

Towards A Philosophy of Photography

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Introductory Note

This essay is based on the hypothesis that human civilization has seen two fundamental turning points since its beginnings. The first occurred approximately during the second half of the second millennium, B.C., and may be defined as "the invention of linear writing". The second — we are witnessing it — may be called "the invention of technical images." Other such turning points may have occurred in the more remote past, but they have effectively escaped our observation.

Such an hypothesis implies the suspicion that civilization - and thus human existence — is about to go through a basic change of structure. This essay is an attempt to render that suspicion more palpable.

In order to preserve the hypothetical nature of the essay, I have abstained from quoting previous works on related subjects. For that same reason, there is no bibliography. Instead, I have included a short lexicon of terms basic to the essay or implied in it. The definitions proposed in it are not meant to claim any general validity; they propose themselves, in a sense, and should function as working hypotheses for those readers who may wish to go further along the line of reflection and analysis offered here.

Hence the purpose of the essay: not to defend an extant thesis, but to contribute to a discussion about the subject "photography" in a philosophical spirit.

I The Image

Images are significant surfaces. In most cases, they signify something "out there," and are meant to render that thing imaginable for us, by abstracting it, by reducing its four dimensions of space-plus-time to the two dimensions of a plane. The specific capacity to abstract planes from the space-time "out there," and to re-project this abstraction back "out there" might be called "imagination." It is the capacity to produce and decipher images, the capacity to codify phenomena in two-dimensional symbols, and then to decode such symbols.

The significance — the meaning — of images rests on their surfaces. It may be seized at a glance. However, in this case the meaning seized will be superficial. If we want to give meaning any depth, we have to permit our glance to travel over the surface, and thus to reconstruct abstracted dimensions. This traveling of the eyes over the surface of an image is "scanning." The path followed by our scanning eyes is complex, because it is formed both by the image structure and by the intentions we have in observing the image. The meaning of the image as it is disclosed by scanning, then, is the synthesis of two intentions: the one manifest in the image itself, the other in the observer. Thus, images are not "denoting" symbol-complexes such as numbers, for instance, but "connoting" symbol-complexes: images offer room for interpretation.

As the scanning glance travels over the image surface, it grasps one image element after another: it establishes a time-relation between them. It may return to an element already seen, and thus it transforms "before" into "after." This time dimension, as it is reconstructed through scanning, is thus one of eternal return. The glance may return over and over again to the same image element, establishing that element as a center of the meaning of the image. Scanning establishes 'meaningful relationships between elements in the image. Space dimensions, as reconstructed through scanning, are those meaningful relationships, those complexes within which one element gives meaning to all the others, and receives its own meaning from all the others in re-turn.

Such space-time as reconstructed from images is proper to magic, where everything repeats itself and where everything partakes of meaningful context. The world of magic is structurally different from the world of historical linearity, where nothing ever repeats itself, where-everything is an effect of causes and will become a cause of further effects. For example, in the/historical world, sunrise is the cause of the; cock's crowing; in the 'magical world, sunrise means crowing 'and'1 crowing means sunrise. Images have magical meaning.

If images are to be deciphered, their magical character must be taken into account. It is a mistake to decipher images as if they were "frozen events." On the contrary, they are translations of events into; situations; they substitute scenes for events. Their magical power is due to their surface structure, and their inherent dialectics, their inner contradictions, must be appreciated in light of this magic they have.

Images are mediations between man and world. 'Man "ek-sists," which means that he has no immediate access to the world. Images are meant to render the world accessible and imaginable to man. But, even as they do so, they interpose themselves between man and the world. They are meant to be maps, and they become screens/ Instead of pre-senting the world to man, they re-present it, put themselves in place of the world, to the extent that man lives as a function of the images he has produced. He no longer decipheres them, but projects them back into the world "out there" without having deciphered them. The world becomes image-like, a context of scenes and situations. This re-versal of the function of images may be called "idolatry," and we can currently see how this comes about: omnipresent technical images have begun magically to restructure "reality" into an image-like scenario. What is involved here is a kind of oblivion. Man forgets that he produces images in order to find his way in the world; he now tries to find his way in images. He no longer decipheres his own images, but lives in their function. Imagination has become hallucination.

The present is not the first time that this inner dialectics of image mediation has taken on critical dimensions. In the course of the second millennium, B.C., man became equally alienated from his images. Some men then tried to recall the original intention behind images. They attempted to destroy the screen in order to open the way to the world again. Their method was to tear the image elements out from the surface and to align them. They invented linear writing. In doing so, they transcoded the circular time of magic into the linear time of history. They created "historical consciousness" and history in the proper meaning of the term. Ever since, historical consciousness has been committed to a struggle against magical consciousness, and we may

observe this commitment against images in the Jewish prophets and some Greek philosophers, more especially in Plato.

This struggle of writing against images, of historical consciousness against magic, marks all of history. When writing was invented, a new capacity came into being: "conceptualization." This is the capacity to abstract lines from surfaces, to produce and to decipher texts. Conceptual thinking is more abstract than image-thinking, because (he former abstracts all the dimensions from phenomena except the linear. Inventing writing, then, man took a further step away from the world. Texts do not mean the world, but the images which they tear up. To decipher texts is to find out what images they refer to. The purpose of texts is to explain images, to transcode image elements and ideas into concepts. Texts are meta-codes of images.

The struggle between texts and images poses the question of the relationship between text and image. It is the central question of history. In the Middle Ages, the question took the form of the struggle between Christian fidelity to texts against the idolatry of the heathens. In modernity, the question takes the form of the struggle between textual science and imaginary ideologies. It is a dialectical struggle. As Christianity fights paganism, it absorbs images and itself grows pagan. As science fights ideologies, it absorbs images and itself grows ideological. The explanation for this dialectic is this: although texts explain images in order to explain them away, images in their turn illustrate texts in order to render their meaning imaginable. Although conceptual thinking analyses magical thinking in order to do away with it, magical thinking infiltrates conceptual thinking in order to imagine its concepts. In the course of this dialectical process, conceptual and magical thinking mutually reinforce themselves: texts become more imaginative, and images become more conceptual. The process proceeds until the point is reached where the highest degree of imagination may be found in scientific texts, and the highest degree of conceptualization may be found in images of the kind produced by computers. The original code hierarchy is thus overthrown as if from behind, and texts — which originally were meta-codes for images— may have images for their meta-codes.

However, there is more to this dialectic. Writing, like images, is a mediation, and is thus subject to the same inner dialectic. Writing does not only contradict images, but is itself torn by an inner contradiction. The purpose of writing is to mediate between man and his images, to explain them. In doing so, texts interpose themselves between man and image: they hide the world from man instead of making it transparent for him. When this occurs, man can no longer decipher his texts nor reconstruct the ideas they mean. Texts grow unimaginable, and man lives as a function of his texts. A "textolatry" occurs, which is just as "hallucinatory as idolatry. An example of textolatry is orthodox Christianity and Marxism: texts projected, undeciphered, into the world "out there," man experiencing, knowing, and evaluating the world as a function of his texts. An impressive example of the unimaginability of texts is furnished by scientific discourse: the scientific universe (the sum of the meaning of scientific texts) is not even supposed to be imagined. When we imagine something in the scientific universe, we are victims of improper decoding: he who wishes to imagine the meaning of the equations of relativity theory does not know at all what they are about. Since in the last analysis all concepts mean ideas (however logical analysis may define "idea"), the universe of science is an "empty" one.

Textolatry reached a critical stage in the 19th century. In the strictest sense, this was the end of history. History, in this strict sense, is the progressive transcoding of images into concepts, progressive explanation of Images, progressive demagicification, progressive conceptualization. Where texts are no longer imaginable, there is nothing more to explain, and history ceases.

It was precisely at this critical stage, in the 19th century, that technical images were invented: in order to render texts imaginable again, to charge them with magic, and thus, to overcome the crisis of history.

II The Technical Image

The technical image is one produced by an apparatus. Apparatus, in turn, are products of applied scientific texts, making technical images indirect products of scientific texts. The historical and ontological position of technical images is different from the one occupied by traditional images — precisely because they are the indirect results of applied scientific texts. Historically, traditional images were anterior to texts for tens of thousands of years, and technical images succeed to advanced texts. Ontologically, traditional images are first-degree abstractions, since they were abstracted from the concrete world. Technical images, for their part, are third-degree abstractions; they are abstracted from texts, which in turn are abstracted from images which were themselves abstracted from the concrete world. Again historically, traditional images may be called "pre-historical," while technical images may be called "post-historical," in the sense suggested previously. Ontologically, traditional images mean phenomena, while technical images mean concepts. Deciphering technical images implies a reading of their position.

It is, however, difficult to decipher technical images, because they are apparently in no need of being deciphered. Their meaning seems to impress itself automatically on their surfaces, as in fingerprints where the meaning (the finger) is the cause and the image (the print) is the effect. It seems as if the world signified in technical images is their cause, and as if they themselves were the last link in a causal chain connecting them without interruption to their meaning: the world reflects sunlight and other forms of light which are then captured on sensitive surfaces — thanks to optical, chemical and mechanical processes — and the result is a technical image. It thus seems as if they exist on the same level of reality as their meaning. It seems that what one is seeing while looking at technical images are not symbols in need of deciphering, but symptoms of the world they mean, and that we can see this meaning through them, however indirectly.

This apparent non-symbolic, "objective" character of technical images has the observer looking at them as if they were not really images, but a kind of window on the world. He trusts them as he trusts his own eyes. If he criticizes them at all, he does so not as a critique of image, but as a critique of vision; his critique is not concerned with their production, but with the world "as seen through" them. Such a lack of critical attitude towards technical images is dangerous in a situation where these images are about to displace texts.

The uncritical attitude is dangerous because the "objectivity" of the technical image is a delusion. They are, in truth, images, and as such, they are symbolical. In fact, they are even more an abstracted, symbolical complex than traditional images. They are meta-codes of texts, and — as will be shown later in this essay - they mean texts and only very indirectly do they mean the world, "out there." Technical images owe their origins to a new type of imagination, the capacity to transcode concepts from texts into images. What we see when we look at technical images are newly transcoded concepts concerning the world "out there."

With traditional images, we recognize easily that we are dealing with symbols. A painter, for example, is interposed between them and their meaning. This painter has elaborated the image symbols "in his head," and he has transferred those symbols through means of a brush applying paint to a surface. If we wish to decipher such images, we must decode the coding process which has occurred "in the head" of the painter. With technical images, however the matter is not that simple. It is true that, here also, a factor is interposed between the im-age and its meaning, in this case a camera and the man using it. How-ever, this factor, this "apparatus-operator, does not seem to interrupt the chain between the image and its meaning. The operative word is "seem." On the contrary, the meaning seems to flow into the factor from one side (the input) and out again from the other side (the output). What occurs during this passage through that factor remains hid-den. The factor is the black box. In fact, the coding process of technical images occurs inside this black box, and every critique of technical images must concentrate on the "whitening", of the interior of that black box. As long as criticism fails to do this, we shall remain illiter-ate as regards technical images.

Despite this, we can make certain comments about technical im-ages even now. For example, that technical images are images and not windows, i.e., that they translate everything into a situation, and that they — as all images — emanate magic, seducing their observers to project this undeciphered magic onto the world "out there." This magical fascination proper to technical images is visible everywhere: how they charge life with magic, how we experience, know and evalu-ate everything as a function of them, and how we act as their function. It is, thus, extremely important to ask what sort of magic is involved here.

Obviously, it is not the same kind of magic as that emanating from traditional images: the fascination which emanates from a tele-vision or cinema screen is not the same fascination we experience in looking at cave paintings or at the frescoes in Etruscan graves. Televi-sion and the cinema exist on a different level of reality than caves or Etruscan graves. The older magic is pre-historical and antedates historical consciousness; the newer magic is post-historical and suc-ceeds historical consciousness. The old witchcraft aims at changing the world out there; the new aims at changing our concepts concerning the world out there. We are dealing, then, with a magic of the second de-gree, with an abstract sort of witchcraft.

The difference between the old and the new form of witchcraft may be so formulated: Pre-historical magic is a ritualization of models called "myths," and the current magic is a ritualization of models called "programs." Myths are models transmitted orally by an author who is "god," that is, someone who stands outside the communicative process. Programs are models transmitted in writing by authors who are

"functionnaires," that is, people who stand within the communicative process. (The terms "program" and "functionnaire" will be dealt with later in more detail.)

The function of technical images is to emancipate their receivers from the need to think conceptually, by substituting an imagination of the second degree for conceptualization. This is what is meant by my saying that technical images are about to substitute themselves for texts in our world.

Linear texts were invented in the second millennium, B.C., in order to "demagicize" images, although the inventors of texts may not have been conscious of this purpose. Photography, the first of all technical image processes, was invented in the 19th century to re-charge texts with magic, although its inventors may also have been unconscious of this purpose. The invention of photography is just as decisive a historical turning point as was the invention of linear writing. With writing, history as such begins as the struggle against idolatry. With photography, "post-history" begins as a struggle against textolatry.

The situation in the 19th century was that, essentially because of the invention of the printing press and the movement towards compulsory public education, everyone came to know how to write; a generalized historical consciousness resulted, one which even penetrated those social strata which had lived "magically" up to then, the peasantry; the peasantry began then to live historically, and became the proletariat. This was possible largely due to cheap texts: books, newspapers, leaflets and so on. Every sort of text was cheap, and produced a cheap historical consciousness, along with an equally cheap conceptual thinking. This led to two diverging developments: On the one hand, traditional images began to take refuge from the textual deluge, moving into ghettos like museums, salons and galleries; they grew hermetic (i.e., undecipherable for the general public), and lost their influence on daily life. On the other hand, hermetic texts came about, to which cheap conceptual thinking was not competent; these hermetic texts addressed themselves to an elite of specialists (such as scientific literature, for example). Civilization split three ways: one for the "fine arts," nourished by traditional images enriched by concepts; one for science and technology, nourished by hermetic texts; and one for the masses, nourished by cheap texts. Technical images were invented in order to prevent civilization from falling apart at the seams, and their purpose was to be a general code valid for society as a whole.

Technical images were meant, first, to re-introduce images into daily life; second, to render hermetic texts imaginable; and third, to render visible the subliminal magic inherent in cheap texts. Technical images were meant to constitute a common denominator for the arts, science and politics¹ in the sense of generally accepted values. They were meant simultaneously to be "beautiful," "true," and "good," to be generally valid as a code capable of overcoming the crisis of civilization, of art, of science, of politics.

In fact, however, technical images do not function in that way. They do not re-introduce traditional images into daily life; they substitute traditional images with reproductions, i.e., they put themselves in the place of traditional images. Neither do they render hermetic texts imaginable; they falsify them by translating scientific propositions and equations into situations — that is, precisely into images. And they

do not render visible the subliminal magic inherent in cheap texts; they substitute this magic with a new form of magic —namely, a programmed one. In this way do technical images fail to constitute a common denominator capable of re-uniting civilization, as they were meant to do; on the contrary, they grind that civilization into an amorphous mass, and they result in mass civilization.

The reason that technical images function this way is that they work like dams; they are surfaces which arrest flux. The traditional images that flow into technical images become eternally reproducible there (for example, in the form of art posters). The scientific texts that flow into them become transcoded there and acquire a magical character (for example, the form of models which attempt to make Einsteinian equations imaginable). And the cheap texts, this deluge of news-paper articles, leaflets, cheap novels and so on, that flow into technical images find their inherent magic and ideology transcoded into a programmed magic that is really proper to technical images themselves (as for instance with photo-novels), Technical images thus suck all of history into their surfaces, and they come to constitute an eternally rotating memory of society.

Nothing can withstand the centripetal attraction of technical images: no artistic, scientific or political act that does not aim at a technical image, no daily common action that does not wish to be photographed or filmed or videotaped. Everything desires to flow into this eternal memory, and to become eternally reproducible there. Every event aims at reaching the television or cinema screen or at becoming a photograph. Or, if the event does not openly admit its availability, it at least glances surreptitiously in that direction. The result is that every event or action loses its proper historical character, tending to become a magic ritual, an eternally repeated motion. The universe of technical images, as it is about to establish itself around us, poses itself as the plenitude of our times, in which all actions and passions turn in eternal repetition. It is from this apocalyptic perspective that the problem of photography will acquire the shape proper to it.

III The Apparatus

Technical images are produced by apparatus. It may be supposed that the characteristics of apparatus in general are also those of the photographic camera specifically, and that the character of apparatus can be discovered through an analysis of the simple camera, as if in an embryonic state. In this sense, the camera constitutes a prototype for all the immense apparatus which threaten to become monolithic (such as the administrative apparatus) as well as those microscopic apparatus which threaten to slip from our grasp (such as the chips in electronic apparatus) — and which determine the present and immediate future to such a high degree. Analyzing the camera helps to understand apparatus. In general, in other words. This analysis is impossible without a general consensus as to the meaning of "apparatus" — a consensus which does not at present obtain.

The Latinate term "apparatus" stems from the verb "apparare," which is "to prepare." Latin also contains the verb "praeparare," however; the difference is one of prefixes: "ad" and, "prae." The most available translation for "apparare" in English would be "to

make ready." In this sense, an apparatus would be an object which makes itself ready for something, while a "preparation" would be an object which patiently waits for something. The camera makes itself ready to take pictures, tries to ambush them, is on the lurk for them. This lying-in-wait for something, this predatory character of the apparatus, must be understood in our attempt to define "apparatus" etymologically.

Of course, etymology by itself is insufficient for a definition. We must also consider the ontological position of the apparatus, their level of reality and existence. No doubt apparatus are "produced" objects, that is, object "conducted" out of nature towards where we are. The totality of this type of object may be called "culture," Apparatus are part of culture, and we recognize culture when viewing them. Granted, "apparatus" is sometimes applied to natural phenomena, such as in "the digestive apparatus of animals," but this is a metaphorical use of the word. In that sense, if there were no apparatus in our culture, we would not use the term for animal organs. "Apparatus" means, then, a cultural object.

We can roughly distinguish between two types of cultural objects. The one is good for consumption ("consumer goods"), the other is good for production of such goods ("tools"). Both types of objects are "good," because they are as they were meant to be, they are "valuable." This is, of course, the precise difference between the sciences of nature and the sciences of culture: the sciences of culture search for the human intentions hidden in the objects. The sciences of culture ask not only "why?" as do the natural sciences, but also "what for?" And according to this criterium, the camera is a tool which hides the intention to produce photographs. However, as soon as we attempt to define "apparatus" as a kind of tool, doubts arise. Is it true that a photograph is a consumer good of the same order as "shoe" or "apple," and is it true that the camera is a tool of the same order as "needle" and "scissors"?

Tools as such are objects which remove other objects from nature to put them where we are — in order to produce them. In doing so, they change the original form of those objects, impose a new form on them; in other words, tools inform objects. The removed objects thus acquire an anti-natural, improbable form, and they become cultural objects. This productive and informative action is called "to work," and its result is called "a work." Some works, such as apples, for example, have been produced without having been very much informed. Other works, such as shoes, for example, have been highly informed in the course of their production: their form is highly improbable to animal skins (leather). So, scissors which remove apples from trees are tools which inform very little, because apples on a plate look very much like apples on a tree; on the other hand, needles which remove leather shoes from animal skins are tools which inform very much. Is it thus true that the photographic camera is a kind of needle simply because photographs carry very much information?

Tools as such are extensions of human organs: extended teeth, •fingers, hands, arms, legs, and so on. They reach farther into nature, and they pluck objects from nature more efficiently and more quickly than the unassisted human body. Further, tools simulate the organ they extend: the arrow simulates the finger, the hammer simulates the fist, the hoe the toe, and so on. Tools are thus "empirical simulations." With the Industrial Revolution, tools began to have re-course to scientific theories in

their simulations: they became "technical." They became even more efficient, but also larger and more expensive, and the works they produced became cheaper and more numerous. Those tools are now called "machines." Is it thus true that the photographic camera is a machine because it simulates the eye and flakes recourse to a theory of optics?

When tools as such became machines, their relationship with man inverted itself. Prior to the Industrial Revolution, man was surrounded by tools; after the Industrial Revolution, it was the machine that was surrounded by men. This is the precise meaning of "revolution." Prior to the Industrial Revolution, man was the constant in the relationship, and tools were the variables; afterwards, machines were the constant, and men were the variables. Previously, the tools worked as a function of men; afterwards, men worked as a function of the machines. Is this also true for the camera?

The size and cost of machines grew enormously during the Industrial Revolution, so that only a few people could own them. Society came to be divided into two classes: "capitalists," in whose profit the machines functioned, and "proletarians," who worked as functions of the machines for the profit of "capitalists." Is this also true of the camera? Are there such things as "photo-proletarians" and "photo-capitalists"?

All these questions are "good" ones, however little they seem to touch on what is essential in apparatus. To be sure: apparatus do inform, they do simulate human organs, not the eyes as I shall show later, they do have recourse to science, people do act as a function of them, and there are indeed intentions and interests hidden within apparatus. However, this is not what is essential to apparatus. "Automation" is the essential; All these "good" questions miss the point, because they stem from an industrial context. Apparatus are indeed a result of industry, but they point towards a post-industrial complex. This is why an industrial analysis (such as a Marxist one) is no longer valid where apparatus are concerned. We must look for new categories if we are to grasp "apparatus" and define it.

The category basic to industrial society is work: tools as such, including machines, work: they remove objects from nature and inform them: they change the world. But apparatus do not work in this sense. Apparatus are not meant to change the world, but to change the meaning of the world. Their intention is symbolic. The photographer does not work in the industrial sense of that word, and there is little sense in wanting to call the photographer a worker. In point of fact, a majority of people is occupied with some sort of apparatus in the present, and there is little sense in wanting to call that majority a "proletariat" at this time. We must re-evaluate the categories of our critique of culture. Although the photographer does not work (in the sense we use the word here), he is doing something: he produces, processes and stocks symbols. There have always been people doing something similar to that: writers, painters, composers, accountants, administrators and so on. In the process, these people produced objects: texts, paintings, musical scores, budgets, projects. These objects, however, were not consumed, as such; they were used as supports for information: they were read, looked at, listened to or played, taken into account, considered, decided upon. They were not ends in themselves, but means — they were media. This sort of activity is being taken over by apparatus in general at present. It is apparatus which produce most of the information-supports at present;

they do it more efficiently and with wider scope, and they are thus able to program and control work, as such. And, the majority of people is currently occupied in servicing the programming and controlling activity of the apparatus. Prior to the invention of apparatus, this kind of activity was somehow peripheral, and used to be called "services," "mental," "the tertiary sector," and so on. It has now become central, which is why any future critique of culture must substitute the category "work" with the category "information."

Considering the camera (or any apparatus, for that matter) from such an angle, we can see that it is meant to produce symbols. It produces symbolical surfaces according to some prescription contained within it. The camera has been programmed to produce photographs, and every photograph is the realization of one of the virtualities contained in that program. The sum of those virtualities is large, but not infinite. It is the sum of all those photographs, which may be taken by this camera. Granted, a camera may take, almost infinitely, the same or similar photographs, again and again and again — but this is not very interesting. Such photographs are "redundant": they carry no new information; they are superfluous. For our purposes, we can for-get such redundant photographs, restricting ourselves to informative photographs alone; thus, the majority of "snapshots" as such are here eliminated from consideration.

With every informative photograph, the camera program loses one of its virtualities, and the camera universe is enriched by one realization. The photographer is committed to the exhaustion of the photo-program, and to the realization of all the virtualities contained there. The program, however, is rich and nearly impenetrable. The photographer is committed, then, to discovering hidden virtualities in the program. He handles the camera, turns it around, looks into it and through it. If he looks through the camera into the world, he does so not because he is interested in the world, but because he is in search of the yet undiscovered virtualities in the camera program enabling him to produce new information. His interest is concentrated on the cam-era, and the world "put there" is a pretext for his realization of the virtualities contained in the program. In sum: he does not work, he does not aim at changing the world: he looks for information to be realized in a photograph.

Such an activity is not dissimilar to playing chess. The chess player is also in search of new, virtualities within the chess program: he looks for new moves, and new results. A chess player plays with chess figures; a photographer plays with the camera. 'The camera is not a tool, but a toy, and the photographer is not a worker as such, but a player: not "homo faber," but "homo ludens." Except: the photographer does not play with, but against, his toy. He crawls into the cam-era in order to discover the tricks hidden there. The pre-industrial craftsman was surrounded by tools, and the industrial machine was surrounded by workers, but the photographer is within the camera, intricated in it. This is a new kind of relationship, where man is neither the constant nor the variable, but one where man and apparatus form a single function-unit. This is why the photographer should be called the "fonctionnaire" of an apparatus.

The camera program has to be rich if the game is not to be over too quickly. The virtualities contained within the apparatus/game must be greater than the capacity of the fonctionnaire to realize them. The competence of the apparatus, in other words,

must be greater than the competence of its fonctionnaires. The camera must be able to make a quantity of photographs which no photographer can ever hope to take. A well-programmed camera can never be wholly seen through by any photographer, nor by all photographers together. It is, in the largest sense, a black box.

It is precisely the blackness of the box that challenges the photographer. It is true that he loses himself within it, but he can dominate it nonetheless. He knows how to feed the box (he knows its input), and how to make it spout photographs (he knows its output). The camera does what the photographer wants it to do, although the photographer does not know what goes on in the interior of the black box. This is the central characteristic of apparatus. The fonctionnaire dominates the apparatus through controlling its exterior (input and output), and is in turn dominated by the opacity of its interior. In other words, fonctionnaires are people who dominate a game for which they cannot be competent. Kafka.

The attempt here is to show that apparatus programs consist of symbols. To function, then, means to play with symbols, to combine them. An anachronistic example may be illustrative: A writer may be considered a fonctionnaire of the apparatus called "language," because he plays with the symbols contained in its program — words — by combining them this way and that. His purpose is to exhaust the language program and to enrich the language universe, which is literature. The example is "anachronistic" because language is not a true apparatus. It does not simulate any organ, and is not produced with the help of any scientific theory. Even so, language may be handled like an apparatus at present: word processors may do so, thus replacing writers. When playing with words, the writer impresses pieces of paper, impressing forms — letters — on them. Word processors do the same, but they may do it "automatically," by pure chance. If they do so long enough, they will produce the same information as is produced by writers.

There are apparatus which are able to play games which are quite different than those played by writers and word processors. Those two inform in a static manner: the symbols they impress on pieces of paper mean conventionalized sounds. The other type of apparatus informs in a dynamic way: the symbols they impress on objects mean specific motions (for example, the motions specific to working), and the objects thus informed can decipher those symbols and act according to program. Those objects, called "intelligent tools" substitute themselves for human work; they emancipate man from the need to work and liberate him for playing.

The photographic camera illustrates this robotization of work, as well as the liberation of man for playing. The camera is an intelligent tool because it automatically produces pictures. The photographer no longer needs the concentration on the brush, as the painter, but can dedicate himself to the game of the camera. The work to be done, the impression of the image on a surface occurs automatically: the tool-like aspect of the camera is "overcome," and man deals only with the toy-like aspect of the apparatus.

There are, then, two interwoven programs within the camera: the one moves the camera to produce images automatically, and the other permits the photographer to play. Other programs, however, are hidden beneath those two: the one composed by the photographic industry (which has programmed the camera), another composed

by the industrial complex (which has programmed 'the photographic industry), another composed by the socio-economic complex) and so on. Evidently, there can be no such thing as an "ultimate" program for an "ultimate" apparatus, because each program must have a meta-program above it. The hierarchy of programs is open towards the top.

Every program functions for the sake of a higher meta-program, and the programmers of a particular, program are' fonctionnaires of that meta-program. It follows, then, that there can also be no such thing as an "owner of an apparatus," in the sense of one who programs the apparatus for his own, private purposes. Apparatus are not machines. The camera functions for the sake of the photographic industry, which functions for the sake of the industrial complex, which in turn functions for the sake of the socio-economic complex, and so on and so forth. To ask who "owns" an apparatus is to ask the wrong question. The proper question is not who owns a program, but who programs it and who exhausts the program of an apparatus. There is, however, an even more obvious reason why the question of apparatus ownership is false.

Granted, apparatus, in most cases, are hard objects, which may be owned as one owns hard objects in the normal sense. The camera is made of material, of metal, glass, plastics, etc. It is not this physical hardness, which makes it into a toy — just as it is not the wood of the chessmen and board, which makes chess a game. It is the rules, the program, which make it a game. What one pays for when buying a camera is not so much the physical material of which it is made, but the program, which allows it to produce photographs. We observe easily how apparatus hardware grows ever cheaper, while software grows ever more expensive. As for the softest of all apparatus, the political apparatus, for example, we easily observe the characteristic of all post-industrial society: it is not he who owns the hard objects, but he who controls the software, who in the end holds the value. It is the soft symbol, not the hard object, which contains value: the "transvaluation of all values."

Power has shifted from the owners of the objects to the programmers and operators. Playing with symbols has become the power-game, and it is an hierarchical game. The photographer holds power over those who look at his photographs: he programs their behavior. The apparatus holds power over the photographer: it programs his gestures. This shift of power from the object to the symbol is the true mark of the "information society" and of an "information imperial-ism." Japan may serve as an example: the country does not possess great resources of raw materials or of energy; its power is based on programming, data processing, information, symbols.

These reflections permit an attempt to define "apparatus": it is a complex toy, indeed, so complex that those who play with it cannot see through it. Its game consists of combining the symbols in its program. This particular program has been fed into it by a meta-program. Its game results in further programs. Fully automatic apparatus require no human intervention for them to play-function. Most apparatus are still in need of men, as fonctionnaires and as players. Apparatus have been invented to simulate the process of the brain (and later we shall see that the inventors of this apparatus used a Cartesian model of thinking). Various scientific theories have been applied to apparatus production. In sum: apparatus are black boxes which simulate

human thought in as much as it is a game which combines symbols; apparatus are scientific black boxes which play at thinking.

The camera is a relatively simple and transparent apparatus, and the photographer is a relatively simple fonctionnaire. Nonetheless, all post-industrial characteristics are involved here "in nuce." Thus a consideration of the gesture of photographing, this motion of the complex "apparatus/photographer" is a good starting point for a more general consideration of post-industrial existence.

IV The Gesture of Photographing

Viewing the motion of a man with his camera (or a camera with its man), we are looking at the movements of hunting. It is the ancient gesture of the paleolithic hunter in the tundra. The difference is that the photographer does not pursue his game in the open grasslands, but in the dense forest of cultural objects, and that the various paths of his hunt are shaped by this artificial taiga of his. The obstacles of culture, the "cultural condition," informs the photographic gesture, and — as a thesis — it should be possible to decipher this from the photographs themselves.

The photographic forest consists of cultural objects, that is, objects put there intentionally. Each one of these objects stands between the photographer and his game, preventing him from seeing it. The tortuous path of the photographic hunt is around these various cultural intentions; the photographer's aim is to emancipate himself from his cultural condition, and to snap his game "unconditionally." This is the reason that photographic paths have different shapes in the artificial taiga of Western civilization from the shapes in Japan or in an "under-developed" country. These cultural conditions must then be visible in every photograph, in the form of circumvented obstacles, as if "negatively." And, photography criticism should be able to de-cipher the cultural conditions within every photograph, not only in so-called "documentary" or "reportage" photography, where the cultural conditions are the game itself, but in every photograph. The structure of the cultural condition is not contained within the photographer's object, but in his very gesture.

This deciphering of the photographer's cultural condition based on the photograph itself, however, is a nearly impossible task: what appears in the photograph are the categories of the camera, and these categories have covered the cultural conditions like a net, permitting us to see only what passes through their meshes. This is, really, a characteristic of every post-industrial function: the categories of the apparatus impose themselves on the cultural conditions, filtering them in the process. The various cultural conditions (loosely, "occidental," "Japan," "under-developed country," as examples) thus recede into the background. The consequence is a uniform mass culture of the apparatus. Everywhere, in the West, in Japan, in under-developed countries, everything is being "taken" through the same categories, the same mesh, and Kant becomes unavoidable.

As long as the camera is not fully automated, its categories are inscribed on its exterior and may be manipulated there. These are the categories of photographic space-time. They are neither Newtonian nor Einsteinian, and they divide space-time into various distinct regions. All these regions are assemblies of points of view with

regard to the game to be snapped, and thus the "photographic object" occupies the center of photographic space-time. For example, there are space-regions for very close, for close, for medium and for very long views; there are space regions for bird's-eye views, for fish-eye views, for children's perspective; there are space regions for direct view with eyes archaically open, and for lateral, ironic glances. Or, there are time regions for lightning-like glances, furtive looks, calm, contemplative views, for brooding meditations. These form the structure of the space-time within which the photographic gesture occurs.

While hunting, the photographer moves from one space-time category to another, and he combines the various space-and-time categories while on the move. His hunt is a game of combining the space-time categories of the camera, and what we see when we look; at a photograph is precisely the structure of that game, not the structure of the photographer's cultural condition — at least, not immediately.

The photographer chooses specific combinations of camera categories; for example, he manipulates so that he may snap his game like a lightning flash coming from below. It appears as if the photographer were free to choose, and as if the camera did precisely what the photographer wanted it to do. In fact, however, the photographer's choice is restricted to the camera categories, and his is a programmed freedom. The camera functions according to the photographer's intentions, but this intention itself functions according to the camera program. Obviously, the photographer may invent new camera categories, ones which are not programmed. If he does so, he extracts him-self from the photographic gesture as such, placing himself in the meta-program of the photographic industry, or in a "do-it-yourself" camera construction, which means, of course, that he places himself at the point where cameras are programmed. In other words, within the photographic gesture, the camera does what the photographer wants it to do, and the photographer docs what the camera is programmed to do.

The same involution of the photographer's and the camera's functions may be observed within the choice of the photographic "object." The photographer is free to snap anything: a face, a flea, the trace of an atomic particle in a Wilson chamber, a galaxy, his own photographic gesture in a mirror, and so on and so forth. In fact, however, he can only snap that which is apt to be photographed, i.e., any-thing which is inscribed within the camera program, That which is "apt photographed," inscribed in the program, are exclusively situations. Whatever the photographer snaps, he must translate it into a situation. His choice of an "object" is free, as long as the object is in accordance with the camera program.

When selecting his categories, the photographer may well believe that he is applying his own esthetic, epistemological or socio-political criteria. He may well believe that he will produce artistic, scientific or politically-committed images, and that the camera is little more than a tool in this effort. However, his apparently extra-apparatus criteria are in fact inscribed within the camera program in an approximate way. In order to be able to select the camera categories as they are inscribed in the camera itself, the photographer must "regulate" the camera. This is essentially a "technical" and, "conceptual" gesture (a concept being a clear and distinct element of linear thinking). In order to regulate the camera for artistic, scientific or politically-committed images, the photographer must be able to conceive what he means by "art," "science," and

"politics." Then, of course he must translate those concepts into the camera program. There can be no such thing as a naive, unconceived act of photographing. A photograph is an image of concepts. In this way, all the photographer's apparently extra-apparatus criteria are in fact a pan of the virtualities combined in the camera program.

The camera imagination is much larger than any single photographer's imagination, or indeed than the imagination of all photographers in the world. This is the precise challenge of photography. Obviously, there are regions within the camera imagination which have already been sufficiently scrutinized. To photograph within those regions is to make pictures which have already been seen; they are "redundant," not "informative" pictures.

As mentioned earlier, such pictures are eliminated from the arguments here; to "photograph" in the sense meant here is to search for undiscovered possibilities within the camera program — in other words, to search for images as yet unseen, for informative, improbable images.

Basically, the photographer — in the strictest sense meant here — tries to establish situations such as have never existed before. He does not look for these situations in the world "out there": that world is nothing but a pretext for the establishment of the improbable situations as meant here. The photographer looks for them not "out there," but within the virtualities contained in the camera program. In this sense, the traditional distinction between realism and Idealism is overcome by photography: it is not the world "out there" which is "real," nor is it the concepts "in here" within the apparatus program; what is "real" is the image as it comes about. The world and the apparatus program are but premises for the realization of photographs; they are virtualities to be realized in the photograph. What we have, then, is an inversion of the vector of significance: "real" is not what is signified, but what is significant, the information, the symbol. This inversion of the vector of significance characterizes everything that has to do with apparatus, and thus, with the post-industrial in general. The gesture of photographing is composed of a sequence of jumps by which the photographer negotiates the diverse invisible barriers which separate the various regions of photographic space-time. When the photographer comes up against one of those barriers (for example, the limits between close and total vision), he hesitates to decide how to regulate his camera. (If the camera is fully automated, this jumping, quantized character of photographing becomes invisible, and the leaps then occur within the micro-electronic "nervous-system" of the camera itself.) This sort of leaping search is called "doubt." The photographer doubts, but he does not doubt in the scientific, religious or existential manner. It is, rather, a new manner of doubt, in which hesitation and decision are chopped into grains of doubt; the photographer's is quantized, atomized doubt.

When the photographer encounters one of the barriers, he discovers that he is standing at a particular point of view regarding his "object," and that the camera permits him to choose from innumerable and different points of view from that which he occupies. He discovers the multiplicity and the equivalence of points of view with regard to his "object." And he discovers that importance does not rest in the preference of one point of view over another, but in the realization of as many points

of view as possible. His choice will not be qualitative, but quantitative: "vivre le plus, non pas le mieux."

The photographic gesture is thus one of "phenomenological doubt," inasmuch as it attempts to approach the phenomenon from as many points of view as possible — except that the "mathesis" (the deeper structure) of such a doubt is prescribed by the camera program. There are two decisive elements to such doubt: First, the practice of photographing is anti-ideological. Ideology is the assumption of a single point of view as preferential to all others. The photographer acts in a post-ideological way, even if some photographers believe that they are committed to a particular ideology. Second, the practice of photography is bound to a program. The photographer can only act within a program. This obtains for every kind of post-industrial act. It is both "phenomenological," in the sense of its being anti-ideological, and it is a programmed action. This is the reason why it is a mistake to speak of an "ideologization through mass culture," for example, ideologization through mass photography.

In the end, of course, the photographic gesture requires a final decision: the photographer pushes the button — as in the end the American president will push the button. In fact, this final decision is nothing but the last in a series of grain-of-sand-like partial decisions: it is a quantum decision. In the case of the American president, it is the last straw that breaks the camel's back. And, since no decision is truly "decisive," but only part of a series of clear and distinct partial decisions, no single photograph, but only a series of photographs, can show the photographer's intentions. No single photograph is really "decisive," because even the "ultimate" decision, in photography, is reduced to the sand-granular.

The photographer may attempt to escape this grinding process by choosing some of the photographs from a series by use of a gesture similar to the cutting of a film by a movie editor. Even then, his gesture will be quantized: he cannot but choose some clear and distinct surfaces from the series. Even in this apparently post-apparatus gesture of choosing single photographs, the quantized, atomized nature of everything that has to do with apparatus is evident.

In sum: The gesture of photographing is one of hunting, where the photographer and the camera unite to become a single, indivisible function. The gesture seeks new situations, never before seen; it seeks what is improbable; it seeks information. The structure of the gesture is quantal: it is one of doubt composed of point-like hesitations and point-like decisions. It is a typically post-industrial gesture: it is post-ideological and programmed, and it takes information to be "real" in itself, and not the meaning of that information. This obtains not only for the photographic gesture, but also for every gesture of every fonctionnaire, be he bank clerk or president.

The result of the photographic gesture is photographs such as surround us on all sides. A consideration of the photographic gesture thus serves as an introduction to those omnipresent surfaces.

V Photography

Photographs are omnipresent: in albums, magazines, books, shop windows, posters, on cans, paper wrappings, boxes and postcards. What does this mean? According to what has been said here thus far, all these images mean concepts contained in some program, and, they are meant to program a magical behavior of society. This is of course not what these photographs mean to a naive observer, He takes them to mean situations, which have impressed themselves automatically on surfaces, situations coming somehow from the world "out there." When pushed, this naive observer will have to admit that those situations have impressed themselves on surfaces from specific angles of view; he will not, however, consider this to be a problem. Any "philosophy of photography" will then be taken by him to be idle mental gymnastics.

Our naive observer will tacitly assume that he can see the world through photographs, which implies that the world of photographs is congruent with the world "out there." This is, of course, a rudimentary philosophy of photography in itself. But can it be maintained? The naive observer sees color and black/white situations in the photographic universe, but are there corresponding color and black/white situations "out there"? And if not, how is the photographic universe related to the world? With this kind of question, our naive observer finds himself confronted with the very philosophy of photography he at-tempts to avoid.

Black/white situations cannot be found in the world "out there" because black-and-white are limits, are "ideal situations." Black is the absence of light; white is the total presence of light. Black and white are "concepts," for instance of optical theories. Since black and white situations are theoretical, "they cannot be found in the manifest world. Black/white photographs, on the other hand, are found nearly everywhere: they are images of concepts contained in a theory of optics, and they owe their origin to such a theory.

Black-and-white does not exist in the world "out there," which is a pity. If they existed, the world could be analysed logically. If we could see the world in blacks and whites, then everything in it would be either black, or white, or a mixture of the two. The drawback, obviously, is that such a world would not result in color, but in gray. Gray is the color of theory; after having theoretically analysed the world, it is impossible to re-synthesize it. Black/white photographs display this fact: they are gray; they are images of theories.

Long before photography was invented, people tried to imagine the world in black and white. Two examples of this pre-photographic Manichaeism: One abstracts from the universe of judgements the ideal limitations of "true" and "false," then builds, out of this abstraction, Aristotelian logic with Identity, Difference and Excluded Third. Such a logic will structure modern science, which in fact does work, al-though no judgement is totally true or totally false, and although every judgement put to logical analysis can be reduced to zero. A second example: Abstract from the universe of action the ideal limitations of "good" and "bad," then build religious and political ideologies from those limitations. These ideologies will structure social systems, which in fact do work, although no action is totally good or totally bad, and although every action put to logical analysis can be reduced to a puppet-motion. Black and white photographs are of the same type of Manichaeism, except that they are abstract from cameras. And in fact, they work too: They translate a theory of optics

into an image, and in doing so, charge that theory with magic. They transcode the theoretical concepts of "black" and "white" into situations. Black/white photographs are the magic of theoretical thinking, and they transform the linearity of theoretical discourse into a surface. This is, actually, the specific beauty of such photographs: it is a beauty proper to the universe of concepts. Many photographers prefer black/white photographs to color precisely because they better reveal the true meaning of photographs: the universe of concepts.

Early photographs were black/white, unmistakably attesting to their origins as being abstracted from some theory of optics. With the progress of another theory, chemistry, color photographs became feasible. It appears as if early photographs had extracted color from the world, and that subsequent photographs were able to re-introduce color to the world. In fact, however, color photographs are at least as theoretical as black/white photographs. For example, the "green" of a photographed lawn is an image of the concept "green" as it occurs in some theory of chemistry (say, additive as opposed to subtractive color). The camera (or the film fed into it) is programmed to translate the concept "green" into an image of "green". Naturally, there is an indirect and roundabout connection between the photographic "green" and the green of the lawn "out there," because the chemical concept of "green" is based on some image of the world "out there." There is, however a very complex series of successive coding processes between the photographic green and the green "out there," a series which is more complex than the one linking the photographic gray of a black/white photograph with the green of the real lawn. The lawn photographed in color is a more abstract image than the lawn photographed in black-and-white. Color photographs are on a higher level of abstraction than black/white photographs. Black/white photographs are more concrete, and in this sense, are "truer" than color photographs. Or the other way around: the "truer" the colors of a photograph become, the more mendacious they become. They hide their origins as theory more effectively.

What obtains for the colors of a photograph also obtains for every other element in the image. They are, without exception, trans-coded concepts pretending to have impressed themselves automatically on surfaces, concepts pretending to come from the world "out there." It is precisely this pretense we must decipher if we are to discover the true meaning of photographs, that they are programmed concepts, or if we are to show that photographs are complexes of symbols which signify abstract concepts, that they are discourses which have been transcoded into symbolic situations.

First, we must consider what we mean by "deciphering." What actually am I doing when I decipher a text coded in Latin letters? Do I decipher the meaning of the letters themselves, i.e., the conventionalized sounds of a spoken language? Do I decipher the meaning of the words those letters compose? Or the meaning of the sentences composed of those words? Or do I have to search even further, into the writer's intentions, into his cultural context? And what am I doing when I decipher a photograph? Do I decipher the meaning of "green," i.e., a conventionalized concept of the discourse of theoretical chemistry? Or, as with the Latin text, must I search further, into the photographer's intentions and cultural context? When shall I be satisfied that I have actually deciphered the message?

Put this way, the problem of deciphering obviously has no satisfactory solution. Put this way, deciphering is a bottomless pit, where each deciphered level reveals a yet deeper level to be deciphered. Every symbol is only the tip of an iceberg fluctuating in the ocean of cultural consensus, and if one were to succeed in deciphering any single message to the fullest, the whole of a culture, the whole of its history as well as its present would be revealed. Put "radically," each critique of any particular message would become a general critique of culture it-self.

In the case of photography, this fall over the precipice of infinite reduction can be avoided. It suffices to have deciphered, from the photograph, the codifying Intentions occurring within the complex called "photographic camera/photographer." Once this codifying intention has been deciphered, the photograph itself may be considered to have been deciphered. This assumes, of course, that we can distinguish between the photographer's intentions and the camera's program. These factors, however, are welded: they cannot be separated. For the purpose of deciphering, albeit "theoretically," the photographer's intention and the camera's program may each be considered by itself.

Reducing the photographer's intention to its core, we find this: The intention is to code the photographer's concept of the world, turning those concepts into images. Then, his intention is to use the camera for this purpose. Third, his intention is to show the images thus produced to others, for the images to become models of the experiences, knowledge, values and actions of other people. Fourth, his intention is to preserve those models for as long as possible. In sum: the photographer's intention is to become immortal within the memories of other people, by informing those people through the medium of the photographs. From the photographer's point of view, what counts in photography are his concepts (And the imagination resulting from these concepts); the camera program is meant to serve this purpose.

If one reduces the camera program to its core, on the other hand, we find this: First, its intention is to code the virtualities contained within it into images. Second, it intends to use a photographer for this purpose — unless the camera is fully automated, such as with satellite cameras. Third, its intention is to distribute the images thus produced in such a way that society may behave in the service of feedback for the apparatus itself, thus permitting it to improve its functions progressively. Fourth, its intention is to produce even better photographs. In sum: the camera program intends to realize its virtualities, and to use society as feedback for a continuous improvement of programs. In the background of the camera program, there are further programs: the photo-industrial program, the larger industrial program, the socio-economic program, and so on. Through this entire program-hierarchy flows the immense tendency to program society to behave so that it may be used for automatic improvement of future apparatus programs. It is exactly this tendency, which is observable in each single photograph, and it is this tendency, which must be deciphered.

Comparing the photographer's intention with the camera program displays where the two converge as well as where the two diverge. The convergences are points at which the photographer and camera collaborate, the divergences are points at which the photographer and the camera work against each other. Each single photograph displays the results of both the collaborations and the struggles. The task of de-

deciphering, then, is to show how the collaborations and struggles relate to one another. Once this has been done, the photograph can be considered "deciphered." The question to be asked of any photograph by the critic, then, is: How far has the photographer succeeded in submitting the camera program to his own intentions, and by what methods? And: How far has the camera succeeded in deflecting the photographer's intentions, and by what methods? According to such criteria, the "best" photographs are those in which the photographer has overcome the camera program to suit his intentions, i.e., those photographs in which the apparatus has been subjected to human intention. There are, naturally, "good" photographs, that is, photographs where human spirit has been acclaimed victor over apparatus program. However, if we consider the totality of the photographic universe, we can see how the various apparatus programs are in the act of deflecting human intentions for the sake of apparatus functions. This is the reason the task of all photography criticism should be to show when and where and how man is trying to dominate the apparatus, as well as how apparatus pre-vails against human efforts at domination. In fact, we have not yet arrived, generally, at elaborating such a photo-critical standpoint; reasons for this will be discussed later.

This chapter has "photography" as its title, but has not yet dealt with the specific aspects of photographs that distinguish them from other kinds of technical images. As a clarification of this omission, it should be said that this chapter was meant to give access to a meaningful method of deciphering photographs. The following chapter will at-tempt to fill the gap.

In sum, then: Photographs, as all technical images, are concepts which have been transcoded into situations, concepts both as manifest in the photographer's intentions and as manifest within the apparatus program. This shows that the task of photographic criticism is to decipher those mutually involved codifications from each photograph. The photographer codifies his concepts in and through photographs, which then inform others, serve as models for others, and render the photographer immortal in the memories of others. The camera codifies the concepts contained in its program in and through photographs, which then intend to program society as a feedback mechanism whose intention is further improvement of the program. When photography criticism succeeds in untangling these two intentions contained in every photograph, the photographic message may be considered to have been deciphered. As long as photography criticism fails to do this, photographs remain undeciphered, and photographs retain their appearance of situations in the world "out there" which seem to have impressed themselves "by themselves" on a surface. If photographs are permitted to be accepted in such an uncritical manner, they will serve their own purpose perfectly: they will program society for a magical kind of behavior in the service of apparatus functions.

VI The Distribution of Photography

What distinguishes photography from other forms of technical images becomes obvious when we consider the distribution of photographs. Photographs are mute surfaces waiting patiently for distribution through reproduction. Their distribution requires no complex technical apparatus: they are leaflets, which are passed from hand to hand. Storing them requires no advanced technical data banks, but only

some drawers where they may be filed. Before the specific problems of photography distribution can be considered, however, we must have an idea concerning information distribution in general.

Taken as a system, nature is one in which information tends progressively to disintegrate according to the second principle of thermo-dynamics. Man opposes this natural tendency towards entropy not only by acquiring, storing and transmitting information, but also (and in this he differs from all other-organisms) by intentionally producing in-formation. This specifically human, anti-natural faculty is "spirit," and it results in "culture," that is, in objects, which have improbable forms, in "informed objects."

The process of information manipulation, which is called "communication," consists of two phases: in the first, information is produced; in the second, information is distributed to memories, which store that information. The first phase is called "dialogue," and the second is called "discourse." During a dialogue, various available pieces of information are synthesized to become new information, and this process may occur within a single memory: an "inner dialogue." Discourse is the phase where the information produced by dialogue is distributed.

Basically, there are four methods of discourse. In the first, the emitter is surrounded by receivers, who form a semi-circle such as in a theater. In the second, the emitter uses a series of transmitters or "re-lays," such as in military communication from one rank to another. In the third method, the emitter distributes his information in the form of various dialogues, which enrich his information with new information before transmitting it, such as in a scientific discourse. In the fourth method, the emitter sends his information into empty space, such as with radio communication. Each method of discourse produces a specific cultural situation: the first, one of "responsibility"; the second, one of "authority"; the third, one of "progress"; the fourth, one of "massification." The distribution of photographs follows this fourth method of discourse.

It is true that photographs may be dealt with in a dialogical way. It is of course possible to draw mustaches or obscene symbols on photographs, and thus to synthesize new information. However, such handling of photographs is not within the photographic program. The photographs are programmed to be used for information "irradiation," as this essay is attempting to show, and so are all the other technical image forms — with the exception of video and synthetic images, which contain dialogues within their programs.

For now, the photograph is a kind of leaflet, although there is a tendency visible now to subject photographs to electromagnetic techniques. For as long as photographs adhere, archaically, to paper surfaces, they may be distributed in an archaic manner. A photograph is independent of gadgets such as film projectors or television screens. This archaic adherence to material surfaces recalls the dependence of old images on walls, for example, and recalls cave paintings or frescoes in Etruscan graves. However, this "objectivity" of photographs is an illusion. If we wish to distribute older forms of images, we must transfer them from one owner to another; for example, the caves or graves must be sold or conquered militarily. They are unique objects which are valuable: they are "originals." Photographs, however, are distributed through

reproduction. The camera produces the prototype, the negative, which then permits the production of a series of stereotypes, the prints, which are in turn distributed. The term "original" is nearly senseless where photography is concerned. Taken as an object, as a thing, a photograph is almost devoid of value: it is a leaflet.

As long as the photograph has not yet been electromagnetized, it remains a primary example of a post-industrial object. Although remnants of materiality, of "thing-ness," still adhere to it, its value is not in its being a thing, but in the information it carries on its surface. This is precisely what characterizes the post-industrial in general: it is the in-formation, not the thing, which is valuable. The problems of ownership and of a "just" distribution of objects (capitalism or socialism) recede towards the horizon, giving up their places in culture to the problems of programming and distributing information (informationism). The point is no longer to own one more pair of shoes or one more piece of furniture, but to be able to make one more trip abroad or to send one's children to one more school. This is the transvaluation of values. As long as photographs do not become electromagnetized, they will act as links between industrial objects and pure information.

Of course, industrial objects are valuable also, because they carry information. A shoe or a piece of furniture is valuable because it is an "informed object," that is, an object with an improbable form for leather or wood or metal. But in these cases, the information has been impressed very deeply within the object, which cannot be separated from the information. It is only possible to destroy the information by wearing out the object, by consuming it, in other words. Thus, these objects are valuable in as much as they are objects. In photographs, however, the information sits loosely on a surface, and can be transported from surface to surface. This is why photographs demonstrate the decadence of "thing-ness," as well as of the idea of ownership. Not he who owns the photograph is powerful, but he who has produced the information carried on the photograph. In other words, power is in the hands not of the owner of the photograph, but in the hands of the programmer of information. It is a neo-imperialistic power. The photographic poster has no value: no one owns it, and if it is torn by the wind, the power of the publicity agency which produced it is not diminished, since it can produce another exactly like the one destroyed. This obliges us, does it not, to re-evaluate all our traditional economic, political, ethical, epistemological and aesthetic values.

Images such as electromagnetized photographs; films, or television do not show this devaluation of the thing as clearly as does the archaic photograph on paper. In the advanced image forms, the material support of information has disappeared; electromagnetized photographic images may be synthesized at will, and they may be manipulated by the receiver as pure information. This is an "information society" proper. With "archaic photographs, however, we still hold something real, material, thing-like, in our hands. We end up despising this leaflet-like thing, and it grows increasingly less valuable and more contemptible.

In classical photography, there are still valuable silver prints, as well as other print forms, and even today the last remnants of value adhere to the "photographic original" which is more valuable than the reproductions in newspapers or magazines. Even so, the paper photograph represents the first step towards a devaluation of the object, and a valuation of information.

Although the photograph today is still largely a leaflet form, and although it might thus be distributed in an archaic, hand-to-hand manner, immense and complex apparatus for photographic distribution have come about. These apparatus are fitted to the camera output, and suck in the images as they flow out of the camera; they reproduce them endlessly in order to pour them out again through thousands of channels towards society everywhere. These apparatus for the distribution of photographs possess a program as do all apparatus; the program programs society for specific behavior, which then acts as an apparatus feedback. What characterizes this specific program, however, is the fact that the various complex apparatus divide photographs into various channels: the apparatus channels photographs.

In theory, all information may be placed in one or the other of three categories: indicative information such as "A is A"; imperative information such as "A ought to be A"; and optative information such as "let A be A." The classical ideals of these three forms are: "truth," for indicative information; "goodness," for imperative information; and "beauty," for optative information. This theoretical classification, however, cannot effectively be applied to concrete information, since every scientific indicative has political and aesthetic aspects, every political imperative has scientific and aesthetic aspects, and every optative (a work of art) has scientific and political aspects. Despite this impracticability, the distribution apparatus divide photographs into precisely those theoretical classifications.

There are thus channels for supposedly indicative photographs (e.g., scientific publications, news magazines, etc.). There are channels for supposedly imperative photographs (e.g., posters for political or commercial publicity). And there are channels for supposedly optative, or artistic photographs (e.g., galleries, art magazines, etc.). There are also valves within the photographic distribution apparatus, which allow a specific photograph to move from one channel to another. Thus, a photograph of a landing on the moon may move from a magazine on astronomy into the rooms of an American consulate some-where, and from there to a poster advertising a brand of cigarettes, and from there into an art gallery. What is essential to understand here is that with each change of channel, the photograph changes its meaning: from a scientific meaning, to a political meaning, to a commercial meaning, to an artistic meaning. In this way, the division of photographs into channels is not merely a mechanical process; it is a codifying procedure. It is the distribution apparatus, which impress upon the photograph its ultimate meaning for the receiver.

The photographer participates in this codifying procedure in an active way. When producing his photograph, he usually aims at a specific distribution channel, and he codifies his photograph to function in that channel. He produces the photograph for a specific scientific journal, for a specific kind of newspaper, for specific exhibition purposes, or whatever. He does this for two reasons: First, a particular channel permits him to reach a larger audience. Second, usually he is paid for producing a photograph for a particular channel.

The characteristic involution of the photographer within the apparatus is thus valid on the level of the channel also. For example, the photographer produces his photographs for a specific newspaper both because that newspaper has a large

audience and because the newspaper pays him for his photographs. In doing this, he may believe that he is using the newspaper as his medium. The newspaper, however, believes it is using his photographs to illustrate its articles, in order better to program its readers; the photographer, then, is a fonctionnaire. Since the photographer knows that only those photographs will be published which fit into the newspaper program, he will try surreptitiously to bypass the newspaper censorship by injecting his own aesthetic-tic, political and epistemological concerns into the photographs. The newspaper may well discover this subversive intention on the photographer's part and publish the photographs despite it, in order to profit from the injection as an enrichment of its own program. What obtains for newspapers obtains also for the other channels of distribution. Each distributed photograph thus permits the photography critic to reconstruct this struggle between the photographer and the channel of distribution. For this reason are photographs dramatic images.

It is an uncanny fact that the normal photographic criticism fails to detect this dramatic involution of the photographers' intention with the channel program in the photographs. Normally, photography criticism assumes as a given fact that scientific channels distribute scientific photographs, that political channels distribute political photographs, and artistic channels distribute artistic photographs. The as-assumption transforms the critic into a fonctionnaire of the channel: the critic makes the channel invisible to the receiver. He ignores the fact that it is the channels, which impress the ultimate meaning on the photograph; thus, critics generally serve the inherent tendency of the channels themselves to become invisible. The critic collaborates with the channels in their struggle against the photographer's subversive intentions. It is a collaboration in the negative sense of the term, a "raison des clercs," a contribution to the victory of the apparatus over human intention. It is also characteristic of the situation of intellectuals in general within post-industrial society. The critic may well ask questions such as, "Is photography an art?" or "What is political photography?," as if those questions were not automatically answered by the channel in which the photograph in question has been distributed. He asks these questions in order to hide the automatic, programmed, channeling codification, and to render it more efficient.

In sum: Photographs are mute leaflets which are distributed through reproduction by the "massifying" channels of an immense, programmed distribution apparatus. Their value as objects is contemptible, and their true value is in the information which sits loosely and reproducibly on their surfaces. They are heralds of post-industrial society in general; interest shifts in them from object to information, and ownership becomes, through them, no longer a useful category. The channels of distribution, the media, codify the ultimate meaning of photographs. This codification is the result of a struggle between the photographer and the distribution apparatus. By hiding this struggle, the normal photography critic renders the media in general invisible for the receiver of the photographic message. Thus, normal photography criticism contributes to an uncritical reception of photographs, which are then able to program society for magical behavior which re-returns as feedback into the programs of the apparatus. This all becomes more evident when one looks more closely at the way in which photographs are received.

VII The Reception of Photography

Nearly everyone owns a camera now, and he or she uses it. Just as nearly everyone has learned to write, and thus produces texts of one form or another. He who knows how to write, obviously, also knows how to read. However, he who knows how to shoot photographs does not necessarily know how to decipher them. If we wish to understand why an amateur photographer may actually be an illiterate within the terms of photography, we must consider the democratization of photography — a consideration that will also shed some light on democracy in general.

Cameras are bought by those who have been programmed to buy cameras through some advertising apparatus. The camera itself will tend to be of the "latest model"; it will tend to be cheaper, smaller, more automated and more efficient than all previous models. Relative to what has thus far been said here, this progressive improvement of camera models is due precisely to the feedback through which those who shoot photographs feed the program of the photographic industry: the industry learns, automatically, how to improve its programs from the behavior of those who photograph, as well as from the specialized press which supplies the industry with continuous tests concerning the buyers' behavior. This is the essence of post-industrial progress. All the apparatus improve progressively through social feedback. Democracy.

Although cameras are built according to complex scientific and technical principles, they are quite easy to handle. They are structurally complex toys, but functionally simple. In this, cameras are the opposite of chess, a game that is structurally simple and functionally complex. It is simple to learn the rules of chess, but difficult to play it well. He who holds the camera, however, may well produce excellent photographs without being at all aware of the complex processes he provokes when he presses the shutter release.

The maker of snapshots is different from the true photographer in that he takes pleasure in the structural complexity of his toy. In contra-diction to the true photographer, as well as to the chess player, the amateur photographer does not search for "new moves," for real in-formation, for the improbable; on the contrary, he would prefer to simplify his own function ever more and more through increasingly automated camera procedures. The automation of the camera, which to him is opaque, inebriates him. Clubs for amateur photographers, for example, are places where intoxication with the impenetrables of camera complexities occurs, places for "trips"; they are post-industrial opium dens.

The camera demands that its possessor (or he possessed by it) constantly shoot photographs, constantly produce redundant pictures. This photographic mania — of the eternally reproduced, of the repetition of sameness (or of similarity) — reaches a point where the snap-shooter feels blind if deprived of his camera: drug addiction. The snapshooter can no longer see the world unless he looks at it through a camera and through the categories of the camera program. He no longer transcends the camera, but is devoured by its greedy function. He becomes the camera's extended automatic shutter release. His behavior is an automatic function of the camera itself.

The result of this mania is a steady flow of images without any consciousness. These images constitute a camera memory, a store of automatic functions. When we look at

the photo album of an amateur, we are not looking at the experiences, the knowledge or the values of a distinct person such as they have been registered by the camera; we are, much more, looking at camera virtualities such as have been realized by the automatic functions of the camera itself. For example, a trip to Italy becomes a store of the places and moments where and when the snapshotter. has been seduced by his camera to make a picture.. The album of such a trip shows the places where the camera stood, and what the camera did at that place. This obtains, in fact, for every "documentary" photograph. The documentarist, as the snap-shooter, is interested in shooting ever newer scenes in precisely the same way as always. The true photographer, in the sense meant in this essay, is interested (as the chess player) in seeing in ever newer ways, and thus, in producing ever newer, more informative situations. Since its beginnings, the development of photography has been a process through which the concept of information has grown more and more conscious. It began with the need for always newer scenes produced al-ways from the same viewpoint and with the same methods; now, al-ways newer methods are being sought. Snapshotters and documentarists are unaware of what is involved in information. What they produce are camera memories, not information, and the more efficiently they do so, the better do they document the victory of the apparatus over man.

He who writes must master the rules of orthography and gram-mar. He who shoots photographs needs only to follow the instructions as given by the camera. These instructions grow more and more simple as more and more technology is applied to the apparatus. Again, this is the essence of democracy in a post-industrial age. And this is why the snapshotter is unable to decipher his photographs; he. takes them to be images of the world, which have been produced automatically. This leads to the paradox that the more people shoot photographs, the less they are capable of deciphering them. No one believes that it is necessary to decipher photographs because everyone believes that he knows how to make them.

Obviously, that is not all there is to it. The photographs which in-undate us are received like contemptible leaflets which may be deliver-ed with the newspaper, pieces of paper which we may tear up and throw away without any loss, or which we may use as wrappings for fish. In short, we may Use photographs any way we wish. An example may illustrate this: When we look at a scene of the war in Lebanon on television or in the movie theater, we know that we can do nothing except watch this scene. If we see such a picture in the newspaper, however, we know that we may cut it out and keep it, or we may write a commentary on it, or we may send it to friends, or crumple it up in an outrage. We have thus gained the impression of having reacted to the scene. The remnants of materiality adhering to photographs create the impression that we may act historically with them. In truth, however, the motions are only ritual gestures.

The photograph of the war scene in Lebanon is an image on a surface which the eye scans in order to establish magical relationships be-tween its various elements; they are not, however, historical relation-ships. We do not recognize the historical processes as have occurred in Lebanon, processes that have had causes and that will have effects; we recognize only the magical interrelationships within the photograph. Granted, the photograph illustrates a newspaper article which has a linear structure and which consists of concepts informed by the causes and effects of

the war in Lebanon. However, if we read the article at all, we read it through the photograph: it is not the article that explains the photograph, but the photograph which illustrates the article. This inversion of the relationship between the image and the text is characteristic of a post-industrial age; it also renders any historical action impossible.

In the past, texts explained images; it is now the other way around: photographs illustrate the articles in the newspaper. Romanesque capitals served Biblical texts; the photograph makes the newspaper article magical again. In the past, it was texts which dominated; now it is the images which dominate. In such a situation, where technical images dominate, illiteracy acquires new meaning. In the past, the illiterate was excluded from a culture codified in texts; in the present, the illiterate can participate nearly fully in a culture codified in images. In the future, if images succeed fully to subject texts to their own function, we can expect a general illiteracy, with a small minority of specialists who are trained to write. We may even now observe a tendency towards that particular situation: "Johnny can't read" in the United States, and in so-called "developing countries," the battle against illiteracy has been nearly given up, with images being used now to teach children.

What we do when we react to the war scene in Lebanon is not an historical action, but a magical ritual. To cut the photograph out of the newspaper, to send it, to crumple it up, is to react to its message by ritual gesture. The message is a situation in which one element acquires its meaning from all the other elements, giving meaning to all the other elements in return. And, the message is a situation in which each element may become the successor of its own successor. In such a situation, charged as it is with meaning, everything is "full of gods": everything is either good or evil. The tanks are evil, the children are good, Beirut in flames is hell, the doctors clad in white are angels. Secret powers circulate on the surface, some of which bear names charged with secret meaning: "imperialism," "Zionism," "terrorism," and so on. Most of the powers are nameless, however, and it is they who provide the photograph with its indefinable climate, with the fascination it exercises over us, and with the program for our ritual gestures.

Granted, we may read the accompanying article as well as look at the photograph, or at least the caption to the picture. However, since text function is subordinated to image function, the text leads us in the direction intended by the newspaper program. It does not explain the photograph; it sustains it. And aside from that, we have long been tired of things being explained to us. We prefer to rely on the photograph, which emancipates us from the necessity of the conceptual, explanatory thought, and which thus renders unnecessary the search for the causes and for the effects of the war in Lebanon. We can easily see with our eyes what war is like. As for the text, it is nothing but the instructions for looking at the photograph.

This implies, naturally, that what is real about the war in Lebanon (as well as what is real in general) is contained within the image. The vector of significance has reversed, reality has slipped into the symbolic, has penetrated the magical universe of image symbols. To ask what those symbols mean has become a nonsensical question, a "metaphysical" question in the negative sense of the word. The symbols have become indecipherable, and they evict our critical, historical consciousness. This is precisely the function for which the photographs have been programmed.

In fact, the photographs have become models for the behavior of their receivers, who now react in a ritualized manner to the messages contained in the photographs. The receiver does this in order to propitiate the fateful powers circulating on the surface of the photograph. A second example can illustrate this: A poster with a photograph of a toothbrush may evoke the secret power we call "cavities," a power now laying in wait for us. We buy a toothbrush and we ritually stroke our teeth with it in order to escape the lurking danger of the secret power called "cavities." We make a sacrifice to the God of Cavities. Granted, we can look up the word "cavity" in our encyclopedia, but the text we find there has become a pretext for our toothbrush purchase. It does not explain the poster photograph; it sustains it. We shall buy the toothbrush no matter what is written in the encyclopedia, since we are programmed to do so. The text in the encyclopedia has become a caption for the photographic poster of the toothbrush. Even if we have access and recourse to historical information, we shall act magically.

This magical-ritual behavior, however, is different from the behavior of the American Indian. It is a behavior proper to the fonctionnaire in post-industrial society. Both Indian and fonctionnaire believe that the reality is in the image, but the fonctionnaire believes so out of bad faith. He knows better because, after all, he has learned to read and write. He possesses a critical, historical consciousness, and he suppresses it. He knows that it is not the case that good and evil collide in the Lebanon war, but that there are specific causes for the situation in Lebanon, and that these causes will have specific effects. He knows that the toothbrush is not a sacred object, but that it is a product of Occidental history. He must, however, suppress this knowledge. If he did not do so, he would be incapable of buying toothbrushes; he would also be incapable of holding opinions concerning the war in Lebanon, incapable of filing papers, incapable of filling out forms, taking a holiday, or retiring; in short, how else is he to function? Photographs serve precisely this suppression of the critical faculty; they serve function alone.

Nonetheless, the critical faculty is still extant, and it may be mobilized to render photographs transparent. The photograph of the Lebanon war may become transparent for the program of the newspaper, as well as for the program of the political party which programs the newspaper. And, the toothbrush photograph may become transparent for the program of its advertiser, and for the program of the industry which has programmed the advertising agency. The secret powers called "imperialism" or "Zionism" or "cavities" may be shown to be concepts as contained in specific programs. Such an effort to destroy the magic of images is not necessarily successful, since it may itself be charged with magic; it may itself be "functional."

An impressive example of this kind of paganism of the second degree is furnished by the "Kulturkritik" of Frankfurt school. These people have discovered, behind the image, even more secret, super-human powers (capitalism, for example) which have programmed all those other programs, and which have done so out of bad faith. These commentators cannot accept the fact that programming is a stupid, automatic, unintentional process. Their attempt to exorcise the specters they detect uncovers ever larger specters, a truly uncanny process.

In sum: Photographs are received as contemptible objects which can be made by anyone, and which everyone can deal with at will. In fact, however, it is the photographs which deal with us, and which program us for a ritualized behavior serving as a feedback mechanism for the improvement of apparatus. Photographs suppress our critical consciousness in order to make us forget the absurdity of functioning, and it is thanks to this suppression that we can function at all. Thus, photographs constitute a magical circle which surrounds us in the form of the photographic universe. It is this circle which we must break through.

VIII The Photographic Universe

We who are the inhabitants of the photographic universe are accustomed to these photographs. They have become habitual to us, and we are not even aware that they are around us: habit hides them. It is change which is informative; the habitual is redundant. We are thus surrounded by redundant photographs, and this obtains despite the newspaper arriving every morning and despite new posters arriving every week on building walls and in shop windows. It is precisely this steady change which has become habitual for us: one redundant photograph replaces another redundant photograph. It is change itself which has become habitual and redundant; and it is "progress" itself which has become uninformative and ordinary. What would be extraordinary, informative, and adventurous in our situation would be a sudden stagnation: every morning the same newspaper on the breakfast table, and every month the same poster in the shop window. This is what would shock us and surprise us. The photographs which re-place each other steadily and according to program are redundant, precisely because they are always new ones. They are the realizations of the virtualities of the photographic program, and they are automatic realizations of these virtualities. This is the challenge of the photographic universe, the challenge to the photographer: how to oppose the flood of redundant photographs with truly informative photographs.

It is not only the steady change in the photographic universe which has become habitual, however; equally habitual is its motley coloration. We are not aware of what kind of surprise (his checkered environment would have caused our grandparents, for example. The 19th century world was gray: the walls, newspapers, books, shirts, tools, virtually everything oscillated between black and white, melting into a grayness proper to printed matter. At present, however, every-thing cries out in all the colors of the rainbow, although it cries out to deaf ears. We have become accustomed to visual pollution, and it penetrates through our eyes and our consciousness into subliminal regions without being actually perceived by us. However, it functions in those regions, and it programs our behavior.

We can compare our own colorfulness to the Middle Ages or to non-occidental cultures and discover what is different about it. In the Middle Ages and in "exotic" cultures colors are magical symbols informed by myths; with us, however, colors are symbols informed by myths; that have been theoretically elaborated, that is, programmed. For example, the color "red" in the Middle Ages may have meant being devoured by hell. For us, "red" in a traffic light will also mean danger in a magical way, but the color has been programmed into us, asking us to step on the brake pedal without being fully conscious of what we are doing. This subliminal

programming by color in the photographic universe shows us our ritual, automatic behavior.

This chameleon-like character of the photographic universe, this ever-changing checkered coloration, is an epidermic phenomenon, a kind of skin disease. It evidences the deeper grain-like structure of the photographic universe. This universe steadily changes its appearance and its colors like a mosaic in which the individual stones are constantly being replaced by stones of other colors. The photographic universe is composed of such stones, of quanta, and this universe may be calculated ("calculus" = pebble). It is an atomic, Democritean universe; it is a puzzle.

This quantic structure of the photographic universe will come as no surprise, since that universe is the result of the photographic gesture, the quantic structure of which was discussed earlier. Even so, when we look at the photographic universe carefully, we can discover the deeper reason for the granular structure characterizing everything that has to do with photographs. We can discover that this atomic, point-like structure is proper to everything that has to do with apparatus in general. And, that even those apparatus functions which seem to glide freely (such as television or cinema images) are in fact granular in nature. Also, that the universe of apparatus is one in which all apparent wave-like functions are composed actually of grains, and that all apparent processes are in fact step-processes, point situations, grains. The reason is this:

Apparatus are toys which simulate thought, toys which play at thinking. However, apparatus do not simulate human thought processes such as they appear during introspection, nor such as they are understood through psychology or physiology. Rather, they simulate thought according to a Cartesian model of thought. Thought as seen by Descartes is composed of clear, distinct elements (concepts), and to think, in Descartes, is a process of combining those elements like beads on an abacus. Each concept means a point in the extended world "out there." If we could apply a concept to each point in the world, thought would become omniscient; And omnipotent as well, since thought processes would then symbolically control all the processes "out there." However in the extended ("concrete") world out there, the points coalesce without any gaps between them, while in thought, the clear and distinct concepts are separated by intervals; most of the world out there escapes through these intervals. Descartes hoped that this inadequacy of the thought-net might be overcome with the help of God and of analytical geometry; however, his hope was not to be fulfilled.

Apparatus, those simulations of Cartesian thought, are successful where Descartes failed. They are indeed omniscient and omnipotent in their respective universes. In such universes, each point, each element, is coordinated with a concept or an element in the apparatus program. This fact may most easily be observed with computers and their universe. It may also be observed in photography and in the photographic universe. To each photograph some clear and distinct element in the camera corresponds. Each photograph corresponds to a specific combination of elements within the camera program. There is a kind of bi-univocal relationship between the universe and the program, in which each program point corresponds to a specific photograph, and each photograph to a specific program point; in this way, the apparatus is omniscient and omnipotent in its universe. However, apparatus must pay a price for their omniscience and omnipotence: an inversion of the vectors of

significance. No longer do the concepts mean the world "out there" (as they do in the Cartesian model), but it is now a universe informed by the program "in there" within the apparatus. It is not the program which means the photographs, but the photographs which mean elements within the program (i.e., concepts). The omniscience and omnipotence of the apparatus is thus absurd: it knows every-thing and can do anything within a universe which has been program-med to permit precisely such a knowledge and such a power.

At this point in the argument, the concept "program" must finally be defined. For this purpose, we must put into parenthesis all human intervention with programs, that is, the entire struggle between program functions and human intentions. What is here to be defined is a fully automatic program. It is a game of combinations based on accident, on chance. A simple example of a program is a game of dice. The elements "1" to "6" are combined in such a way that no single move can be seen in advance, but that in the longer run, each sixth move of the die must be a "1." Or to put it the other way around: all the possible combinations of a program must occur in the course of the game in the longer run, but each single virtuality occurs entirely by chance. For example, if an atomic war is inscribed in the program of some apparatus, such a war will occur by accident, but it will definitely occur at some point in the process of the program's existence. It is in this "stupid" and sub-human manner that the apparatus can "think": by accidental combinations. And it is in this manner that apparatus are omniscient and omnipotent in their own universes.

As it surrounds us currently, the photographic universe is a chance realization of some of the virtualities contained within the cam-era program, and it constitutes, point by point, a specific situation as it occurred during the game of combinations. Other such virtualities will come about by chance in the future, which is why the photographic universe is in a state of steady change, as well as why one redundant photograph steadily replaces another redundant photograph. Each given situation in the photographic universe corresponds to a specific move in the game of combinations, and it does so point by point, photograph by photograph. The photographs in the photographic universe are of necessity redundant. If a particular photographer deliberately plays against the photographic program and thus produces an informative photograph, he is breaking through the boundaries of the photographic universe by creating situations which are not in-scribed in the game of combinations.

This permits the following inferences: First, the photographic universe is the product of a game of combinations; it has been program-med and it means its program. Second, the game is automatic; it obeys no deliberate strategy. Third, the photographic universe is composed of clear and distinct photographs, each single one meaning a specific point in the program. Fourth, each single photograph is a surface, an image, which serves as a model for the behavior of its receiver. In sum, the photographic universe is a means to program society for feedback behavior as a function of a game of combinations. It does so out of brazen necessity, but each instance is pure chance (i.e., automatic), and the behavior it programs is magical. In this way, the photographic universe programs society so that it will become a society of dice, of chessmen, of fonctionnaires.

Such a consideration of the photographic universe invites the observer to move in two directions: towards society as it is surrounded by the photographic universe, and towards the apparatus that programs this universe. The consideration invites, on the one hand, a criticism of post-industrial society as it is about to arise, and on the other hand, a criticism of the apparatus and their programs. Both in turn invite a Critical transcendence of post-industrial society.

To find oneself within the photographic universe is to experience, to know and to evaluate the world as a function of photographs. Each single experience, piece of knowledge or value may be separated into single photographs as they have been seen and taken advantage of. Each single action may be separated into the single photographs as they have been used as models of action. This kind of existence, where every experience, every piece of knowledge, every evaluation and action, is composed of separate, grain-like elements, of "bits," is obviously robot-like. The photographic universe (or any apparatus universe, for that matter) transforms man and society into automatons.

Even now we can observe these automaton gestures: at bank counters, in offices and factories, in supermarkets, in sports, in forms of dancing. However, we can also observe the same staccato structure in thought processes, when we look closely enough: in scientific texts, in poetry, in musical composition, in architecture, in political policies. Thus, one task of a critical attitude towards culture is to analyse the re-structuring of experience, knowledge, evaluation and action in order to see how it has become composed of a mosaic of clear and distinct elements, as well as to seek and find these elements in every phenomenon of our culture. Such a critique of culture will show that the invention of photography is the point in history at which all cultural phenomena begin to substitute their linear structure of gliding along for the staccato structure of programmed combining. That is, this critique does not display a return to the mechanical structure of experience, knowledge and evaluation as resulted from the first industrial revolution, but an advance towards a cybernetical structure proper to all apparatus. And, such a critique of culture will show that the camera is the ancestor of all apparatus which now lay claim to making our existence automatic, everything from our external gestures to our internal thoughts, sentiments and desires.

When we move on apparatus in order to criticize them, we find that the photographic universe is a produce of cameras and distribution apparatus. When we move more deeply into this, we find further apparatus, such as industry, publicity, advertising, politics, economics, social structures, administrations, and so on. Each of these apparatus tends to become even more automatic, and is cybernetically connected to all other apparatus. Each apparatus feeds on the program of a different apparatus. Thus, the apparatus complex constitutes a kind of super black box composed of a multitude of black boxes. Even so, it is a human product. It is people who have produced this box in the course of the 19th and 20th centuries, and even now it is people who are busy extending it and improving it. In this way it is almost a matter of course for a criticism of apparatus to concentrate on the human intentions which wish to produce the apparatus, and which have produced them in the first place.

This kind of critical attitude is tempting, for two reasons: First, it exempts the critic from having to dive into the confines and the dark-ness of the black boxes

themselves: he rests content with an examination of the input, with a critique of human intention. Second, it exempts the critic from the necessity of having to elaborate new categories of criticism: traditional categories are good enough for a critical analysis of human intentions. The result of such an attitude towards apparatus is something like this:

The intention producing the apparatus was to emancipate man from the need to work. The apparatus were meant to do the work for man; the camera was meant, for example, to emancipate man from the need to wield a paintbrush. Instead of having to work at painting can-vases, man could now play. It so happened, however, that the apparatus were taken control of by certain persons (capitalists, for example), who have succeeded in deflecting the original intentions of the apparatus. It occurred that, at present, the apparatus serve the interests of their controllers; what need be done is the unmasking of those controlling interests. In this way, it appears as if the apparatus are only curious machines, and that their invention represented no revolutionary event at all: there is no need to talk of a "second industrial revolution." If we follow such an analysis, photographs must be deciphered in order for the hidden interests of the controllers to be made visible — for example, the interests of the holders of Kodak shares, the owners of advertising agencies, and so on, all of the people, in other words, who pull the wires behind the industrial establishment, and, in the end, the interests of the entire industrial, military and ideological complex. Should anyone succeed in evidencing this kind of interest-complex, each single photograph and the photographic universe as a whole might be considered to have been deciphered.

Unfortunately, this traditional form of criticism originating in the industrial complex is not adequate to the phenomena we call apparatus. Such a critical approach misses the point essential to apparatus: their automation. It is precisely this automation of apparatus which is in need of criticism. 'Apparatus were invented with the intention of their being automatic, which means "independent of future human intervention." The intention producing them was to exclude man from their functions, and no doubt this intention has been fulfilled. Man is progressively excluded from, their function, and the apparatus programs — those "stupid" combination games — grow ever richer: they combine an increasing number of elements increasingly quickly, and they surpass the capacity of individual men to see through them, let alone to control them. He who has to do with apparatus, has to do with opaque black boxes.

There is really not much sense in talking of the owners of the apparatus. Since the apparatus function automatically and independently of human decisions or interventions, no one can "own" them. On the contrary, human decisions are now being made on the basis of apparatus decisions; human decisions have degenerated into "function-al" decisions, and human intention has evaporated. Although apparatus were originally produced and programmed to serve human intention, that human intention has now receded behind the horizon of "second and third generation" apparatus. Apparatus now function solely for themselves("automatically"), with the aim of perpetuating and improving themselves automatically. it is precisely this stupid, unintentional, functional automation which is the true subject of apparatus criticism.

The critical attitude mentioned above, the "humanistic" one, will quite naturally object to this' description of the apparatus problem, i.e., that "simple machines" are really super-human, anthropomorphous titans, is a mystification meant to hide the human interests lurking behind apparatus. Such an objection is mistaken. Apparatus are indeed anthropomorphous titans, because they were produced with the intention of being so, But they are by no means super-human; their description here attempts to show them as sub-human, pale, simplified simulations of human thought processes which render human decisions redundant precisely because the apparatus are so dumb. Thus, it is the "humanistic" critical attitude which in the end hides the lurking dangers of the apparatus. Conversely, the critical attitudes put forward here take their task to be the attempt to show the terrifying fact that apparatus function in an unintentional, stupid and uncontrollable way, and thus to help to subject apparatus to human intention again.

In sum: The photographic universe mirrors a game of combinations. It constitutes an ever changing, checkered puzzle of clear and distinct surfaces. Each of which means an element of the apparatus program. The photographic universe programs, in its turn, its receivers for a magical, functional behavior; it does this automatically, that is, without human intention.

It is against this automatic programming that some people struggle: those photographers who try to produce informative photographs which are not inscribed within the photographic program; those critics who try to see through the automatic game of programming; and in general, all those people who attempt to create room for human intention in a world dominated by apparatus. However, the apparatus, in their turn, automatically assimilate all those attempts at liberation, and incorporate them in their programs in order to enrich the programs. The task of a photographic philosophy is to reveal this struggle between man and apparatus in the realm of photography, and thus to contribute to a possible solution to the conflict.

The hypothesis sustaining this essay is that, if such a philosophy of photography were to succeed in its task, this success would be of importance not only in the realm of photography but also for post-industrial society in general. The photographic universe is only one among many apparatus universes, and it is not the most dangerous one at that. The following chapter will attempt to show that the photographic universe may serve as a model for post-industrial existence in general, and that therefore, a philosophy of photography may serve as a point of departure for any philosophy which has the current, as well as the future form of human existence as its subject.

IX The Need for a Philosophy of Photography

In the course of this attempt to analyse what is essential to photography, a few basic concepts have been dealt with: image— apparatus r-program — in formation. These concepts must make the foundation of any philosophy of photography; and they may serve to define photographs as images which have been produced and distributed by apparatus in accordance with a program and whose apparent function is to inform. Each of these basic concepts implies other concepts: Image implies magic, apparatus-; implies automation and game, program implies chance and necessity,

arid information implies symbol and improbability. We may then enlarge our definition of photographs: they are images which have been produced and distributed by automatic and programmed apparatus according to a game based on chance informed by necessity, and have been distributed by these same methods; they are images of magical situations, and their symbols promote an improbable behavior in their receivers.

The definition proposed here has that curious advantage for a philosophy: it cannot be accepted. We are challenged to prove that it is erroneous, since it eliminates man as a free agent. It provokes contradiction, and contradiction (dialectics) is one of the springboards of philosophy. This is the reason why the definition may well serve us as an adequate point of departure for a philosophy of photography.

When we consider our basic concepts — image, apparatus, program, information — we find that all stand on the common ground of eternal return. Images are surfaces on which the eye circulates, to re-turn again and again to the point of departure. Apparatus are toys which repeatedly execute the same motions. Programs are games which combine the same elements over and over. Information is improbable configurations which have emerged from the tendency towards probability, and which tend repeatedly to return there. We thus find ourselves, with these four concepts, no longer in a linear historical context where nothing even repeats itself and where everything had a cause and will have an effect- The territory where we now stand can no longer admit to the causal, but only to the functional explanations. We must take leave of causality, and as Cassirer said, "Rest, rest, dear spirit." Any philosophy of photography must take into account the unhistorical, post-historical character of the phenomenon it has for a subject.

This will pose no problem. We have, even now, and quite spontaneously, recourse to post-historical reasoning in a number of areas. Take cosmology, for example: We take the cosmos to be a system which tends towards increasingly more probable configurations, in which improbable configurations may appear repeatedly by chance, but which of necessity must return to the general tendency towards probability. In this way, the cosmos is, for us quite spontaneously, and apparatus which contains an original piece of information within its input (the "big bang"), and which is programmed necessarily to realize all of, this information by chance, and thus to exhaust it ("termic death"). As for cosmology itself, we take it to be an image that we have produced to represent the cosmos. Our four basic concepts — image, apparatus, program, information — then, quite spontaneously sustain our cosmological reasoning, a reasoning which is, again quite spontaneously, a functional explanation.

This same kind of reasoning occurs in other fields as well, in psychology, biology, linguistics, cybernetics, informatics— to mention a few. In all of these areas, we quite spontaneously reason in an imaginative, functional, programmatic and informatic way. The hypothesis we are dealing with here advances the statement that we reason in this manner because we think in photographic categories: the photographic universe has programmed us to think in this way.

This hypothesis is not as farfetched as it may at first sight appear. In fact, it is a well known hypothesis: man produces tools for which he uses himself as model; he then

uses the tools as a model for himself, for society, and for the world "out there." This is the hypothesis of human alienation from its own tools. For example: In the 18th century, man invented machines by using his own body as model; then, the situation reversed itself, with man taking his machines as models for himself, for society and for the world put there. Thus, in the 18th century, a philosophy of machines would have been a critique of anthropology, politics, arts, science, and so on: in short, a critique of "mechanism." The same may be said of a philosophy of photography today: it would be a critique of "functionalism" in all its anthropological, political, aesthetic and scientific aspects.

However, the matter is not as simple as that. Photography is not a tool like a machine; it is a game, like cards or chess. If we take photography as our model, we do not simply substitute one type of tool for another type of tool as model; we substitute one kind of model for another kind. Thus, the hypothesis advanced here, according to which we have begun to reason within a framework of photographic categories, suggests that the basic structure of our thinking is about to experience a mutation. What is involved here is not the classical problem of alienation, but an existential revolution for which we do not have any historical precedents. To put it brutally: what is involved here is the challenge of reconsidering the problem of freedom in an entirely new context. This is what a philosophy of photography would really address.

There is, of course, nothing new in this: every philosophy deals, in the last analysis, with the problem of freedom. In the historical context of linearity, the problem posed itself in this way: If everything has had a cause, if everything will have an effect, if everything is "conditioned," where is there any room left for human freedom? All the answers to this question might be reduced, if radically simplified, to a common denominator: The causes are so extremely complex, and the effects are so extremely difficult to see in advance, that man (this limited being) may easily behave as if he were "unconditioned." With- in our new context, however, the problem of freedom must be posed differently: If everything comes about by chance, and if everything comes to nothing, where is there any room left for human freedom? It is within this climate of the absurd where a philosophy of photography must formulate its question concerning freedom.

We can observe nearly everywhere how apparatus of every sort tend towards programming our lives for a kind of dumb automation. Or, how work is being taken from the hands of man and transferred to apparatus. Or, how the majority of men begin to be occupied in the "tertiary sector" of playing with empty symbols. Or, how existential interest begins to shift from the world of objects to the world of symbols. How our values begin to shift from things to information. How our thoughts, sentiments, desires and actions begin to assume the structure of automatons. How to live" is coming to mean "to feed apparatus and to be fed by them." In short, we can see all around us how everything is becoming absurd. Where, then, is there any room left for human freedom?

We then discover people who would seem to have an answer to the question: the photographers in the sense meant in this essay. They are in miniature, men of the apparatus future living now. Their gestures are programmed by camera functions. They play with symbols. They are occupied in the "tertiary sector." They are

interested in information. They produce objects devoid of inherent value. And, despite all this, they do not seem to believe that their activity is absurd, and they believe that their actions are informed by freedom. Thus, the task of a philosophy of photography is to question these photographers about their freedom, and to investigate their search for freedom.

This is precisely what this essay attempted to do, and several answers did appear in the course of our investigation: One, that it is possible to outwit the stupidity of the apparatus. Two, that it is possible surreptitiously to inject human intentions into the apparatus program. Three, that it is possible to force the apparatus to produce something impossible to see in advance, something improbable, something informative. Four, that it is possible to hold the apparatus and its products in contempt, to deviate one's attentions from "subjects" in general and to concentrate on information. In sum: Photographers seem to be saying that freedom is a strategy by which chance and necessity are submitted to human intention. In other words, that freedom "equals playing against the apparatus."

Photographers do not give this answer spontaneously. They do so only if pressed by philosophical analysis. If they speak spontaneously, they might affirm that what they are doing is making traditional images using non-traditional methods. They might affirm that they are producing works of art, or that they are contributing to science, or that they are politically committed. If we read what the photographers have to say about their activity, or if we read the traditional books on the history of photography, we find the generalized opinion that no-thing much has changed through the invention of photography, and that everything continues to occur very much as it occurred before the invention of photography — except that, along with all the other histories, there is now also a history of photography. Despite the fact that photographers live— thanks to their own activities;— in a post-historical context, the "second industrial revolution" — such as it manifests itself in the camera, for the first time— has bypassed them.

With one exception: the so-called "experimental" photographers, i.e., those photographers meant in this essay: they seem to know what is happening to them. They are conscious of the fact that image, apparatus, program and information constitute their basic problems. They are aware that they are trying to fetch those situations from out of the apparatus, and to put into the image something which was not inscribed in the apparatus program. They know that they are playing against the apparatus. However, even they are not aware of the extent of what they are doing. They are not fully aware that they are trying, through their activities, to answer the question of "freedom" in a context of apparatus.

A philosophy of photography is necessary if we are to lift photography into full consciousness. To do this is necessary because photography may then serve as a model for freedom in the post-industrial context. Thus, the task of a philosophy of photography is to show that there is no room for human freedom in the realm of the automated, programmed and programming apparatus; and having shown this, to argue how, despite apparatus, it is possible to create room for freedom. The task of a philosophy of photography is to analyse the possibility of freedom in a world dominated by apparatus; to think about how it is possible to give meaning to human life in the face

of the accidental necessity of death. We need such a philosophy because it is the last form of revolution which is still accessible for us.

A Lexicon of Basic Concepts

Apparatus: a toy which simulates thought.

Automat: an apparatus which necessarily functions according to a program which moves according to chance.

Character: a written sign.

Code: a system of signs ordered by rules.

Concept: a constitutive element of a text.

Conceptualization: the capacity to produce and decipher texts.

Cultural object: an informed object.

Deciphering: to show the meaning of a symbol.

Entropy: the tendency towards increasingly probable configurations.

Functionnaire: a person who plays with and as a function of an apparatus.

History: the linearly progressive translation of ideas into concepts.

Idolatry: the incapacity to decipher the ideas meant by image elements; therefore, image adoration.

Image: a meaningful surface within which the elements relate magically.

Imagination: the capacity to produce and decipher images.

Industrial society: a society where most people work with machines.

Information: an improbable configuration.

Informing: 1) to produce improbable configurations; 2) to impress this upon objects.

Machine: a tool which simulates an organ of the body with the help of a scientific theory.

Magic: existence in a world of eternal return.

Memory: a storage place for information..

Object: a thing which stands in our way.

Photographer: a person who tries to make photographs with information not contained in the camera program.

Photography: a leaflet-like image produced and distributed by apparatus.

Playing: an activity which is own-purpose.

Post-history: the re-translation of concepts into ideas.

Post-industrial society: a society where most people are occupied in the tertiary sector.

Primary and secondary sectors: where objects are produced and informed.

Production: the activity which transports a thing from nature into culture.

Program: a game of combinations with clear and distinct elements.

Reality: that which stands in our path towards death.

Redundance: repeated information; therefore what is probable.

Rite: the behavior proper to magical existence.

Scanning: the circular motion which deciphers a situation.

Sign: a phenomenon which points to some other phenomenon.

Situation: a configuration where it is the relation between the elements, and not the elements themselves, which has meaning.

Symbol: a consciously or unconsciously conventionalized sign.

Symptom: a sign caused by its meaning.

Technical image: an image produced by an apparatus.

Tertiary sector: where information is produced.

Text: a line or lines of characters.

Textolatry: the incapacity to decipher the concepts meant by characters; therefore, text adoration.

Toy: an object to be played with..

Translating: to move from code to code; therefore, to jump from one universe into another.

Tool: a simulation of a body organ which does work.

Universe: 1) the totality of possible code combinations; 2) the totality of the meanings of those combinations.

Value: what ought to be.

Work: the activity which produces and informs objects.