

VILÉM FLUSSER

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Our civilisation offers two types of media between ourselves and the world of facts: linear ones, (like writing), and surface ones, (like images). The first type aims at conceiving the facts in "historical" successions, in processes. The second one aims at imagining the facts statically, in scenes. Lately a third type of media has come about, that of moving surfaces, (like film and TV). It shares some aspects of linear mediation and of surface mediation. This type of media is becoming dominant and will be a decisive factor in the future. To understand its virtualities, one can either consider it to be an abandon of linearity, (of "historicity", of "conceptual thinking" or one can consider it to be an absorption of linearity into the surface, (a type of medium that permits the "imagination of concepts" and a new attitude toward history and processes). In the first case, the "mass" media will contribute to the establishment of a "pre-historical" society, (consumer society) which will have abandoned the clearness and distinction characteristic of linear thinking. In the second case, a "post-historical" society with structuralistic imagination of concepts in science, arts and politics is in the making.

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Surfaces are becoming ever more important in our surroundings. For instance TV screens, films screens, posters, the pages of illustrated magazines. In the past they were rarer. Photographs, paintings, carpets, vitreaux, and cave paintings are examples of surfaces that surrounded men in the past, but these surfaces did not possess either the quantity nor the importance of the surfaces that now surround us. It was therefore not quite so urgent as it is now to try and understand the role surfaces have for human lives. There existed, in the past, another problem of far greater importance. Namely to try and understand what lines mean. Ever since the "invention" of alphabetical writing, (i.e. ever since Western thought began to articulate itself), written lines surrounded men in a way that demanded explanation. It was clear: these lines meant the three-dimensional world in which we live, act and suffer. But how did they mean it?

We know the answers to this question, the cartesian one being the most decisive for modern civilisation. It affirms in short that the lines are discourses of points, and that each point is a symbol of something out there in the world, (a "concept"). Therefore the lines represent the world by projecting it to form a series of successions. Thus the world is represented by the lines in the form of a process. Western thought is "historical" in the sense that it conceives of the world in lines, therefore as a process. It can be no accident that the historical feeling was first articulated by the Jews, the people of the book, i.e. of linear writing. But let us not exaggerate: only very few knew how to read and write, and the illiterate masses distrusted, and for cause, the linear historicity of the clerks that manipulated our civilisation. The invention of the printing press vulgarized the alphabet, however, and it may be said that during the last hundred years or so the historical consciousness of Western mankind has become the climate of our civilisation.

It has now ceased to be it. Written lines, although getting even more frequent than before, are becoming less important than surfaces to the masses. We need no prophets to know that the "one-dimensional man" is disappearing. What do these surfaces mean? That is now the question. Of course: they mean the world as much as the lines do. But how do they mean it? Are they adequate to the world, and if so, how? And do they mean the "same" world the written lines mean? The problem is to find out what adequation there is between the surfaces and the world on one side, and between the surfaces and the lines on the other. No longer just the problem of the adequation of thought to thing, but of thought expressed in surfaces to the thing on one side, and to thought expressed in lines on the other. Now there are various difficulties in even stating the problem. One has to do with the fact that the problem must be stated in written lines, therefore in a way that begs the question. Another has to do with the fact that although thought expressed in

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surfaces now predominates, it is not quite as much aware of its own structure as thought expressed in lines is. (We do not have any bi-dimensional logics comparable to the Aristotelian logic, as far as rigor and elaboration are concerned.) And there are other difficulties. There is little sense in trying to avoid them by saying for instance that thought expressed in surfaces is "synoptic" or "syncretic". Let us admit the difficulties, but let us try, nonetheless, to think about the problem.

(a) Adequation of "surface thought" to "line thought": We can state for instance the following question: What is the difference between reading a written lines and a picture? The answer to this is apparently simple. We follow the text of a line from left to right, we jump from line to line from above to below, and we turn the pages from left to right. We look at a picture: we pass our eyes over its surface in paths vaguely suggested by the structure of the picture. In reading lines we follow a structure imposed on us, in reading pictures we move rather freely within a structure that has been proposed us. Apparently that is the difference.

It is not a very good answer to our question, however. It suggests that both readings are linear, (paths being lines), and that the difference between the two has to do with freedom. If we come to think of it, however, this is not so. We may in fact read pictures in the way described, but we need not do it. We may seize so to speak the totality of the picture at a glance, and then proceed to analyze it in the mentioned paths. (And that is what, as a rule, happens.) In fact, this double method of reading pictures, this synthesis followed by analysis, (a process that may be repeated several times in the course of a single reading), is what characterizes the reading of pictures. Which means that the difference between reading written lines and pictures is this: we must follow the written text if we want to get at its message, but in pictures we may get the message first, and then try and de-compose it. And that is the difference between the one-dimensional line and the two-dimensional surface: the one aims at getting somewhere, the other is there already, but may show how it got there. The difference is one of time, and involves the present, the past and the future.

It is obvious that both types of reading involve time, but is it the "same" time? Apparently it is, since we can measure the time involved in both readings in minutes. But this simple fact stops us. How can we explain that the reading of written texts take usually many more minutes than the reading of pictures? Is the reading of pictures more tiresome, so that we have to stop it? Or are the messages transmitted by pictures usually "shorter"? Or is it not more sensible to say that the two times involved are different, and that the measurement in minutes fails to show this? If we accept this, we may say that the reading of pictures takes less minutes, because the time in which their messages are received is denser. It opens up quicker. If we call the time involved in reading written lines "histor

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ical time", we ought to call the <sup>one</sup> involved in reading pictures by a different name. Because "history" means to try and get somewhere, and while reading pictures we need ~~to~~ go nowhere. The proof of this is simple: it takes much more minutes to describe in writeable words what one has seen in a picture than to see it.

Now this difference between the two types of time becomes far more virulent than this, if instead of comparing reading of lines to pictures we compare it to movies. A film is a linear sequence of pictures, and we know this. But while reading a film we forget it. In fact we have to forget it if we want to read the film. How do we read it? This question is asked by a number of sciences, and is getting very detailed physiological, psychological and sociological answers. (This is important, because knowing these answers enables film and TV producers to change films and thereby the behavior of those who watch them, i.e.: mankind). But the scientific answers fail to show, by being "objective", the existential aspect of reading films, which is the one that matters in considerations like these.

It may be said that films are read as if they were a series of moving pictures. But these pictures are not identical with the pictures the film is physically composed of, with the photographs that compose its ribbon. They are more like moving pictures of scenes in a play, and this is the reason why very often the reading of films is being compared to the reading of plays performed on a stage, instead of being compared to the reading of pictures. This is an error, because the stage has three dimensions and we can walk into it, whilst the screen is a two-dimensional projection and we can never penetrate it. The theatre represents the world of things thru things, and the film represents the world of things thru projections of things, and the reading of films goes on in the plane, like the reading of pictures. (Although it is a reading of "talking pictures", a problem that will be considered later.)

How we read films can best be described by trying to enumerate the various levels of time in which the reading goes on. There is the linear time in which the pictures of the scenes follow each other. There is the time in which each picture itself moves. There is the time which it takes for us to read each picture. (Which is similar, though shorter, to the time involved in reading paintings.) There is the time which is meant by the story the film is telling. And very probably there are other even more complex time levels. Now it is very easy to simplify this and say that the reading of films is similar to the reading of written lines, because it also follows the text, (the first time level). Such a simplification is true in the sense that in films, like in written texts, we get the message only at the end of our reading. But it is false in the sense that in films, unlike in written texts, and like in paintings, we can first grasp each scene, and then analyse it. This means that the reading of films goes on

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in the same "historical time" in which the reading of written lines occurs, but that the "historical time" itself occurs in the reading of films on a new and different level. We can easily visualize this difference. In reading written lines we are following "historically" points, (concepts). In reading films we are following "historically" surfaces, (images). The written line is a project toward the first dimension. The film is a project which starts from the second dimension. Now if we were to mean by "history" a project toward something, it becomes obvious that "history" means something quite different in reading written texts from what it means in reading films.

This radical change in the meaning of the word "history" has not yet become obvious, for a very simple reason. It is that we have not yet learned how to read films and TV programs. We still read them as if they were written lines, and fail to grasp the surface quality inherent in them. But this will change in the very near future. It is technically possible even now to project films and TV programs which allow for the reader to control and manipulate the sequence of the pictures and to super-impose pictures. Magnetoscopes and slides point clearly at this. Which means that the "history" of a film will be something partly manipulated by the reader. It will even become partly revertible. Now this implies a radically new meaning to the term "historical freedom". The term means, for those who think in written lines, the possibility to act upon history from within history. It will mean, for those who think in films, the possibility to act upon history from without. This is so because those who think in written lines stand within history, and those who think in films look at it from without.

The previous considerations have not taken into account the fact that films are "talking" pictures. Now this is a problem. Visually films are surfaces, but to the ear they are spatial. We swim in the ocean of sound and it penetrates us, whilst we are opposed to the world of images and it surrounds us. The term "audio-visual" hides this. (It seems that Ortega, like so many others, ignores this difference when speaking of our "circunstancia", and visionnaires live certainly in a different world from those who hear voices.) We can feel physically how sound in stereophonic films introduces the third dimension into the surface. (This has nothing whatever to do with possible future three-dimensional films, because they will not introduce the third dimension, they will "project" it like paintings do when they use perspective.) This third dimension which drives a wedge into the surface reading of films is a challenge to those who think in surfaces and only the future will show what it comes to.

Let us resume what we have tried to say in this paragraph: Until very recently official Western thought has expressed itself in written lines much more than in surfaces, and this fact is important. Written

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lines impose on thought a specific structure in that they represent the world by the means of a point sequence. This implies an "historical" being-in-the-world of those who write and read them. Aside from these written lines there existed always surfaces which also represented the world. They impose a very different structure on thought in that they represent the world by the means of static images. This implies an unhistorical being-in-the-world of those who do and read them. Very recently new channels for the articulation of thought have come about, (like films and TV), and official Western thought is increasingly taking advantage of them. They impose on thought a radically new structure in that they represent the world by the means of moving images. This implies a post-historical being-in-the-world of those who do and read them. In a sense it may be said that these new channels incorporate the written line into the picture, by lifting the linear historical time of written lines on to the level of the surface.

Now if this is true it means that at present "surface thought" is absorbing "linear thought", or is at least learning how to do this. And this implies a radical change in the climate, the behavior patterns and the whole structure of our civilisation. This change in the structure of our thinking is an important aspect of the present crisis.

(b) Adequation of "surface thought" to the "thing": Let us ask quite a different sort of question. Take a stone, for example. How is that stone out there, (which makes me stumble), related to a photograph of it, and how is it related to a mineralogical explanation of it? The answer seems to be easy. The photograph represents the stone in the form of an image, the explanation represents it in the form of a linear discourse. Which means that I can imagine the stone if I read the photograph, and conceive it if I read the written lines of the explanation. Photograph and explanation are mediations between me and the stone, they put themselves between me and the stone, and they introduce me to it. But I can also walk directly toward the stone and stumble over it.

So far so good, but we all know from school that the matter is not so easy. The best we can do is to try and forget all we were told at school about the matter. For the following reason: Western epistemology is based on the cartesian premiss that to think means to follow the written line, and it does not give its due to the photograph as a way of thinking. Let us therefore try and forget that according to our schools to adequate thought to thing means to adequate concept to extension, (point to body). The whole problem of truth and falseness, fiction and reality, must be at present reformulated in the light of the mass media, if we are to avoid the barrenness of academism.

Now the stone we have given as an example is not a very typical one in our present situation. Because we can walk right up to it, and we can do nothing of the sort with most of the things that determine us at present.

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We can do nothing of the sort with most things that occur in explanations, and also with most things that occur in image. Take the genetic information, or the Vietnam war, or alpha particles, or Miss Bardot's breasts as examples. We have no immediate experience with this sort of things, and nonetheless we are determined by them. There is no sense in asking, with such things, how the explanation or the image are adequate to it. Where we can have no immediate experience it is the media themselves which are the thing for us. To "know" is to learn how to read the media in such cases. It does not matter at all whether the "stone", (namely the alpha particle and Miss Bardot's breasts), are "really" somewhere out there, or whether they merely appear in the media: they are real in that they determine our lives. And we can state this even more strongly. We know that some of the things that determine us are deliberately produced by the media, like speeches of presidents, Olympic games and important weddings. What sense is there in asking whether the media are adequate to these things?

But we can go back to the stone nonetheless, as to an extreme, although non-typical example. Because, after all, we still have some immediate experience left, although it is getting lesser and lesser. (In fact, we live in an expanding universe, because the media offer us ever more things of which we can have no immediate experience, and take away, one by one, the things with which we can communicate immediately.) Now if we cling desperately to the stone nonetheless, we may venture the following statement: we live, speaking roughly, in three realms, the realm of immediate experience, (stone out there), the realm of images, (photograph), and the realm of concepts, (explanation). (There may be other realms we live in, but let us forget them). We may call, for the purpose of convenience, the first realm "the world of given facts", and the other two "the world of fiction". Now our initial question can be stated thus: how does fiction relate to fact in our present situation?

One thing is obvious: fiction pretends, very often, to represent facts by substituting them and pointing at them. (This is the case of the stone, its photograph and its explanation.) How can fiction do this? Through symbols. Symbols are things that have been conventionally appointed representatives of other things, (be that convention implicit and unconscious, or expressed and conscious). The things symbols represent are their meaning. We must therefore now ask how the various symbols of the world of fiction relate to their meanings. This shifts our problem to the structure of the media. If we take advantage of what was said in the first paragraph, we may answer the question as follows: written lines relate their symbols to their meanings point by point, (they "conceive" the facts they mean); and surfaces relate their symbols to their meanings by two-dimensional contexts, (they "imagine" the facts they mean). (I.e. if they mean facts and are no empty symbols.)

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tual and the imaginative one, and their relation to fact depends on the structure of the medium.

If we try to read a film, we must assume a point of view which the screen imposes on us. If we do not, we can read nothing. The point of view is a chair in the cinema. If we sit on it, we can read what the film means. If we refuse it and approach the screen, we see meaningless light spots. But if we sit on the chair, we have no trouble: we "know" what the film means. On the other hand if we try to read a newspaper, we need not assume a point of view imposed on us. If we know what the symbol "a" means, it does not matter how we look at it, it always means it. But we cannot read the newspaper unless we have learned the meaning of its symbols. This shows the difference between the structure of conceptual and imaginative codes and their respective de-codifications. Imaginative codes, (like films), depend on pre-determined viewpoints: they are subjective. And they are based on conventions which need not be consciously learned: they are unconscious. Conceptual codes, (like alphabets), depend on pre-determined viewpoint: they are objective. And they are based on conventions that must be consciously learned and accepted: they are conscious. Therefore: imaginative fiction relates to fact in a subjective and unconscious way, and conceptual fiction does so in an objective and conscious way.

Now this may lead to the following interpretation: conceptual fiction, ("line thought"), is superior and posterior to imaginative fiction, ("surface thought"), in that it makes it objective and conscious. In fact, this sort of interpretation dominated our civilisation until recently, and it still explains our spiteful attitude toward the mass media. But it is wrong, for the following reason: When we translate image to concept, we decompose the image, we analyze it. We throw, so to speak, a conceptual point-net over the image, and capture only such meaning that did not escape through the openings of the net. Therefore the meaning of conceptual fiction is much poorer than the meaning of imaginative fiction, although it is far more "clear and distinct". The facts are represented by imaginative thought more fully, and by conceptual thought more clearly. The messages of imaginative media are richer, and the messages of conceptual media are sharper.

Now we can understand better our present situation, as far as fact and fiction is concerned. Our civilisation puts two types of media at our disposal. Those of linear fiction, (like books, scientific publications and computers), and those of surface fiction, (like films, TVs and illustrations). The first type of media may mediate between ourselves and facts in a clear, objective, conscious, i.e. conceptual way, but it is relatively poor in its message. The second type of media may mediate between ourselves and facts in an ambivalent, subjective, unconscious, i.e. imaginative way, but it is relatively rich in its message. We can all participate in both types of me-



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how to use them. This explains the division of our civilisation in mass civilisation, (those who participate almost exclusively in surface fiction), and elite civilisation, (those who participate almost exclusively in linear fiction).

For both these civilisations getting at the facts is a problem, but it is a different problem for each one of them. For the elite it is this: the more objective and the clearer linear fiction becomes, the poorer it becomes, as it threatens to lose all contact with the facts it wants to represent, (all meaning). Therefore the messages of linear fiction can no longer be satisfactorily adequate to the immediate experience we still have of the world. For the mass it is this: the more technically perfect the images become, the richer they become, and the better they substitute any facts they may have meant originally. Therefore they do not need the facts any more, they can stand for themselves, and thus lose all meaning. They need no longer be adequate to the immediate experience of the world, and that experience is abandoned. In other words: The world of linear fiction, the world of the elite, is showing ever more its merely conceptual, its fictitious character, and the world of surface fiction, the world of the masses, is masking its fictitious character ever better. We can no longer pass from conceptual thought to fact for lack of adequation, and we can no longer pass from imaginative thought to fact for lack of criterium to distinguish between fact and image. We have, in both instances, lost the sense of "reality", we have become alienated. (For instance: we can no longer say whether the alpha particle is a fact, or whether Miss Bardot's breasts are "real", but we can now say that the question has very little meaning).

But it may perfectly be that this alienation of ours is nothing but a symptom of a passing crisis. It may be that what is happening at present is the attempt of incorporating linear thought into surface thought, concept into image, elite media into mass media. (This is what the first paragraph tried to argue.) If that should happen, imaginative thought could become objective, conscious and clear, while remaining rich, and could therefore mediate between ourselves and the facts in a far more effective way than was possible so far. How can this happen?

This involves the problem of translation. So far the situation has been approximately thus: imaginative thought was a translation of fact into image, and conceptual thought was a translation of image into concept. First there was the stone. Then there was the image of the stone. And then there was the explanation of that image. In future the situation may become thus: imaginative thought is going to be a translation from concept into image, and conceptual thought a translation from image to concept. In such a feed-back situation a thought model can be elaborated that may finally fit a fact. First there will be an image of something. Then there will be an explanation of

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sult in a model of something. (This something having been, originally, a concept). And this model may fit a stone, (or ~~or~~ some other fact, or nothing). And thus a fact will have been descovered, (or no fact ~~will~~ <sup>will</sup> have been discovered). There would again exist a criterium of distinction between fact and fiction, (fit and unfit models), and a sense of reality would have been reconquered.

What has just been said is not an epistemological or ontological speculation. (As such it is very doubtful.) It is an observation of tendencies at work at present. The sciences, and other articulations of linear thought like poetry, literature and music, are taking increasing recourse to imaginative surface thinking, and they can do soy because the technical advance of surface media permits it. And these surface media themselves, including painting and posters, are taking increasing recourse to linear thought, and they can do it, because their own technical advance permits it. What has been said may be theoretically very doubtful, but it has begun to be done in practice.

Now this means, in short, that imaginative thought is becoming capable of thinking about concepts. It can transform concept into its "object", and can therefore become a meta-thought of conceptual thinking. So far, concepts were thinkable only in other concepts, by reflexion. Reflective thought was the meta-thought of conceptual thought, and it was itself conceptual. Now imaginative thought can begin thinking about concepts in the form of surface models. Maybe this is the reason why philosophy is dying. It pretends to be the meta-thought of concepts. Now imaginative thought can take its place.

No doubt; all this is far too schematic. The factual situation of our <sup>civilisation</sup> ~~situation~~ is far more complex. For instance: There are tendencies toward thinking in the round, in the third dimension. Of course, such three-dimensional media have always existed. Paleolithic sculpture is there to prove it. But what is happaening now is very different. An audia-visual TV program that can be smelled and that provoked body sensations is no sculpture. It is one of the advances of thought toward representing facts bodily, the results of which cannot yet even be suspected. It will no doubt enable us to think of facts which are unthinkable at present. And there are certainly other tendencies within our civilisation which have not been taken into account by the foregoing schema. But it will serve its purpose. Namely to show an aspect of our crisis, and one of the possibilities to overcome it.

Let us resume the argument of the present paragraph: At present we dispose of two media between ourselves and the facts, the linear and the surface ones. The linear <sup>ones</sup> are getting more and more abstract and are loosing all meaning. The surface ones are covering up facts ever more perfectly, and are therefore also loosing all meaning. But they may be joint in feed-back. New types of media may thus come about, which may permit to discover facts again, and open up fields for a new type of thinking, with its own logic, and its own type of codified symbols. In short: they may result in a new kind of civilisation.

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(c) Toward a post-historical future: Let us now ask what this new kind of civilisation might look like. If we look at the present civilisation from a historical point of view, it appears as the result of a development of thought from imagination toward concept. (First there were the wall paintings and the Venuses of Willendorf, and then there were the alphabets and other linear codes like Fortran.) But such a historical point of view begins to fail us. Because our present imaginative media, (films, TV, slides and so on), are obviously developments from conceptual thought, in two senses. They are developments of conceptual thought, because they result from science, which is conceptual. And they are developments from conceptual thought, because they advance along discursive lines, which are conceptual. (A venus of Willendorf may tell a story, but a film tells its story along a line, it tells it historically). We must therefore rectify our explanation of the present civilisation. It does not look like the result of a linear development from image to concept, and more like the result of a sort of spiral from image through concept to image.

We may state this as follows: When man assumed himself subject of the world, when he stepped back from the world to think about it, i.e. when he became man, he did so mostly thanks to his curious capacity to imagine the world. Thus he created a world of images to mediate between himself and the world of facts with which he was loosing contact as he was stepping back. Later he learned how to handle this imaginative world of his thanks to another capacity, <sup>ly</sup> name the capacity to conceive. Through thinking in concepts he became not only subject of an objectified world of facts, but also subject of an objectified world of image. He is now starting to learn how to handle this conceptual world of his by taking recourse again to his imaginative capacity. Through imagination he begins now to objectify his concepts and thus free himself from them. In his first position he stands in the middle of static images, (in myth). In the second position he stands in the middle of lienary progressive concepts, (in history). In the third position he stands in the middle of images that order concepts, (in formalism). But this third position implies a being-in-the-world so radically new, that it is difficult to grasp ~~is~~ its manifold impacts. Let us try to find a model for it.

Take the theatre, for instance. The mythical position would correspond to the one assumed by a dancer enacting a sacred scene. The historical position to the one assumed by an actor in a play. The formalist ~~istic~~ position possibly to the one assumed by the author of a play. The dancer knows that he is acting, he knows that what he is doing is symbolic. And he accepts this as imposed by the reality he is representing. If he acted differently, it would be treason to reality, sin. To sin is his freedom. The actor knows that he is acting, and also, that the symbolic quality of his acting is a theatrical convention. He may therefore interpret this convention in various ways, and thereby change it. That is his freedom, the historical freedom strictly speaking. The author knows that he is proposing a convention within limits impos

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ed on him by the theatrical medium, and he tries to give meaning to his convention. That is his freedom, the formal freedom. Seen from the dancer the actor is a sinner and the author is a devil. Seen from the actor, the dancer is an unconscious actor, and the author is an authority. Seen from the author the dancer is a puppet, and the actor is a tool from which he gets feed-back.

But the theatre model is not a very good one. It does not show well the third position, because <sup>that</sup> it does not exist in the theatre, and is very recent. Let us therefore try another model to show the third position. Namely the position a TV spectator will find himself in in the near future. He will have at his disposal a magnetothèque consisting of tapes of various programs. He will be able to mix them, and thus compose his own program. But he will be able to do more: he might film his own program, include himself and others in it, register this on a tape, and then project it on his TV screen. He will thus see himself on his program. That means that the program will have the beginning, middle and end the consumer wills, (within the limitations of his magnetothèque), and also that he may play any role he wants in the program. This is a better model for the formal position than the theatrical author.

It shows the difference between the historical and the formal being-in-the-world. The spectator is still determined by history, (by the magnetothèque), and he still acts within history, (by appearing himself on the screen). But he is beyond history in that he composes the historical process, and in that he may assume any role he wants in the historical process. This may be stated even more forcefully: although he acts in history and is determined by history, he is no longer interested in history as such, but in the possibility of combining various histories. That means that history for him is no drama, (like it is for the historical position), but it is a game. For the historical position <sup>M</sup>commitment in history is acting, and for the formal position commitment in history is playing.

This difference is, basically, a difference of the type of time in which the two positions stand. The historical position stands in historical time, in the process. The formal position stands in that sort of time in which processes are seen as forms. For the historical position processes are the method <sup>by which</sup> things become; for the formal position processes are one way to look at things. An other way to look at things from the formal position is to <sup>see</sup> processes as dimensions of things. The first method of looking at things decomposes them into phases, (it is diachronical). The second method joins phases into forms, (it is synchronical). For the formal position whether processes are facts or not depends on how one looks at things.

What is therefore apory for the historical position, (matter-energy, evolution-information, entrophy-negentropy, positive-negative and so on), is complementary for the formal position. And this means that historical conflict, including wars and revolutions, does not look like conflict at all from the formal position, but <sup>like</sup> as sets of complementary moves in a game. This is