arabic numbers, and a number of logical symbols out of their contexts to turn them into keys, the one who calculated thought processes (took the principles out of them) and then built a machine that could compute these calculations into texts. It doesn't matter very much which type of automaton the inventor of the typewriter built into his machine (whether chimpanzee, word processor, stenographer, or me) or how he programmed this automaton, for in the final analysis, all texts, even mine, must appear on a piece of paper. The specifically human freedom would then be that of programming.

I admit, my typewriter example is mischievous. It is absurd to suggest that the inventor of the typewriter is responsible for the text I am producing. Had I chosen another example—say, television controls—the absurdity would not be so obvious. Most keys are, in fact, like those of the television controls, giving the impression that the programmer is out of sight, pulling the strings of our behavior. To accept that this argument is absurd is to reject a great deal of contemporary cultural criticism.

But the argument that makes programmers responsible for social behavior is completely unacceptable for another reason as well. For backtracking from the key back to the program and from there back to the programmer is a step into the abyss of infinite regress. For example, the chimpanzee and I myself are, just like a typewriter, products of a game of chance, a program. We have both appeared in the course of aleatory play with genetic information. The invention of keys, an event that had necessarily to occur at some point, was in my program but apparently not in the chimpanzee's. Should we look for a programmer behind my program, a superhuman programmer who has to bear responsibility for all the typewriting (mine and the chimpanzee's) and, in fact, for all the world's behavior? For one can't have it both ways—on one hand,

the rigid autonomy of keys reaching into the mass of particles, and on the other, a programmed intention—unless one falls head over heels into a belief in the transcendental determinism of chance. In rejecting any such orientalizing faith, one is also forced to reject the argument that social behavior is programmed. Anyone who does not believe in a blindly transcendent programmer is even less likely to believe in a farsighted immanent programmer.

So what is the status of human freedom with respect to writing with a typewriter, with this transparent, mechanical process? Probably as follows: I know, when I strike a key, that I am dealing with a programmed instrument that reaches into the swirl of particles and packages them into texts. I know that a word processor can do this automatically, a chimpanzee can do it accidentally, and a stenographer can do it by copying an existing pattern, and that in all cases, the same text as mine will appear. I know, therefore, that my keys are inviting me into a determined mesh of accident and necessity. And in spite of it all, I experience my writing gesture concretely as a free gesture, in fact, free to such an extent that I would rather give up my life than give up my typewriter. "Writing is necessary, living is not."[1] For my being is concentrated on my fingertips when I am writing: my entire will, thought, and behavior flow into them and through them, past the keys, past the particle universe those keys command, past the typewriter and the paper and into the public sphere. This, my "political freedom," my key-striking, publicizing gesture, is my concrete experience of keys.

An enthusiasm for keys such as the one I have just confessed may be put in the context of the two previous chapters approximately as follows. Action is the first gesture to free human beings from their lifeworld. The second is visual observation. The third is conceptual explanation. And the fourth gesture to free human beings from their lifeworld is the computing touch. The hand makes humankind the subject of the world, the eye makes it the surveyor of the world, fingers make it ruler of the world, and through fingertips, humankind

becomes what gives the world meaning. The current cultural revolution can be viewed as a transfer of existence to the fingertips. Work (hand), ideology (eye), and narrative (finger) will be subordinated to programmed computation. In this way, keys will free us from the pressure of changing the world, overseeing it and explaining it, and will free us for the task of giving meaning to the world and life in it.

Of course, this condition, in which keys will free human beings to make meaning, has so far not been reached. Instead we find ourselves being controlled by relatively primitive keys that have not yet been properly understood and therefore not properly installed. For the time being, that is, there are still two types of keys. One type sends messages (call it the "productive" key). The other receives messages (call it the "reproductive" key). The first type is an instrument for making the private public, the other an instrument for making public matters private. For example, the keys of television producers serve to publicize the private views and concepts of the producers, and the keys on the television monitor serve to receive these publicized views and concepts into a private sphere. Both types of keys are, in fact, synchronized with one another, but a double ambience reigns over them: on the sending side is a sense of illusion (that rapture I tried to describe earlier), on the receiving side, a sense of being manipulated (the basis for that kind of cultural criticism I tried previously to discredit).

In considering these two types of keys, one realizes with some surprise that they depend on an obsolete conception and fail to take the actual character of keys into account. They depend, that is, on a conception of "discourse." A message is generated in the private sphere of the sender and is sent through the public sphere and into the private sphere of the receiver. In the example given earlier, the television message is generated in the private space of the producers, sent through public space, and received in the private space of the television audience. But in the universe of keys, there is no longer any private and public. The producer

does not generate his message in a private space but rather in a transmitter, a complex of instruments and functionaries. It would be ridiculous to refer to the electromagnetic field through which the message runs as a republic. And the space of the television monitor is open to countless messages and cannot really be called private. Apart from this, the sending and receiving mechanisms are coordinated and function as a unity. In short, keys have burst the boundaries between private and public. They have blended political with private space and made all inherited conceptions of discourse superfluous.

The two types of keys in current use depend therefore on a misunderstanding of what is characteristic of keys. For it is in the character of keys to link up with one another "in dialogue" (e.g., through cables) to form networks, that is, to operate not as discursive but rather as dialogical instruments. The difference between sending and receiving, between productive and reproductive keys, is therefore to be viewed as provisional. The typewriter is only a forerunner of the telewriter, the control panel of the washing machine only a forerunner of a feedback loop linking manufacturers and the users of washing machines. And the current state of keys in general is only a forerunner of a telematic society.

Keys have ruptured our conceptions of political and private space. They force us to think in other categories. In the face of the emerging situation, controlled by dialogically linked keys, we can no longer use concepts like McLuhan's global village. One can no longer speak of a village when there is no public village square and no private houses. The web of keys and dialogic connections between them is more reminiscent of brain structure. One might speak of a global brain rather than a global village. And in such a structure, no distinction can be made between the pressing of a shutter release of the photographic camera and the start button of a washing machine. Both movements receive and send to the same extent.

At the current stage of key development, there will continue to be faulty keys, namely, those that permit me to choose but not to express myself (e.g., the television control panel). For the time being, the freedom to choose therefore contradicts existential freedom. And so for the time being, I cannot become enraptured about the keys on the television or the washing machine (unless I share the rapture of the washing machine user in advertisements for washing machines). But we can expect to be enraptured by all keys at a later stage of automation because they will all be instruments that permit us to join with all others, giving meaning to the whirring chaos of the particulate universe.

Producers of technical images, those who envision (photographers, cameramen, video makers), are literally at the end of history. And in the future, everyone will envision. Everyone will be able to use keys that will permit them, together with everyone else, to synthesize images on the computer screen. They will all be, strictly speaking, at the end of history. The world in which they find themselves can no longer be counted and explained: it has disintegrated into particles—photons, quanta, electromagnetic particles. It has become intangible, inconceivable, incomprehensible, a mass that can be calculated. Even their own consciousness, their thoughts, desires, and values, have disintegrated into particles, into bits of information, a mass that can be calculated. This mass must be computed to make the world tangible, conceivable, comprehensible again, and to make consciousness aware of itself once more. That is to say, the whirring particles around us and in us must be gathered onto surfaces; they must be envisioned.

We already have the visualizing power needed to do this, that is, power over apparatuses we can use to visualize. We know that these apparatuses operate according to principles of chance and necessity (the principles that govern probabilities) and that they operate automatically. And yet at the point of releasing the shutter, we are justifiably convinced that we are giving the whirring and

completely abstract universe around us and in us an intended meaning. That is what is at once ghostly and enticing about envisioning with keys: technical images are phantoms that can give the world, and us, meaning.

The following chapter will concern this visualization and the power to do it, distinguishing it from the imagination of traditional image making that preceded it. It is about technical images, these particulate phantoms, these gossamer whims of a cosmic brain in formation. It proposes to show how surfaces emerge and how a visionary power is expressed in these surfaces that would never have been possible before the invention of keys.

To Envision

Technical images are envisioned surfaces. When we look at a photograph with a magnifying glass, we see grains. When we get close to the television screen, we see points. It is true that the photograph is a chemical image and the television an electronic one and that we are dealing with different ways of structuring particles. But the basic construction of particle elements is the same. As long as there are still images that rely on chemistry (presumably not much longer), the way the problem of envisioning presents itself technically (and so also perceptually) in surfaces will be different from the way it presents itself in electronic images. The point is that all technical images have the same basic character: on close inspection, they all prove to be envisioned surfaces computed from particles.

One really does have to observe closely to see this. At first glance, technical images appear to be surfaces. Observing takes more than just looking, which explains why we have insight into hardly any of the many things we see. Technical images seem to be surfaces as a result of our laziness about close observation. This contradiction between looking and observing, between "superficial reading" and "close reading," raises the familiar issue of the distance between the observer and the observed. I will try to show here that technical images are completely different from other objects that make up the objective world around us in terms of the way this issue presents itself.

The wooden table I am using to write this text is, on close observation, a swarm of particles and, for the most part, empty space. Its robust wholeness is an illusion. If my typewriter were to

fall through the tabletop, it would be an extremely improbable occurrence but in no sense a miracle. For this reason, I can bracket all awareness of the granular structure out of my writing and rely on my table's solidity. In the case of the table, the theory follows from practice; that is, the theoretical scientists who have calculated the quantitative structure of my table entered the picture much later and had nothing to do with my table's manufacture.

Yesterday I saw Mozart's opera *Cosi fan tutte* on television. On closer observation, I saw traces of electrons in the cathode ray tube. I cannot bracket out my knowledge of the granular structure of the visible image as I could with the table, however, for I owe this image to the theoretical scientists. They alone made yesterday's *Cosi fan tutte* possible. What I actually experienced as beauty yesterday required the calculations and computations of a close reading of the particulate universe. The theory precedes the practice of *Cosi fan tutte,* and without the theory, there can be no practice.

The examples of the table and the video image of *Cosi fan tutte* allow us to formulate what is meant here by the concept of "envision." It is meaningless to claim that the table's solidity is illusory, for it is actually solid, and its particulate composition would only become obvious after this solidity had been subjected to a series of abstractions. On the other hand, one could rightly claim that yesterday, I hallucinated a Mozart opera. For what I saw yesterday followed from a series of concretizations (calculations and computations) of abstract particles, and that is the reason I had a concrete experience yesterday. It was concrete because it had been visualized for me out of abstractions. *Envision,* then, should refer to the capacity to step from the particle universe back into the concrete. I therefore suggest that the power to envision first appeared when technical images were invented. Only since we have had photographs, films, television, videos, and computer screens have we been able to understand what it means to envision.

A closer look at technical images shows that they are not images at all but rather symptoms of chemical or electronic processes. A

photograph shows a chemist how specific molecules of silver compound have reacted to specific photons. A television image shows a physicist the paths specific electrons have taken in a tube. Read in this way, technical images are objective depictions of events in the particle universe. They make these processes visible, just as a Wilson chamber makes the trace of a particle visible. The objectivity of this visibility does present certain familiar problems for the theory of perception, however. For since the particle can only be seen when specific instruments (media) are in use, such as sensitive surfaces, cathode ray tubes, or Wilson chambers, the question whether these instruments themselves affect the phenomenon they seek to make visible becomes a problem.

Technical images are only images at all if they are seen superficially. To be images, they require that the viewer keep his distance. Had a physicist looked closely at yesterday's television image, *Cosi fan tutte,* he would have seen traces of electrons in the cathode ray tube. What the physicist's profound insight would have brought to light is the obdurate banality of the particle universe. I, on the other hand, having looked only superficially, have actually seen *Cosi van tutte.* Shall we praise superficiality, praise the power to visualize, condemn deep insight? "Art is better than truth"?

Incidentally, the theoretical scientists, these people of deep insight, did not actually produce yesterday's image but only made it possible. Technicians and envisioners made it, and they are superficial people. They pressed various buttons and, in so doing, unleashed processes into which they needed no deep insight, and so made it possible for me, pressing just as mindlessly on my buttons, to see *Cosi fan tutte.* What was going on in the various black boxes that linked me to the envisioners is a question for those with deep insight. If we are asking about the power to envision, we must let the black box remain—cybernetically—black.

That is to say, the inquiry into visualization has a strange (and new) mistrust of deep explanation, resulting in a strange (and new) contempt for depth as such. Scientific explanations and the technologies

that follow from them are essential to the power to visualize, and yet they have become uninteresting. For the explanations arrive at banalities. It is the concrete experience, the adventure, the information that the visualization communicates that is interesting. The explanation is abstract; it is the visualization that is concrete. This is exactly what is new in the emerging power to visualize, what is new about the consciousness that is dawning: scientific discourse and technical progress are seen as essential but no longer interesting in themselves, and we seek adventure elsewhere, in visual constructs.

The inquiry into visualization therefore needs to be transferred from the gesture of the one who presses the buttons to the consciousness of the envisioner, as I tried to do with regard to writing with a typewriter. And there we found that the gesture of pressing buttons is the same in both cases but that envisioning requires a different consciousness. For this is about opaque apparatuses, not transparent machines. Envisioners don't stand over apparatuses the way a writer stands over a typewriter; they stand right in among them, with them, surrounded by them. They are bound much more tightly to the apparatus than a writer to the machine. Envisioning is far more functional than writing texts. It is a programmed procedure. When I write, I write past the machine toward the text. When I envision technical images, I build from the inside of the apparatus.

This condition depends on two factors. First, envisioners press buttons that set events into motion that they cannot grasp, understand, or conceive. Second, the images they visualize are produced not by them but by the apparatus, and, in fact, automatically. In contrast to writers, envisioners have no need for deep insight into what they are doing. By means of the apparatus, they are freed from the pressure for depth and may devote their full attention to constructing images. A writer must concern himself with the structure of a text: for letters; for the rules governing the order in which the letters must appear (orthography, grammar, logic); and

for the phonetic, rhythmic, and musical aspects of the text. A large part of his creative, informative achievement consists of his handling of these structures. With the envisioner, it's completely different: he controls an automatic apparatus that brackets all of that out for him so that he is able to concentrate completely on the surface to be envisioned. His criteria as he pushes buttons are therefore superficial in two senses of the word: they have no connection to the more profound craft of constructing an image, and they have no concern with anything beyond the surface to be produced.

The envisioner's superficiality, to which the apparatus has condemned him and for which the apparatus has freed him, unleashes a wholly unanticipated power of invention. Images appear as no one before could ever have dreamed they would. And the photographs, films, and television and video images that surround us at present are only a premonition of what envisioning power will be able to do in the future. Only when we focus on computer-synthesized images, images of the nearly impossible because ungraspable, unimaginable, and incomprehensible, can we start even to suspect what sort of hallucinatory power is at hand.

Envisioners press buttons to inform, in the strictest sense of that word, namely, to make something improbable out of possibilities. They press buttons to seduce the automatic apparatus into making something that is improbable within its program. They press buttons to coax improbable things from the whirring particle universe that the apparatus is calculating. And this improbable world of envisioning power surrounds the whirring particle universe like a skin, giving it a meaning. The power to envision is the power that sets out to make concrete sense of the abstract and absurd universe into which we are falling.

This reflection permits us to define the position of the new consciousness, the power to envision. Envisioners stand at the most extreme edge of abstraction ever reached, in a dimensionless universe, and they offer us the possibility of again experiencing the world and our lives in it as concrete. Only through photographs,

films, television, video images, and, in the future, above all, through computer-synthesized images are we able to turn back to concrete experience, recognition, value, and action and away from the world of abstraction from which these things have vanished.

Given what has just been said with respect to envisioning, the current cultural revolution can be summarized roughly as follows. We are the first generation to command the power to envision in the strict sense of the word, and all vision, imagination, and fictions of the past must pale in comparison to our images. We are about to reach a level of consciousness in which the search for deep coherence, explanation, enumeration, narration, and calculation, in short, and historical, scientific, and textually linear thinking is being surpassed by a new, visionary, superficial mode of thinking. This is why we no longer see any sense in trying to distinguish between something illusionary and something nonillusionary, between fiction and reality. The abstract particle universe from which we are emerging has shown us that anything that is not illusory is not anything. This is why we must abandon such categories as true–false, real–artificial, or real–apparent in favor of such categories as concrete–abstract. The power to envision is the power of drawing the concrete out of the abstract.

Perception theory, ethics and aesthetics, and even our very sense of being alive are in crisis. We live in an illusory world of technical images, and we increasingly experience, recognize, evaluate, and act as a function of these images. We owe these images to a technology that came from scientific theories, theories that show us ineluctably that "in reality," everything is a swarm of points in a state of decay, a yawning emptiness. The science and the technology that developed from it, these triumphs of Western civilization, have, on one hand, eroded the objective world around us into nothingness and, on the other, bathed us in a world of illusion. And so it looks as though our historical development in the West has reached a final stage that does not look significantly different from a Buddhist worldview: a veil of Maya surrounds the yawning nothingness of nirvana. From

this standpoint, the powerful stream of Western history is about to empty into the ocean of the timeless Orient.

There is considerable evidence that such a suicidal view of Western society is justified. And yet this view largely overlooks what is significant in the current cultural revolution. That is, the visionary power that we are beginning to use and that we owe to technical images makes us capable of calculating and computing the whirring nothingness around us. Therefore our illusions are not things we should abandon to fall into nirvana but rather are quite the opposite, our answer to the yawing nothingness that threatens us. The veil of technical images that surrounds us, as similar as it may appear to an Oriental veil, challenges us to an engagement neatly opposed to the Oriental. Our veil is not to be torn but rather woven more and more closely. The following chapters are dedicated to looking at this increasingly dense mesh.

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To Signify

The foregoing analysis of an emerging way of life was based on the hypothesis that we concentrate our attention more and more on our fingertips, a hypothesis that can be confirmed in the ubiquitous sight of the relevant gesture: pressing buttons. But fingertips don't just press, they also point toward something, mean something beyond themselves, indicate what they mean. I do not plan to delve into the problems bound up with such concepts as "point," "indicate," and "mean," for I am assuming that thanks to semiotics, *sign* and *meaning* have entered into common language and no longer need elucidation. The current interest in semiotics actually confirms a rising awareness of the role of fingertips in our new being-in-the-world. What I would like to do is ask a specific question: what do technical images indicate, to what do they point? And in the same context: what meaning do technical images have?

Stated so broadly, this question appears to allow for no reasonable answer. There are various kinds of technical images, and each kind seems to have a particular meaning. Photographs, for example, seem to mean scenes in the environment, films seem to mean events in the environment, and there seems no foreseeable limit to the potential meaning of computer-generated images. So the question posed earlier would have to be directed at each kind of technical image specially. And even within one kind of image, so many forms of meaning can be discerned that the question would have to be split up a second time. A photograph of a house, for example, appears to have a form of meaning completely different from a photograph of the sort incorrectly called "abstract." And so

the question of meaning would have to be posed specially to each technical image, and it would seem absurd to ask about the meaning of technical images in general. I will nevertheless attempt to show that technical images of any kind point in the same direction.

Before the arrival of electronically generated images, it appeared that all technical images arose through the capturing and holding of approaching particles or waves from the environment. For this reason, it seemed that they were depictions of an environment that was their meaning, each in its own way. In the context of synthetically generated images, this impression no longer holds up. They, too, in fact arise through the capturing and holding of approaching particles, but what they show, for example, an airplane that has yet to be built or a four-dimensional cube, cannot be seen as a depiction from the environment. As a result, the current tendency is to distinguish between two fundamentally different sorts of technical images: depictions and models. The one means what is and the other what could or should be. As soon as this distinction between depiction and model is made, problems arise. What do I actually mean when I say a photograph of a house depicts that house, and a computer image of an airplane yet to be built is a model? Do I perhaps mean that the house is somewhere out there, that is, real, and the airplane somewhere here inside and so only possible? Do I mean that the photographer discovered the house and the computer operator and invented the airplane? Or do I mean, somewhat more cleverly, that the house is the reason for the photograph (it was there before it was photographed, and the rays reflected from it caused the photograph) and the airplane is one possible result of the computer-generated image (the image was there first, and the airplane was made as a result of the image)? Any way I formulate the difference between depiction and model, I come to grief. For how does it look with the reality of photographically depicted house having been discovered or having caused the photograph? Doesn't the house actually look like what I see in the photograph (if there is any sense at all in asking how the house looks in reality)?

Hasn't the photographer discovered the house, like someone taking a walk and finding himself standing in front of a house (if there is any sense in distinguishing between discovery and invention in the first place)? And the house has not, after all, caused the photograph in the same sense that a dog's paw may be the cause of a track in the snow (if there is any sense in talking about causality in the particle universe). I won't maintain here that it's impossible to distinguish between the level of existence of a house there on the street and that of an airplane that is yet to be built. But I will maintain that it is impossible to distinguish between a representation and a model.

It can therefore be said of a photographer that he has made a model of a house in the same sense that the computer operator has made a model of a virtual airplane. And both models are, in different ways, representations of something, namely, sketches of calculated concepts that explain visualizations that in turn refer to the surrounding context. The photographer visualizes a house as houses seem to be in the outside, objective world. Then he takes an apparatus in hand to "grasp" (with concepts such as "perspective" or "shutter speed") what he has visualized. The apparatus calculates these concepts automatically, and the photographer presses a button to release the machine to carry out these calculations, making the vision of the house into an image. The computer operator visualizes an airplane as one might be found in the outside world. Then he takes an apparatus in hand (or reaches for an apparatus on his table) to "grasp" what he has visualized (through concepts such as "aerodynamic equations" or "production costs"). The apparatus calculates these concepts automatically, and the computer operator presses on the keyboard to make the apparatus carry out these calculations, making a visualization of an airplane appear on the screen. The same power to envision is at work in both cases, that of the photographer and of the computer operator, only it is more evident with the computer operator, who is more conscious than the photographer of this power. And so in considering technical

images, it makes no sense to try to distinguish between representations and models. All technical images are visualizations.

The photographer of the house envisioned something, then, just as the computer operator did. In fact, he envisioned a house not as it actually is but as it should be. He invented rather than discovered the house. And the house is not the cause but the effect of his image, as we shall see. One can therefore say of the photographer that he produced a model of a house. On the other hand, one can also say of the computer operator that he made a depiction of an airplane. For like the photographer, he had an image and concept of what was to be shown, and that was what he depicted. The attempt to distinguish between depiction and model in the field of technical images is a lost cause, for no matter which form they take, they are not reproductive but productive images. The same visualizing power is at work in all of them.

This is not to say, however, that we must abandon all efforts to classify technical images according to their meaning. But other criteria must be chosen, criteria suited to the character of technical images. One can perhaps classify these images according to what level of information they contain: whether they are more or less informative, surprising, predictable images. I could say of a photograph of the cathedral in Florence, for example, that I had seen similar things many times before and that the image means almost nothing to me, and I may be able to say of a computerized image of a four-dimensional cube that I had seen nothing of the kind before and that the image was therefore meaningful; that is, I cannot distinguish between depictions and models, but I can distinguish redundant from informative images. Of course, I have not said what but only how the images mean—and that is the appropriate way to look at technical images.

It is customary to categorize technical images not according to their meaning but according to process, for example, as chemical or electronic images. Chemical images can be further divided into silent and still (photographs) and sounding and moving (films).

And electronic images can in turn be classified into various sub-categories—from video to computer images. Such a classification can be read chronologically: one technology follows another and can replace the previous one. If the first technical images were chemical (photographs) and the most recent electronic (synthesized images), then it is possible to confirm a general tendency for technical images, including and above all photographs, to become increasingly synthetic. Such a chronological reading of processes has undoubtedly affected systems organized according to meaning. For the technical process is itself informative, and the more recent it is, the more informative it is. From this standpoint, it is more surprising to see a synthetic image than it is to see a photograph. Photography is about to become redundant as a technology, and that is a challenge to photographers and filmmakers, for they judge images, as we've said, by the criteria redundant–informative, and they direct their visionary power toward producing informative images.

The question of what technical images mean is first and foremost a question of how the visualizing gesture is directed. Which way do the fingertips responsible for the images point? What is the maker's attitude? Where does he stand? To look at this position, this visualizing gesture with this question in mind is to realize that in it, a revolutionary new form of existence is finding expression, a powerful and violent reversal of human beings' attitude toward the world. This reversal is so powerful and violent that it is difficult for us to see. For envisioners, those who produce technical images, stand against the world, pointing toward it to make sense of it. Their gesture is a commanding, imperative gesture of codifying. Envisioners are people who raise themselves up against the world and point at it with their fingertips to inform it. Technical images have this imperative, codifying meaning. This is a reversal of human beings' former attitude toward the universe. Linear, historical consciousness, informed and produced through texts, inhabits a world that demands to be explained and interpreted, decoded. "Nature speaks." For such a consciousness, the world is a codified

text, open to explanation and interpretation. The discourse of the sciences, explanations of processes in linear series is one result, among others, of the world challenging human beings in this way. Indicators, vectors of meaning run between the world and human beings; the world means something. Everything in the world is a sign of something, and a man must develop an attitude toward the world that permits him to decode this gigantic quantity of indications, signs, clues, for example, to derive so-called natural laws from the world. A man must bend over the world as over a text. *Adaequatio intellectus ad rem.*[1] Historical people take this stance, bending toward the world, bending consciousness toward the world.

As the world and consciousness dissolve into particles, this kind of attitude becomes impossible. The threads that organized processes into orderly rows have fallen apart, and so the world and consciousness have lost their textual character. Because the signs of the world are no longer organized into codes, there is nothing left in it to read, to decode. It is now clear that the signs of the world mean nothing, that they constitute an unstructured heap of elements. The structures historical consciousness read into these heaps were themselves produced in a textual way. The world has become meaningless, and consciousness will find nothing there but so many disconnected elements. We are, absurdly, in an absurd world. Bending toward the world is therefore an unsuitable stance and must be abandoned.

The disappointment we currently experience in every explanation, interpretation, and reading of the world (the discovery that there is nothing behind the world to be discovered) leads to a revolutionary new attitude toward the world. Disappointed, we stop bending, straighten ourselves up, and stretch out our arms against the world to point an index finger at it. From now on, all pointers, signs, traffic signals, and indicators point eccentrically away from us, and nothing more points toward us. From now on, we are the ones who project meaning on the world. And technical

images are such projections. Whether they're photographs, films, videos, or computer images, all have the same meaning: to give absurdity a meaning.

The universe of traditional images consists of walls. These walls (whether cave walls or the walls of people's houses) are to be equipped with images that mirror the circumstances, for example, bulls or Emperor Franz Joseph. That is to say, the meaning of *bull* or *emperor* should be visible on the wall. And this is a deep, mysterious, sacred meaning. The pictures on the walls bring this meaning to the surface, they explain. The universe of technical images, by contrast, consists of no such tangible substrate (even though photographs may, for the time being, still be on paper, fixed to walls). This is about images projected into emptiness, into a field. And if these images show bulls or Emperor Franz Joseph, it will be to give meaning to this emptiness, this field in which we must live. Of course, bulls and emperors projected into nothingness in this way are no longer explanations but visualizations.

This reversal of attitude toward the world is as radical as the one in which our animal ancestors stood up and become hominids. At that time, however, we straightened up to reach into the world with our hands, to solve problems, to act. And now we straighten up to project vectors of meaning, to fabricate codes—that is to say, not to act, but to symbolize; not to inform objects, but to draft pure information. Technical images are such drafts, and the more they become electronic images, the purer they get.

The reversal of vectors of meaning has a disorienting effect on our inherited categories of meaning as we experience them in technical images for the first time. As long as the vectors pointed from the world toward us, the relevant question was, what is the meaning of the symbol I am to decode? For then there was something outside (the signified) that was represented by the symbol (the signifier). The symbol *m* means "mass" in the code of physics, and this "mass" is something outside, in the universe of physical discourse. A specific symbol means "house" in the code

of traditional images, and this "house" is something out there in the universe of traditional images. After the reversal of the vectors of meaning, the question, what does it mean? has no position, for there is no outside. What does a technical image mean? is an incorrectly formulated question. Although they appear to do so, technical images don't depict anything; they project something. The signified of a technical image, whether it be a photograph of a house or a computer image of a virtual airplane, is something drawn from the inside toward the outside. And it is not out there until it has been drawn out. Therefore technical images must be decoded not from the signifier but from the signified, not from what they show but from what they show for. And the question appropriate to them is, to what end do technical images mean? To decode a technical image is not to decode what it shows but to read how it is programmed.

To make this inversion of interpretation, this reversal of our semantic categories, more comprehensible, let's compare technical with traditional images. Traditional images are mirrors. They capture the vectors of meaning that move from the world toward us, code them differently, and reflect them, recoded in this way, on a surface. Therefore it is correct to ask what they mean. Technical images are projections. They capture meaningless signs that come to us from the world (photons, electrons) and code them to give them a meaning. So it is incorrect to ask what they mean (unless one gave the meaningless answer: they mean photons). With them the question to ask is, what is the purpose of making the things they show mean what they do? For what they show is merely a function of their purpose.

What technical images show can be very similar to what traditional images show. A photograph of a house can look very similar to a painting of a house. And so it can appear that the photograph shows some particular house better than the painting does, as if the photograph were a better mirror of the house. But it is exactly the task of an inverted interpretation, a criticism suited to technical

images, to show that this apparent "objectivity" of technical images is merely a function of the purpose their meaning serves. From the standpoint of so-called common sense, technical images are objective depictions of things out in the world. The critical project is to show that in defiance of common sense, they are not mirrors but projections that are programmed to make common sense appear mirrorlike.

Because technical images are projections, because they point one direction from the projector toward a horizon like, say, headlights and lighthouses, they must be decoded not as representations of things out in the world but as signposts directed outward. It is their projector, their program, that is the object of criticism. What technical images show depends on which direction they are pointing. That is to say, their significance is their meaning. In their case, the two coincide. The semantic and pragmatic dimensions of technical images are identical. To try to analyze what they show is to get lost in empty questions: Is the depicted house really out in the world, or is it just a surface? or Could the televised image of a politician be the performance of an actor imitating that figure? These are not good questions. They permit no answer relating to technical images because the questions assume a distinction between true and false, and in the universe of technical images, such distinctions have become superfluous. Technical images do not show us their meaning; they show us a way we may be directed. It is not what is shown in a technical image but rather the technical image itself that is the message. And it is a significant, commanding message.

We must criticize technical images on the basis of their program. We must start not from the tip of the vector of meaning but from the bow from which the arrow was shot. Criticism of technical images requires an analysis of their trajectory and an analysis of the intention behind it. And this intention lies in the link, the suture of the apparatus that produced them with the envisioners who produced them. Such a criticism requires new criteria, different from those for traditional images, criteria such as, say, information content

or structural analysis. This is because technical images, with their inverted vectors of meaning, have an unprecedented meaning: they don't signify anything; they indicate a direction.

As they currently surround us, technical images signify models, instructions about the way society should experience, perceive, evaluate, and behave. They signify instructional programs. At present, envisioners and their apparatuses give their images not only a programmed but a programming significance. We currently live among commandingly outstretched index fingers, and we will blindly follow their instructions unless we realize that our blind following is exactly what they mean. Should we, in fact, realize this (and there are signs that we are beginning to do so), technical images could change their significance dramatically. They could then turn into dialogically constructed signposts, signposts in a world that has become absurd for those who have become aware of its absurdity.

To Interact

Technical images are not mirrors but projectors. They draw up plans on deceptive surfaces, and these plans are meant to become life plans for their recipients. People are supposed to arrange their lives in accordance with these designs. At least that is the way technical images function now, and this has given rise to a social structure in which people no longer group themselves according to problems but rather according to technical images. Such a social structure requires new social criteria, a new sociological approach. Classical sociology begins with people, their needs, desires, feelings, and knowledge, and divides society by relationships between people, for example, into groups such as families, nationalities, or classes. Classical sociology's cultural objects are mediations between people, and those objects—such as tables, houses, and autos—are therefore to be explained starting with the people. Such an approach and such criteria no longer apply to contemporary social structure. No longer people but rather technical images lie at the center, and accordingly, it is the relationships between technical images and people by which society must be classified, for example, by groups such as cinemagoers, television watchers, or computer users. Explanations for people's needs, wishes, feelings, and knowledge are to be found in technical images. For the sociology of the future, it means that people must be pushed out of the center toward the horizon of the field of inquiry, and this precisely to the extent the discipline seeks to preserve human freedom and dignity.

The relationship between technical images and people, the interactions between the two, are therefore the central issues of the

coming cultural criticism, and all other issues are to be grasped from this point. What is immediately striking about this interaction is its intensely projective orientation. A technical image is directed toward a person. It presses in on him and finds him in even the most secret reaches of his private space. A person no longer goes from the private into the public, to the market, to school to inform himself, and if he does this in spite of the ubiquity of technical images, then this is because the new social structure has not yet fully asserted itself. Marketplace, school, and comparable public spaces are archaic spaces, unsuited to contemporary communication, and they will be abandoned. In fact, public announcements, demonstrations, and open-air festivals are still scheduled, and coaches drive about assembling tourists on beaches and ski trails. Yet this is not public, political assembly in the exact sense of the word but rather programmed disinformation. Technical images press through countless channels (television channels, picture magazines, computer terminals) into private space. They replace and improve the distribution of information that once occurred in public spaces and in so doing block off all public spaces. People don't go from the private into the public anymore because they can be better informed at home and because there is essentially no public space left to which to go.

One single technical image, namely, film, appears to run counter to the insistently projective orientation. In this case, it looks as if images are projected against a publicly erected screen and that people must go to a public space, the cinema, to see these images. It looks as though cinema is a kind of theater, namely, a "picture house." If this were true, one could claim that in film, a technical image makes a political gesture, drawing people from the private into the public. And if cinema were in fact a theater, that is to say, a place of visibility, of "theory," then one could say that film is a case of a technical image showing its viewer how to see through appearances and liberate himself from the image. Unfortunately, this is a mistaken view. Film is shown in cinemas not to awaken a political

and philosophical consciousness in its viewers but because it relies on a technology from the nineteenth century, when receivers still needed to go to the sender. And since this technology no longer suits the general social structure, it is being improved. Films are being replaced by electronic recording technologies, and cinemas will disappear. There is a tendency to reconstitute cinema in new communicative contexts to preserve a political consciousness, a public space. Similar things have been undertaken in theater (at least since Brecht), in concerts (at least since Cage), and in the opera (at least since the site of the production was moved from the opera house to the street). But the question arises whether a political consciousness vegetating in an artificially preserved republic is worth the rescue effort.

The penetrating force of technical images drives their receiver into a corner, puts him under pressure, and this pressure leads him to press keys to make images appear in the corner. It is therefore an optimistic nonsense to claim to be free not to switch the television on, not to order any newspapers, and not to photograph. The energy required to withstand the penetrating force of technical images would project such a person out of the social context. Technical images do isolate those who receive them in corners, but they isolate those few who flee from them even further.

However, the reception of technical images does not end the communication process. Receivers are not sponges that simply absorb. On the contrary, they must react. On the outside, they must act in accordance with the technical images they have received: buy soap, go on holiday, vote for a political party. However, for the interaction between image and person under discussion here, it is crucial that receivers also react to the received image on the inside. They must feed it. A feedback loop must appear between the image and the receiver, making the images fatter and fatter. The images have feedback channels that run in the opposite direction from the distribution channels and that inform the senders about receivers' reactions, channels like market research, demography,

and political elections. This feedback enables the images to change, to become better and better, and more like the receivers want them to be; that is, the images become more and more like the receivers want them to be so that the receivers can become more and more like the images want them to be. That is the interaction between image and person, in brief.

I will give two examples of this interaction, one of a film and the other of a television program. People sit in a darkened room and stare at a shimmering screen, on which giant forms appear to move. To sit there, they stood in line and then were distributed in geometrically ordered seats. An arithmetic row has become a geometric structure. Geometrically distributed, the people arrange themselves to receive the program (to be programmed) comfortably. From thinking objects, they have become geometrically extended objects. The Cartesian problem concerning the assimilation of the thinking subject to the extended object has been resolved in the cinema. Now the forms on the screen begin to jump instead of glide. The receivers know what it means: the projector is not working properly. If the receivers were slaves in a Platonic hell, they would welcome this, for it would be a step toward their release from looking at shadows. Cinemagoers, however, turn their heads toward the projector in irritation. They have paid to be betrayed. A consensus exists between them and the screen serving the interests of betrayal, a contract arising from feedback between the screen and the viewer. The contemporary cinemagoer is the result of having been fed by previous films, and the film on the screen is the result of having been fed by previous cinemagoers. The longer this mutual feeding continues, the stronger and more stable the consensus between image and people will become.

A Brazilian football club plays against a German one in Tokyo, and a Brazilian scientist watches this match on his television screen. He is among the few who want to escape technical images, and football is for him a means of alienation that he holds in contempt. Nevertheless, under the pressure of technical images, he

has switched on his monitor and is entranced by the program. To dampen his enthusiasm, he calculates the length of the shadows the players throw and from the divergence between night and summer in Brazil and day and winter in Japan. He wants to dispel the magic (explain it scientifically) and so break the spell. He succumbs to the spell nevertheless, for the program activates layers of his personality he had thought long since buried (e.g., patriotism and rowdiness). At first, he thinks he has caught his enthusiasm from the enthusiasm of the Brazilian players. Under critical analysis, however, he confirms that these players were enthusiastic because they knew he and those like him were watching them. They were not playing as a function of the match but as a function of the image's transmission. They were engaged not (or not primarily) in the game but in television images. The enthusiasm is therefore an aspect of the feedback loop between image and people: the images become more exciting the more excited the receivers are, and the receivers that much more excited the more exciting the images are. And it happens even when they want to overcome the fascination of the images. The consensus between image and person, strengthened automatically through feedback, turns everyone into receivers, whether they were initially willing or not. And this consensus forms the core of a society governed by technical images.

A closed feedback circuit appears to have been set up between image and person. The image shows a washing machine that it wants us to buy, and we want the image to show us the washing machine because we want to buy it. The image shows a political party for which it wants us to vote, and we want the image to show us the party because we want to vote for it. This circuit can't actually be closed, however, for then the images would fall into entropic decay. They would always be the same images, reproduced ad infinitum. To get better (to always give the receiver something new, to be able to program innovatively), the image must get feedback from somewhere other than the receiver.

The images feed on history, on politics, science, art, on events

of so-called daily life, and not only from current but also from past events. A photograph shows a political demonstration, a film a battle that has been fought this week, a television program a reconstruction of a nineteenth-century laboratory, a videotape a Renaissance building. In this way, it begins to look as though technical images were windows through which the receiver, having been driven into his corner, can observe things that are happening outside, and as if these images could always renew themselves because new things are always happening and because the sources on which they draw (past history) could never be exhausted. On closer inspection, however, both the windowlike character of technical images and the inexhaustibility of history oriented to past and future turn out to be in error.

Current events no longer roll toward some sort of future but toward technical images. Images are not windows; they are history's obstructions. The goal of the political demonstration is not to change the world but to be photographed. The goal of the battle that has been fought this week is to be filmed (the war in Lebanon was an important event, namely, the first in which this reversal of history away from the future and toward the image could be observed). And this initiates a novel sort of interaction, a feedback between image and event. The event dines on images, and the images dine on events. The moon landing was made to produce a television program, and a mission to the moon was on the television broadcasters' schedule. Part of getting married is to be photographed, and weddings conform to a photographic program. This will become increasingly clear for all events. Our historical consciousness defends itself against this new conception of history. We look for examples to establish that there are interactions free from the pull of technical images (e.g., the relatively image-free war in Afghanistan). We don't want to know about the threat to free exchange we see in these images. But it is just then that we realize to what extent an actual historical event such as that of the Afghani freedom fighters is being contained within the horizon of the present.

In its first, current phase, this reversal of events from the future to the image causes events to speed up. Events are caught in the undertow of the images and roll against them more and more wildly. One political event follows another more and more precipitously, a scientific theory is introduced, an artistic style replaces another almost before it has been established. The life span of a model is now measured not in centuries but in months. Progress accelerates. Yet the models don't fall over each other to change the world, but always, in theory eternally, to be shown in images. The linearity of history is turned against the circularity of technical images. History advances to be turned into images—posthistory.

That implies that the source from which history springs is beginning to dry up. This source is human freedom, that is, the decision to act to make the world the way it should be. But when one's actions are no longer directed toward the world but in the opposite direction, toward illusion, it is no longer possible to speak of freedom in the sense intended earlier. The one who acts then finds himself in a feedback relationship to the images very like the feedback relationship of the receiver. It can be seen in the example of the football game on television. Such an interaction is exciting for the receiver because the players are excited, and the players are excited because of the reception. History has become theater.

But on close inspection, past history also turns out to be a source that could be exhausted by technical images. It is true that we have assembled a huge quantity of information in the course of millennia. It is also true that a still greater quantity has been forgotten and could be recovered. But this quantity is still finite, and the gluttony of technical images is huge. Although the length of time images have been sucking up history is short compared to history's full duration, the first signs are appearing that this source is exhausted. Images are beginning to scratch at the bottom of a well thought to be bottomless. It makes no difference whether the images draw from the present or the past. For them, such historical categories have lost their meaning. For these images, the universe

of history is nothing more than a field of possibilities from which images can be made. And once there is an image, everything is in the present and turns into an eternal repetition of the same, whether it is about a battle in the Lebanese War or in the Peloponnesian War. In this way, the images reach back to transform the past into a current program designed to program receivers, as the past is reduced to serving as a source of images.

What we call "history" is the way in which conditions can be recognized through linear texts. Texts produce history by projecting their own linear structure onto the particular situation. By imposing texts on a cultural object, one produces cultural history, and by imposing texts on natural objects (which happened relatively recently), one produces natural history. Such historicizing of conditions affects people's perspectives. Because nothing need repeat itself in a linear structure, each element has a unique position with respect to the whole. In this way, the historical way of reading the world turns each element into a unique occurrence, and each missed opportunity to shape the course of history becomes an opportunity definitively lost. This dramatizing state of mind characterizes historical consciousness. It stands in opposition to the prehistoric state of mind, for which everything in the environment (as in an image) must repeat itself, for which time moves in a circle, bringing everything back into its proper place, and for which the point is not to change the world but to escape just punishment for interfering with it. The wars between the Germans and the Romans offer an example of the collision between historical and prehistoric consciousness. They are part of Roman but not of German history because the Romans, but not the Germans, saw them as singular, unrepeatable events.

Technical images translate historical events into infinitely repeatable projections. Had there been videos at the time of the Battle of the Teutoburger Forest,[1] it would have been possible to spin this battle as new every evening, and had it been possible to synthesize images at the time, the battle could have been spun differently each

evening. Someone who wants to make history today (to be a new Varus) has to contend with video. But that's ridiculous, for the new Varus would be aware that he only imagines an action, whereas the actual envisioner of the video image (even if that were he himself) acts according to completely unfamiliar criteria. A consciousness appropriate to technical images operates outside history. Stories and texts become materials for images. Technical images make Hermann just as impossible for the Cherusci, however. For Hermann felt powers (gods, fate) circling around him, whereas a new Hermann would know that his heroic deeds could be reprogrammed on video. For technical images, history and prehistory are pretexts from which to draw nourishment.

In their current first phase, technical images can still constantly renew themselves by feeding on history. But history is about to dry up, and this exactly because images are feeding on it, because they sit on historical threads like parasites, recoding them into circles. As soon as these circles are closed, the interaction between image and person will, in fact, become a closed feedback loop. Images will then always show the same thing, and people will always want to see the same thing. A cloak of endless, eternal boredom will spread itself over society. Society will succumb to entropy, and we can already confirm that the decay is on us: it expresses itself in the receivers' zeal for the sensational—there have always to be new images because all images have long since begun to get boring. The interaction between image and person is marked by entropy tending toward death.

Given the kind of interaction that currently exists between images and human beings, both with those who receive and those who act, we can expect an end to history with a probability bordering on certainty. No catastrophe of any sort (e.g., nuclear) is necessary—technical images are themselves the end. These images are programmed for an eternal return of the same; they were invented for this specific purpose: to bring an end to linearity, to reactivate the magic circle and a memory that eternally turns, bringing

everything into the present. Not some series of catastrophes but rather technical images themselves are apocalyptic.

The current interaction between images and human beings will lead to a loss of historical consciousness in those who receive the images and, as a result, also to a loss of any historical action that could result from the reception of the image. But this current interaction is not yet leading to the development of a new consciousness, unless it changes radically, unless the feedback is interrupted and images begin to mediate between people. Such a rupture of the magical circle between image and person is the task we face, and this rupture is not only technically but above all existentially possible. For images are beginning to bore us, in spite of the contract we have with them. The traffic between images and people is the central problem of a society ruled by technical images. It is the point where the rising so-called information society may be restructured and made humane.