

The photograph as a post-industrial object.

(Revised according to suggestions by "Leonardo")

Sub-title: an essay on the ontological standing of photographs.

Abstract: Photos, as they are now, namely sheets of paper or similar material, carrying information on their surface, are objects of post-industrial culture. One in which work is done by automatic machines, and information is elaborated by automatic apparatus. In the not far distant future they will become images which appear on electromagnetic screens and thus illustrate a future culture of pure, immaterial information. One in which society will be busy elaborating what is now called "software". The difference between those two cultures being that objects will no longer occupy the center of attention in the future culture. This will involve not only a transvaluation of all values, but a mutation in the very human existence.

I. Objects: The Latin term "ob-iectum" and its Greek equivalent "pro-blema" mean "thrown against", which implies that there is something against which the object is thrown: a "sub-ject". As subjects we face a universe of objects, of problems, which are somehow hurled against us. This opposition is dynamic. The objects approach the subject, they come from the future into the subject's presence. And the subject projects himself into the future, into the universe of objects. The shock between subject and object occurs over the abyss of alienation which separates the two. There is at present a tendency to relegate this shock from men to automatic apparatus. Automatic photo cameras may serve as an example.

Objects are shocking, because they stand in our way. They are where they ought not to be. The shock between subject and object is one between "to be" and "ought to be", between reality and value. The subject tries to inject value into the object. He "works". Objects changed by work are cultural objects. The present tendency is to relegate work from human subjects to automatic apparatus. The shocking objects are somehow given, they are "data". Cultural objects are made, they are "facta". To work is to process data, and change them into facta. Automatic apparatus is capable of this data processing. We are witnessing a cultural revolution.

II. Cultural objects: Data present themselves to the subject in various shapes, "Gestalten". The subject tries to change those shapes, so that they become as they ought to be: he "informs" the data. To do this, he must have them stand still, (understand them), and grasp them, (conceive them). Understanding has to do with eyes, and the Greeks called this gaze which makes the data stand still "theoria". Conception has to do with hands and fingers, and the Greeks called this kind of gesture "praxis". They felt a contradiction between theoretical understanding and practical action. Kant has formalized this contradiction between theoretical and practical "reason". One seems to lead toward wisdom, "sophia", the other toward mere opinion, "doxa". Thus, in Occidental tradition, philosophy, (love of wisdom), came to despise action.

The result was that the cultural objects, (data changed into facta), were little illuminated by theoretical understanding. Work was, to a large extent, an empirical gesture. The cultural objects were, to a large extent, products of hands and fingers, works made by artisans and artists.

III. Industrial objects: The 15th century established a dialectics between theory and praxis. One began to look, in order to grasp better, and to grasp in order to see better. Theory became hypothetical: praxis could disprove it. And praxis became experimental: it applied theoretical understanding. Modern science was born.

The 18th century used modern science to analyse work into two elements: one concerning the shape to be imposed on data, the other concerning the gesture of that imposition. This resulted in machine tools and in machines: the industrial revolution. A given object, a datum, is introduced into a machine, (a practical application of a theoretical understanding of the gesture of working). It is there impressed by a machine tool (a practical application of a theoretical understanding of shaping).

Out comes a new type of cultural object, the industrial object. This has had profound consequences: artisans and artists were marginalized, and society was divided into owners of machines and machine tools, makers of machines and machine tools, and servants of machines and machine tools.

Industrial objects differ from pre-industrial ones in two aspects: They are more numerous, because machines are more rapid than men, and the result was object inflation, devaluation of cultural objects. And they are stereotypical, because the same tool impresses the same shape on a series of objects, and the result was that cultural objects became equivalent one with the other. This progressive devaluation and indifference of cultural objects is called "mass culture".

IV. Post-industrial objects: As the cultural objects became ever cheaper, and the machines and the tools ever more expensive, one tended to believe that those who own the machines and the tools hold the power of decision. This belief is one of the roots of Marxism. But as it became evident that "shape" and "value" are synonymous, that it is the tool makers who shape the future of society, this belief shifted. It is now the tool makers, ("information programmers"), which are believed to hold the power of decision.

Thus information production, (the elaboration of information to be imposed on data), ~~xxxx~~ became neatly distinguished from work, (the imposition of information upon data). Work was now understood to be a mechanical motion, one unworthy of human subjects. The result was automatic machines, robots. Somewhat later it was found that even the elaboration of information has mechanical aspects. The result were automatic artificial intelligences. Thus the shock between subject and object was transferred from man to apparatus, and man became a sort of judge of that struggle by programming the information to be elaborated by computers.

Post-industrial society will be one in which most people will be engaged in this programming. Post-industrial objects will differ from industrial ones in that they will become almost value-less supports for informations as programmed. (Even now, the value of a plastic fountain pen is almost entirely in its shape, and it is almost absent from its plastic matter.) Strictly speaking, post-industrial objects will no longer be true "objects". If culture is defined as a store of values, this store will no longer consist of objects, but of other forms of memories to be discussed later.

To resume this discussion of the term "object": Man is subject to objects which stand in his way. He must change them. This changing becomes ever better theoretically understood and can be improved in practice. Until a point is reached where man no longer needs to confront objects in his advance toward the future: apparatus may do it in his place. From this point on man is no longer a true subject.

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V. Photos: They are practically worthless supports of informations. Those informations have been elaborated by an ever better automated apparatus. A critical analysis of photos, (a "photo philosophy"), may therefore help us to understand what is going on around us.

The information the photo carries sits on its surface, and not within its body, like in the case of shoes or fountain pens. This seems to be true of all pictures, but it is not so. Pre-industrial pictures are valuable as objects, because one loses the information they carry if one destroys their body. Just like with shoes and fountain pens. Photos are worthless as objects, because the information they carry is stored elsewhere and may be easily transferred from one worthless surface to another.

This the photos have in common with printed matter. Like with printed matter, photo matter may become a nuisance and aggravate the garbage problem. But in printed matter the information was elaborated by a human subject, an "author", (unless a word processor had been used), while in the photo it is an apparatus which has elaborated the information. A post-industrial object is one which is objectively worthless, which carries a multipliable information, and an information elaborated by an automated apparatus. Thus, if we are to grasp the photo, (and post-industry in general), we must concentrate upon the camera, (and in general upon apparatus).

VI. Apparatus: It is a machine which elaborates information. A situation is the more informative, the less it is probable, for instance: the letter "z" is more informative within an English text than is the letter "a", and a penguin encountered in a street is more informative than is a post man). Apparatus is a machine which calculates probabilities. Humans used to do the same thing, and they called it "creation". They used to elaborate improbable situations empirically, and they used to call their empiricism by noble terms like "intuition". Apparatus do this better, because they use information theories.

There is a philosophical problem. The universe of given objects, ("nature"), tends toward progressive loss of information. It tends toward an ever more probable distribution of the elements which compose it. Culture is a store of improbable situations which mankind opposes against this stupid natural tendency toward loss of information, toward "thermic death", toward oblivion. This is why information is synonymous with value. Now if apparatus can create information in the place of man, what about human commitment. What about values? The problem needs to be restated.

VII. Three types of photos: One may distinguish, for the above purpose, photos made by fully automated cameras, (for instance those made from satellites of NASA), from amateur photos, (for instance of the photographer's dog in front of the Florence cathedral), and from professional photos, (for instance an experimental photo). The first type carries an information programmed by humans and elaborated by apparatus. The third type carries an information intended by the photographer, and this intention may be opposed to the one which programmed the apparatus. It is the second and by far most frequent type of photo which is of interest here.

The amateur presses upon the releaser as often as he can; he is in fact an automatic releaser. He photographs everything the camera can photograph: he tries to exhaust the camera program. Therefore the informations his photos carry have not in fact be intended either by himself or by the camera programmer, but were mere virtualities within the camera program, which became real through an automatic releasing gesture. Now this is pure terror. An apparatus has escaped from human intentions and now realizes all of its virtualities automatically, (including the one to destroy itself, see Goedel's theorem). An apocalyptic vision, if applied to other apparatus like the thermo-nuclear or the political apparatus.

Snap shots carry little information. They are probable. But some of them are highly informative, difficult to futurize, and for a curious reason. They are bad photos. They owe their information to an error, to a deviation from the camera program. We know this sort of information which is the result of an error. New biological species arise through errors in the transmission of the genetic program. In fact, this deviation from program through error is responsible for every information produced by nature. An apparatus which has escaped from human intention, which realizes all its virtualities automatically, and which deviates from its program by error, works like nature. Which implies that a society dominated by uncontrolled apparatus will be thrown back into the terror of blind, absurd automaticity, into a pre-cultural situation.

The challenge is to control apparatus. This is shown in the third type of photo. The experimental photographer deviates from the camera program, and he does so intentionally, not by error. But there is this problem: even if the photographer intends to deviate from the program, he can only photograph what is contained as a virtuality in the camera program. This

is the aspect of the famous "inner dialectics of freedom" we shall have to face in the post-industrial future.

To resume this discussion of the photo as an example for the post-industrial future: Objects tend to become worthless supports for informations. Most of that information is elaborated by automatic apparatus according to an (originally) human program. Apparatus tend to escape from this originally human intention. Human commitment is therefore no longer to elaboration of programs, but to deviation from programs. No longer to the creation of values, but to the deviation from values.

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VIII.

Electro-magnetized photos: Photos are about to emigrate from their material support into the electro-magnetic field, to abandon their chemistry: they will no longer be seen on paper, but on screens. This is a technical revolution, and basically all cultural revolutions have a technical basis. For instance: the Neolithic revolution is based on agriculture, and the Industrial one on machines). We are in the midst of a cultural revolution.

What distinguishes the new photo from a chemical one are three points: (a) It is practically eternal, not subject to entropy, to the Second principle of thermo-dynamics. (b) It can move and sound. (c) It can be changed by its receiver. This is true of every electromagnetized information, (like video or computer synthetizing), but in the photo one may see how information abandons its material basis.

(a) Memory: Objects are bad memories: paper falls into ashes, buildings into ruin, entire civilisations have been forgotten. Man is committed to preserving the information he creates, he is committed against entropy, against oblivion. In his search for immortality he has always tried to find something "aere perennius", something which might resist entropy better than bronze does. He has found it. Silicon. (and even better wet memories of the immediate future), will assure that all created information may outlast the human species. The new photos may be stored in this kind of memory.

(b) Total art: Ever since the 15th century Occidental civilisation suffered from the divorce into two cultures: science and its techniques on the one hand, the arts on the other. On the one hand the true and the good for something, on the other hand beauty. This is pernicious. There is an aesthetic quality to every scientific proposition and to every technical gadget, and there is an epistemological and political quality to every work of art. But chiefly: there is no basic distinction between scientific and artistic research: both are fictions in the quest of truth, (scientific hypotheses being fictions). Electromagnetized images do away with this divorce, because , because

they are the result of science, and they are at the service of imagination. They are what Leonardo used to call "fantasia essata". A synthetic image of a fractal equation is both a work of art and a model for knowledge. Thus the new photo not only does away with the traditional classification of the various arts, (it is painting, and music, and literature, and dance, and theatre all rolled into one), but it also does away with the distinction between the "two cultures", (it is both art and science). It renders possible a total art Wagner never dreamt of.

(c) Dialogue: Totalitarian society is discursive: it emits information, like the daily press, or the TV system. Democratic society is dialogical: it permits information exchange, like the telephone. Both forms overlap at present, but discourse is dominant. The new photo will change that. Cables and other reversible channels will carry information both ways. The new photo may be changed by its receiver to be sent back, thus changed, to the sender. Everybody will become capable of collaborating in elaboration of information, (within the limits imposed by automation). Democracy has become technically possible for the first time ever since the Industrial revolution.

In short: the new photo will be different from the chemical one in that it will be practically eternal, will render possible total art, and will permit democracy to function. (Which is, needless to say so, a demagogical statement.)

IX. "Les immateriaux": The recent exhibition under this title at the Centre Pompidou, Paris, organized by Liautard, wanted to show how the future society of pure information will look like. It consisted of various types of electromagnetic images, including moving photos of satellites of Jupiter, of particles, of intestines during function, images of mathematical equations, of "impossible" objects like four-dimensional cubes, exchangeable holograms, and all this was bathed into synthetic sound and comments by synthetic voices. There was no object present, just immaterial information. From the point of view of industrial culture all this was entirely useless. It cannot be consumed, only contemplated. If in the future people will concentrate upon producing such useless information, and relegate the production of useful objects to automatic machines and artificial intelligences, then we shall have a useless culture.

But if one changes one's point of view, the exhibition suggests that it is precisely this uselessness of pure information which will permit man to lead a meaningful life for the first time ever. The Ancients thought of idleness, ("schole"), that it is the purpose of all action, ("a-scholia"). Thanks to the automats man is becoming unemployed, and thus free for useless dialogical elaboration of pure information. This is of course called "play", and the present cultural revolution may be seen as a mutation from "homo faber" into "homo ludens". All serious business will be relegated over to apparatus, and the New Man

will play his games, and look back with contempt on the animal seriousness of past generations.

X. Intersubjectivity: The future culture of immaterial information, as exemplified by the new photo, will hold objects in contempt: it will consume them without paying them any attention. In this sense man will no longer be subject to objects. He will no longer face the universe of objects. Instead, he will be linked, through numerous channels, with other people who exchange informations with him. This togetherness will stand outside space-time: all the others, wherever they may be, will always be present with him. One may call this sort of existence the "intersubjective one", to distinguish it from subjective existence. It is impossible to formulate as yet the categories of such an existence. If one could do so, one would have negotiated the abyss which separates the old form of existence from the new one.

To resume this discussion of the new photo as an example of the emerging culture of immaterial information: All useful activities will be executed by apparatus. Man will become free to elaborate pure information in dialogue with all the others. This information will be stored in unperishable memories. It will be total art, and every man will become, potentially, a universal artist. Man will exist, no longer as subject to an objective universe, but as a knot within a social network which transcends space-time. This is of course utopic. Catastrophies may be relied upon to prevent it. Still: it has become a technically feasible utopia.

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Bibliography: This paper is based on four essays, two of which I published in Brazil, and two in Germany, namely: "Natural:mente" and "Pos-historia" in Portuguese, and "Fuer eine Philosophie der Fotografie" and "Ins Universum der Technischen Bilder" in German. It also contains elements of an essay on the Future of Writing which is in progress.

The part which deals with objects is influenced by Heidegger's analysis of "Ding" and "Zeug", bei Abraham Moles' work on the Theory of Objects, and by Adorno's critique of Marxist dialectics.

The section dealing with chemical photographs, (the usual type), is in part an answer to Roland Barthes' arguments on that subject, and a continuation of Walter Benjamin's reflexions. In part it is an application of information theory on the problem of creativity, as it is for instance experimented with in Strasbourg. The last part of this section is an attempt to embody Adam Schaff's and Ernst Bloch's intuitions into the argument.

The last section dealing with electromagnetic photos, (the new type), is a synthesis between the "new criticism", as initiated by Sedlmayer and others, and Martin Buber's analysis of intersubjective existence. Its last part is a preparation for a discussion between Jean Baudriillard and myself on German TV, to take place on February 26.