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VILÉM FLUSSER Automation from the human point of view.

I decided to change my contribution to the present symposium and take into account the arguments submitted yesterday by Messrs. Milton Vargas, Luigi Bagolini and Renato Czorna. Prof. Vargas' point seems to be the following: the pressing problem to be discussed at this symposium is the discrepancy between science and its products on the one hand, and the incapacity of mankind to use them with discernment on the other. This discrepancy results in the bad use of scientific products that characterizes us and threatens us. But this is not necessarily a definite situation. Science, (the only authority of modern man), will overcome the discrepancy when it succeeds to manipulate mankind so as to enable it to make convenient use of the products of technology. Tendencies towards this can be observed in "profound psychology" which researches and submits to control those psychic energies which are so far pernicious, just like physics succeeded to control nuclear energies. Thus hope for a solution of the problems raised by science lies in the continued advance of the same science.

I disagree frontally. Not only because the example offered seems to me to be unfortunate. Nuclear energy was in fact provoked by technological advance, and science may be held responsible in this sense for the Hiroshima explosion. But psychic energy explodes science notwithstanding, and science can not be held responsible for explosions of the type "night of the long knives". (Though fascism and nazism have tried to rationalize their brutalities by a scienticism which was nothing but a caricature). But I disagree not only because the example was unfortunate. Science can never manipulate mankind in the sense of supplying it with models of behavior, for the simple reason that science is incompetent for imperatives. Science is characterized by its value neutrality, (it is "wertfrei"), and it ceases to be science when it is "applied", (i.e.: inserted into "politics" in the sense of "manipulation of models of behavior"). This is in fact the problem of technology including automation, which is the subject of this paper. An applied psychology, (as recommended by prof. Vargas), would no longer be science but technology, and in this sense ideology. The ideological aspects of freudism have already been discussed at this symposium. Marxist sociology suffers the same fate. If we hope for science to result in the "new man", (in the marxist, freudian, nietzschean or jungian sense), we will have confused science with ideology. Science will never save us from the impasse created by technology, and I shall try to prove this as follows:

I shall resume human history by choosing three events that seem to me to be decisive: The first, which is the one that inaugurates human history, is that ontic revolution by which man separates himself from his surroundings and assumes himself as subject of nature. In this turn-about man looks upon nature as his object, i.e.: as something that is, but is not as it ought to be, and may be transformed into what it ought to be by human action. This

"ought to" of nature is conceived, in the first stage of human history, as a series of models which are eternal, unchangeable and transhuman. In this transforming nature by impressing on it models held to be transhuman. In this transforming action man uses instruments, which are pieces of nature torn out of their context and turned against it. A description of the instruments becomes necessary.

Instruments are stimulations of the human body, and in this sense extensions of the human body. "Stimulation" is an action that exaggerates one chosen aspect of the original and suppresses all others. E.g.: a hammer is a stimulation of the fist, in that it exaggerates the aspect "weight", and suppresses all others. An arrow is a stimulation of the finger, in that it exaggerates the aspect "perturbation", and suppresses all others. Stimulants are much less complex than the stimulated original in their relatively poor structure. But in the exaggerated aspect they are much more efficient than the stimulated original. This is why the instruments as stimulants increase the efficiency of human action on nature. In fact: human history may be seen as the growing exaggeration of certain aspects of certain organs: thus we would have, starting from the fist, developments of the type stone, hammer, common ball and arrow, and starting from the finger developments of the type bone, spear, taking different body organs for points of departure. The efficiency of the instrument increases with the exaggeration of the stimulation, but it never, by itself, turns problematic the relation "man-instrument". It never, by itself, breaks the structure of the relation which is "man(subject)-instrument(object)", since the original is always more complex than the stimulant. The period inaugurated by this first revolution covers the vast majority of human history, in which the relation "man-instrument" is the problem.

The second decisive event in human history is that revolution, called, in various contexts, "humanism" or "Renaissance", by which man assumes himself as producer and conventionalizer of models. In this second turn-about man not only sees nature as his object, but equally the models, ("values"), as his products. From now on he not only manipulates nature with models, but he manipulates the models themselves. They cease to be eternal and unchangeable, and become transitional and invalidable. The revolution is, at bottom, a reformulation of the term "theory", which ceases to mean contemplation of eternal models, and now means manipulation of invalidable models. The result is science in the strict sense, i.e. a describing that combines theory with practice and manipulates theories. And science, again, results in a revolutionary instrument in the field of instruments, called "instrumental revolution". Henceforth instruments no longer stimulate their originals directly, but they go first through the stage of a transitional and changeable theory. If we compare a manual loom with a mechanical one, we shall find the following: a phenomenological analysis of the manual loom will reveal, as its sides, human

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 fingers weaving. A phenomenological analysis of the mechanical loom will reveal, furthermore, a certain physical theory of the 18th century. The passage of instruments through changeable theories increases not only their efficiency as simulants, but raises a series of new problems. One of them concerns the growing variability of the forms of instruments, called "progress". Another concerns the progressive complexity and cost of instruments, raising the question: "who owns the instruments, and who ought to own them?". This is one of the most pressing questions of the past century, and marxism gave it the most significant formulation.

But the problem which concerns the present context is this: the new instruments resulting from the industrial revolution tend to problematize, in a way, the relation "man-instrument". A new type of man, (the "proletarian"), appears and he functions as a function of instruments, and not the other way around. The structure of the relation seems to have been inverted. It is no longer thus: man surrounded by instruments; but thus: instruments surrounded by men. It is, however, no problem without solution. The instruments may be complex, but the originals, (men), continue to be far more sophisticated. What happened is this: mankind was divided into two classes, the owners and the functionaries of instruments, and the instruments form a layer between owners and not-owners. They are still objects of owners, and the true problem is not the instrument, but the division of mankind in classes.

The third decisive event in human history is extremely recent, and may be called "automation" or "cybernetics". It consists of a third step taken by man, by which man assumes himself as his own subject. He not only sees nature as his object and the models as his products, but he sees himself from the point of view of a new transcendence without foundation. Out of this "Bodenlosigkeit" man can, henceforward, simulate not only his organs, but also himself as agent. The new instruments may seem to simulate human brains (i.e. organs), but in truth they simulate human decisions, (i.e. "the agent"). This new type of instrument is still a simulant, i.e. far less complex than the simulated original. But it is a simulant in this sense too: much more efficient in the exaggerated aspect, i.e. in deciding capacity. By having man in this way simulated himself as agent, he seems to have inaugurated a new period in history, a period in which he may be eliminated from history as agent.

The problems raised by the second industrial revolution are of a new order, because they invert in fact the relation "man-instrument". It is no use to try and minimize the revolution by saying that the new instruments still result from human manipulation and still depend on human programming, and in this sense still are human objects. This type of reasoning ignores the phenomenon of "autonomy". Autonomy is that jump by which a structure, having originated from another structure, turns explicit certain rules that were merely implicit in the original structure. When this jump is made, the

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new structure no longer depends on the original one, and is no longer explained fully by it. E.g.: man can be considered a structure which originated from the structure of primates. But man achieved autonomy from the primates, in that in him certain rules, merele implicit in primates, became explicit. For instance the capacity for mathematics must be implicit in primates, (since it is explicit in man, and nothing comes from nothing), but in man it is effective. Though man may be explained genetically as a primate, this explanation is insufficient as far as mathematics are concerned. In fact: the autonomy of man with regard to primates permits man to program, through feed-back, for instance chimpanzees in cages and have them smoke cigars or ride bicycles. In the same manner it is perfectly licit, once we admit the tendency of certain instruments towards autonomy, to expect an increasing backflow of programming between man and instrument. In fact mankind is already now in part programmed by instruments, and human behavior already shows in part a neatly instrumental and functional character, (i.e.: man turns functional). To say that cybernetic instruments are still programmed by men, is to say, even now, that those instruments re-program themselves, in part, throu feed-back using men for that purpose.

Now this pessimistic view of the immediate future, (pessimistic from the point of man as agent, and therefore possibly from a point of view of the past), was very well put in the controversy implicit in the contributions made by prof. Bagolini and prof Czerna to this symposium. Prof. Bagolini proclaimed the death of antropocentrism, which means, I believe, aproximately what I called here "the second decisive event". And he announced a new open attitude toward transcendence, an attitude approximately identical to what I called "third decisive event". In prof. Bagolini's analysis this new attitude is a superation of historicism, and in this he agrees fully with the analysis I offer. But he disagrees as to my ontological apreciation. For me, the "third step back", (Heidegger's "Schritt zurueck"), is made toward an emptiness without values and meaning, and results in an absurd position. For prof. Bagolini this step roots man in transcendence. To this prof. Czerna replies by showing that any attempt to transcend, (any attempt to formalize "sub specie aeterni"), is given, of necessity, from within history, i.e. from within the process of human action. Formalism, far from superating history, can be historically explained. History continues to be the meta-channel of every formalism.

This controversy illustrates my point of the "Bodenlosigkeit" of present mar which threatens to eliminate man as agent and replace him by automatized instruments. Because both prof. Bagolini's and prof. Czerna's arguments may be sustained. It is perfectly licit to explain historicism formally, and in this formalism will be a meta-channel, i.e., will transcend. It is equally licit to explain formalism historically. The hierarchy of explanations is

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reversible. And it is exactly this which is done through the third step back: the reversibility of all hierarchies of explanation. And that reversibility implies an abdication of man as a being which decides and acts. An abdication in favor of autonomous instruments, and a transformation of man into consumer, i.e. into a passive being. Trends towards such transformation abound in the present scene.

It is possible to find in that scene the first trends toward the essence of this "new man". These trends concern the "acte gratuit", the deliberate use of the accidental, the motivation toward play, in short: game and art. But a consideration of those trends would exceed the scope of the present contribution, which will rest satisfied if it succeeds in pointing to the central problem: the reversal of the flux of programming in the relation "man-instrument".