Vilém Flusser.

The surprising phenomenon of human communication.

Contrary to the expression "zoon politikón" man is not fundamentally a social being. He is, in fact, the most solitary of all the animals, even more so than the eagle high up in the sky or the octopus deep down in the abysses of the ocean. He is the most solitary of all the animals, even if he lives amidst the demographic explosion which is about to transform humanity into a sort of mobile moss to cover the continents; and he is the most solitary of all the animals, even if he is in love. (which is the most powerful of all communications). The fundamental reason for his solitude is his knowledge of his death, of the fact that he is irrevokably walking toward a situation which he will have to face alone, for himself, and in which society, with all its artifices called "culture", will become useless and worthless. This total solitude in death is, in man, an ever present knowledge, and it accompanies, sotto voce, his every moment. Infact: it may be held, (and it was held by some of the Ancients), that it is this knowledge of fundamental solitude in death which distinguishes man from all the other animals, and should therefore form the basis for all anthropological research. Now the phenomenon of human communication, of the fact that men exchange information and store it collectively to an extend far in excess to what even the social insects are capable of, should be seen against this background. The most solitary of animals is committed to the most intense, and also most extensive communication. This course of lectures will try to consider some of the aspects of this marvellous, miraculous, or, to put it molestly, surprising dialectical contradiction.

But the fact that men do communicate with each other is surprising not only from an existential viewpoint. If we come to consider communication formally, if we ask ourselves what happens when we communicate something to somebody somehow, we might find that we are asking a question which admits no satisfactory answer. What I mean, of course, is not that we are unable to describe carefully what happens during communication, nor that we cannot explain the process of communication on numerous levels. Most, if not all, humanist disciplines are concerned with just such descriptions and explanations, and the theory of communication is an attempt at generalisation, formalisation and quantification of those descriptions and explanations. What I mean is the very simple and very brutal fact that there is no possible form of communicating concrete experience to others. Concrete experience is essentially private. It is my experience, it happens to me here and now, and it is unique in the sense of being irreversible, irrevokable and incapable of repetition. It is easy to show formally that it cannot be communicated. Every communication involves some intersubjective convention, some code agreed upon by those who participate in it. And every intersubjective convention, even the most

apparently obvious one like pointing with one's finger, is "public" in the sense of being general, reversible, revokable, and capable of repetition. It thus necessarily falsifies the concrete experience it is to communicate. Thus, speaking strictly and formally, concrete experience cannot be communicated, and speaking loosely, it can be communicated in a dilluted and dubious way only. But if this is so, if the publication of private experience is strictly impossible even through such intense communication like love, or such dense communication like art, or such clear and refined communication like science, (let alone such diffuse and disorderly communication like common spoken language and the language of gestures), it must be asked what communication is all about. Because, if it is not about the concrete experience, at least in the last analysis, it is about nothing. The very simple and brutal fact that concrete experience cannot be communicated tends to be forgotten in the face of the surprising phenomenon of human communication. Because, as a matter of course, and paradoxically, most of our concrete experiences happen within, and through, and thanks to human communication.

Now it is of course common sense that not everything can be communicated, and that in our effort to share our experience with others we are frustrated. To speak with Wittgenstein, who suffered this limitation of communication more than most, and who thought about it deeper than most: all of us constantly throuw ourselves against the barriers of language, and history is the collection of wounds we thus suffer. But this rebellion of ours against the limitations of communication, (which is perhaps identical with our rebellion against human condition), may take various forms. In philosophy it poses the problem of the possibility of objective knowledge, not necessarily in the Kantian sense only, but also in the positivistic sense of the problem of observational and theoretical statements. In the arts it leads to the effort to invent new means to communicate experiences not articulated so far, to say what has not yet been said, to utter the inephable. And in religious thought it may lead to mystical silence. If the concrete experience cannot be communicated, then nothing worth while can be communicated outside that mute and silent "unio mystica" and it is in this great sea of silence into which all the rivers of communication must needs deposit their turbulent waters.

But even if the limitations of communication may lead to philosophical skepsis, to artistic frustration and to mystical silence, still what is surprising about communication is not that it is limited, but that it is so incredibly rich inspite of its limitations. Inspite of the fact that we are fundamentally alone and that no communication can change this, and inspite of the fact thatwe cannot communicate what is most concrete and thus most important, we are, all of us, profoundly committed to communi-

cation, and this commitment of ours is what gives our lives a meaning. We are committed to communication inspite of what may be called our "nature" as mortals, and inspite of what may be called the "nature" of communication. Our commitment to communication is anti-natural in various senses of the term. It is anti-natural, because communication is society, and society is not natural to the human animal: it is that situation which causes neuroses and psychoses. It is anti-natural, because communication is culture, and culture is anti-nature, since it changes it and fights against it. It is anti-natural, because communication is history, and history is a negation of natural determination, since it is a quest for freedom. But most of all our commitment to communication is anti-natural, because the process of human communication is opposed in its very tendency to the process of nature. Nature as a whole is a process which tends towards entropy, towards progressive loss of information and ever greater chaos. Human communication as a whole tends towards progressive increase of information, towards increasingly complex organisation. Nature is a process which tends to become ever more "probable" and therefore ever more foreseeable, and human communication is a process which tends to become ever less "probable" and therefore ever more surprising. This is why it is so incredibly rich inspite of its natural limitations. And this surprising antinatural character of human communication and of our commitment to it suggests thatthe term "communication" is very closely related to the term "spirit", and that the theory of communication might one day become a general theory of what the Germans call ever since Dilthey "Geisteswissenschaften", (sciences of the spirit). Which explains, by the way, my interest in it.

But although our commitment to communication goes against nature in many senses of that term, it is, in a different sense, the most natural of all human commitments. So natural is it in this sense, that we may almost speak of an "instinct". It is almost impossible to repress our urge to express ourselves toward others, and also our urge to open ourselves up to the expressions of others. To become "emittors" and "receivers". This almost irrepressible drive of ours to participate actively and passively in communication, in society, in culture, in history, in the increase of information has been called, in some contexts, our "social instinct". Aside from the fact that the word "instinct" is of little help to explain anything, it is important to bear in mind that our "social instinct" is, quite unlike the instinct of truly social animals, an anti-natural drive, and that our communication, quite unlike the communication of social animals, is an artificial process. This contradiction may be condensed by saying that man is, by his very nature, and anti-natural being, and that this fact becomes phenomenal in the surprising form of human communication.

I said above that human communication is a process which increases

information, as opposed to what may be called the process of nature. That was a loose and provisional statement, and we shall go into it more carefully in the course of these lectures. There are, of course, processes in nature which tend from the simple toward the complex, and the whole realm of biology is an example. And, on the other hand, there is, of course, in human communication that very curious phenomenon of forgetting, of loosing information. But although the negatively entropic development from the protozoa toward the mammals is impressive, it may be considered to be an epicycle on the general tendency of nature toward dis-information. And although in the course of human communication whole civilisations might have been forgotten there is no doubt that to communicate is, as a whole, to accumulate information. What is however so surprising about human communication is not the evident fact that it stores information against time, that it "memorizes" in individuals and collectively, but that it produces new information. Not, in other words. that it conserves information from entropy, but that it "informs", namely impresses new forms upon the world. That it is deliberately, artificially, "creative". Now let us not delve into the question of where the new forms come from, or we shall get lost in metaphysical speculations. Let it suffice to say, at this point, that our almost irrepressible drive to participate in communication has to do with this creative aspect of it.

The general tendency of nature is toward entropy, toward the static equilibrium of chaos. Toward what has been called "thermic death". The general tendency of human communication is toward complexity, toward ever new information. It is a tendency which opposes death. And it opposes death not only in this somewhat abstract sense of opposing the second principle of thermodynamics. It does so, much more significantly, on an existential level. He who participates in communication participates in the process of creating new forms. And to the extend to which he participates in it, he becomes immortal, because forms are what may be called "eternal". Although we shall all die, and shall die alone, by ourselves, and although no amount of communication can change this, still we shall not die altogether. To the extend to which we have participated in the creative process of communication, we shall somehow live on within it. We shall be preserved in the individual and collective memories to the extend to which we have contributed new forms to it. Which is a way of saying that, inspite of our death, we shall somehow live on within the others. And I believe that this is the true motive of our commitment to communication: to become immortal within the others. Because the fact is this: we know that we shall die, but we cannot, and indeed must not, accept this knowledge. Our rebellion against death, (which is our rebellion against the human condition), has always taken, is taking, and will probably always take the form, the incredibly surprising form, of human communication.

II. Vilém Flusser.

From information to decision.

In the wider sense communication is any process through which two or more systems are connected. The classical example for such a process in physics are the socalled "communicating vessels". In the sense here intended communication is the process by which two or more persons exchange information. The sense here intended is a special case of the wider sense, and it has very special aspects. Human communication is a very special kind of communication. For the purpose here intended, and for reasons that will become obvious as this lecture proceeds, I shall use the word "memory" to describe the systems, (persons), which are connected in the process of human communication. And I shall define "memory" as any system which stores information. Thus, for the duration of this lecture, men shall be information stores, just like libraries, museums and computers, and society shall be a net which connects such memories through wires to be called "channels".

One way to visualize a memory is to cut a tree trunk and look at the section. One may see concentric rings, various irregular traces in the wood and patches of various colors. Those forms one sees may be interpreted by those who have a theory of tree trunks. The rings may come to mean years, some traces worms, some patches rain, and so forth. Thus the forms are "information", in the sense of having been impressed upon the trunk, "in-formed". The trunk is a memory which stores information. For the observer the information contained in the trunk is "present", in the sense that all the rings, patches and so forth are simultaneously available to him. They are "synchronic". But they were impressed upon the trunk in the course of a time that may have lasted for centuries, and each of the forms may have been impressed in a different moment. The trunk was informed in a "diachronical" process. Thus the trunk as a memory synchronizes diachronical information. It preserves, "cancels" time for the observer, by presenting information from various pasts on the same level. Memory is a "time can". Now the information thus stored in the trunk against time is organized somehow, in the sense that it is impressed upon tree organism. The tree is the "structure" of the memory we observe when looking at a trunk section. Thus memory stores information against time in specific structures. Trees are one type of memory structure, libraries are another type, and what is called "the mind" is yet another. Society is a net which connects memories of different structures.

Memories are systems of the "game" type. The information stored in them may be considered to be the "repertoire" of a game, in the sense in which chessmen are the repertoire of the chess game. And the structure in which they are being stored may be considered to be a "game structure", in the sense in which the chess rules which organize the motions of chessmen is the structure of the chess game. If one considers memories thus, one may apply the theory of games to them. One may thus quantify them. Every

given memory stores, at a given moment, a specific amount of information. And it does so according to a number of rules specific to it. The sum of combinations possible of a given repertoire upon a given structure of a given memory may be called its "competence", in the sense in which the chess game is competent for a specific number of moves of chessmen according to the chess rules. Thus it becomes possible to compare between memories of quite different types and say, for instance, that tree trunks are less competent memories than are those of computers. And computer memories less competent than even the least competent memories of humans.

There are two types of games: the open ones and the closed ones. A game is said to be closed, if any change of the repertoire requires a change in structure. Chess is an example. If you introduce a new chessman, for instance a camel between the rook and the knight, you will have to change the rules of the game, and thus have a new game. Chess is a closed game, because its competence, although great, is statically given. And a game is said to be open to the extend to which it can increase its repertoire, ("absorb new information"), without having to change its structure. French is an example. If you introduce a new word into that game, you will not have to change necessarily its structure, namely French grammar. French is a relatively open game, because its competence may be increased by introducing new repertoire, ("information"), into it. Memories are games of the open type, and communication is that process by which the competence of memories increases. Society is a net which connects open games called "memories" and thus increases their competence. Of course, society itself may be considered to be an open game on a different order of size.

Closed games cannot communicate with each other. There is no communication between chess and football. Open games may communciate with each other to the extend to which they are open. French and arithmetics may communicate to the extend to which those two games are open. But there are formal limits to the possibility of communication. I shall mention one limit at this point. In order to communicate, the two games must have repertoires which coincide at least in part. If no element of the repertoire is found in both games, there is no communication, because no "channel" may be established between them, and the "channel" consists of elements which both games have in common. The "strategy" of communication as a connection between games is to establish channels, namely those elements which the repertoires of various games have in common. Society is a net the wires of which consists of elements which the repertoires of a number of memories have in common. This is sometimes called "common reason" or "consensus".

The more the repertoires of two memories coincide, the easier they communicate with each other. And if they coincide totally, they communicate perfectly. In this limit case however their competences remain unchanged by communication. Every information exchanged was already stored

in both memories before communication. It is "redundant". The less the repertoires of two memories coincide, the more difficult is communication between them. But the more it increases the competence of both of them, because the communication will supply them with new information. With "noise". Communication between identical repertoires is totally redundant, and between totally different repertoires is impossible, because totally noisy. Thus communication and information are inverse: the better one communicates the less one informs, and the more one informs the more difficult is communication. The strategy of communication is to find an optimum: a maximum of information within a minimum of redundance necessary for communication. It increases my competence more if I talk with Chinese Red Gards than if I talk with you, but it is more agreeable to talk with you, it takes less effort. The strategy of communication consist in finding a method of communicating with Chinese Red Gards more easily, and with you more informatively, (which is what I am trying to do at this moment).

Human memories are open games of a complex order. They store various types of information on various types of structures. Various competences are thus present within them, which makes it so difficult to compare between them. One may be more competent in the game of chess, and another more competent in the game of French. One more competent in the game of love, another more competent in the game of commerce. And since the various competences stored in the human memories are open games, they overlap and penetrate into each other. Now this is a formalistic aspect of what is called "freedom of decision". From the point of view of the theory of games, the word "decision" has two meanings. One is the possibility to apply, within a given competence, one combination of moves rather than another. It may be called the decision to apply a specific strategy within a game. The other is the possibility to apply various competences to the same situation. It may be called the decision to use various games in problem-solving. It is this second sense which comes nearer to what is called "existential decision" in a different context. Communication is a process which increases specific competences within a memory. By increasing various competences, it increases the parameter of decision, in both its senses. In the first sense it makes decision easier, because it enriches the competence in a given game. In the second, the quase-existential sense, it makes decision harder, because the choice of available competences becomes wider. This is an aspect of freedom, and I shall not go into it, because the formalistic approach of this lecture does not seem appropriate to it, merely suggestive.

You will have gained the impression, I am affraid, that this course of lectures will be theoretical in a bad sense, namely formally barren. When I talk about memory, for instance, I seem to be talking about computers, not about human beings. Please have patience. I know just as

much as you do about the numberous connotations of the word "memory", and that some of those connotations have to do with what is most sacred in our Western tradition. It was as much for those connotations as it was for the cybernetical sense of the word that I chose it to describe man in communication. Let me conclude this lecture by evoking some of those connotations

In the Orphic tradition, which is one of the roots of Platonic philosophy, memory is the very nucleus of Man by which he is connected with Heaven, his true homeland. The waters of Forgetfulness, (lethe), have covered up the Eternal Ideas which Man contemplated in Heaven before being born, but those Ideas are still in his Memory, and may be uncovered through Socratic dialectics, and Man can see Truth again, (a-letheia). In the Jewish tradition, which is at the roots of Christianity, memory is that place where the dead live, and if one speaks of a deceased person, one adds to his name the words "let his memory be a grace". Those two traditions, the Orphic and the Jewish one, are the two main threads that interweave in Western thought, and their dialectical contradictions propell our civilisation. Thus the contradictory concepts of memory unfold an ever deeper and wider field of meaning and have resulted, at present, in a number of very different disciplins which have memory for a subject. In Biology "memory" has the meaning of genetic information and of conditioned reflex. In Psychology it has the meaning of the Unconscious and of the available information. In History it has the meaning of pre-historical remains and of available documentation. In Ethnology it has the meaning of myth and of recorded tradition. All these and other meanings of the word "memory" were meant in this lecture, and not only the cybernetical, computer meaning which was the one more expressly elaborated during the lecture.

To dig into memory, to uncover what has been covered, may be called an "archeological" endeavor in a wide sense. It is to advance in the opposit direction of the diachronical process. And such an advance is made possible thanks to the synchronizing, storing character of memory, thanks to its negatively entropic aspect. What this lecture intended to show was the role which communication plays in this negentropic process. By informing memories it renders them ever more competent, and thus ever more apt to make decisions. And in this context it is now possible to speak of freedom. If we keep in mind what the word "memory" implies, we may say that communication is that process which liberates us from the flux of time by making us ever more competent for decisions against time.

III. Vilém Flusser

Communication media.

The world we find ourselves in is composed of objects, which means obstacles which stand in our way, ("ob-iectum"=thrown against). But there is a curious dialectics to objects, if one considers them from the point of view of communication. To be sure: they stand between ourselves and those we want to reach, and therefore they obstruct communication. The more objects we accumulate, the lonelier we are, because they fence us in. On the other hand, however, any object whatsoever may become a means to reach the other person, a medium for communication. The walls of prison cells are meant to be, and are in fact, objects which isolate those who find themselves between them. But if one taps a codified message against them, they become the communication media of prisons. (Which shows, of course, that the medium is not the message.) The other side of the dialectics is that objects meant to be media may obstruct communication. The TV box stands as an obstacle between family members. Thus the field of research in which communicologists work should include all the objects. In fact, however, their interest has so far been absorbed by those objects which are meant to be media by those who own them and those who manipulate them. TV, the press, posters and so forth. Unwittingly they have become servants to the establishment which manipulates society by manipulating ever more efficiently the obvious and not so obvious media of communication. In this course I shall try to avoid this trap by assuming a somewhat phenomenological atitude with regard to media. Thus I shall not begin by classifying them with the usual criteria, into visual, auditive and audio-visual ones, or into mas media and élitistic ones, but I shall begin by looking at their structure.

In my last talk I defined memories to be places which store information according to structures, and I defined structure to be the set of rules which orders the elements of a system. Media are channels between memories, and may be considered thus to be pseudopodia which memories extend to each other. Like memories, they are structured information. The prison wall, if tapped upon, becomes an extension of the prisoner's memory and acquires the structure of one of his competences. Of course: it has it own, objective, structure, that of stones which were ordered somehow. And that structure will interfere with the one tapped against it. The message received will be structured by the result of this interference. (Which is the reason why Mcluhan said that the medium is the message.) Still: the objective wall structure is the obstacle, and the subjective memory structu the communicative aspect of the message. We will have to go much more carefully into this problem in the course of these lectures. Here it must suffice to say that media are structured, and that it is possible to classify them in accordance with their structures. And classify them we must, if we are to find our way through their labyrinthical forest.

There is no theoretical limit to possible information structures, to the way informations may be ordered. Which is of course a challenge to artists and all those who are committed to communication. But in fact we may distinguish between only three basic structures: the one that orders information in lines, the ine that orders it in surfaces, and the one that orders it in bodies. Examples for the first type are spoken language, alphabetically written language, and music. Examples for the second type are maps, pictographically written language, and painting. Examples of the third type are dance, three-dimensional models of molecules, and sculpture. This is of course only a very rough description. Spoken language and music orders sour in lines, and sounds are themselves "bodies", (three-dimensional vibrations) and alphabetical writing orders letters in lines, which are themselves two-dimensional figures. The dance orders gestures in space, but it does so within the dimension of time, whereas sculpture orders bodies in space in a way that defies time, and is meant to defy it. Still: as a first approach the three basic structure types may serve as a means for orientation.

The important difference between the three types is in the attitude they demand of the receiver of their message. Linear media require of the receiver that he follow the line to get the message. This may be called the attitude of "reading". Surface media require of the receiver that he analyze the surface to get the message. This may be called the attitude of "imagination". Body media require of the receiver that he walk around them and enter them, (at least mentally), to get the message. This may be called the attitude of "participation". Now of course the matter is far more complicated than is here suggested. Not only because the three basic structures may be interwoven. The theatre, for instance, is a medium which combines the linear structure of language and music with the body structure of dance, and thus requires both reading and participation, and the cinema is a medium which lifts the surface structure of paintings onto the linear structure of the unwinding film tape, and thus requires both imagination and reading. The matter is far more complicated for a number of more subtle reasons also, and those reasons have to do with what might be called the "quality" of the message. Because from a merely quantitative point of view, three-dimensional media are of course enormously richer than are linear ones, because their structure permits the ordering of a far greater amount of information. Gesturing with one's body would thus seem to be a far better medium of communication than is alphabetical writing, and those who now prefer it, (like the hippies), may seem to have made the correct decision. And those who dedicate their lives to music would seem silly. Participation would indeed be superior to imagination, and imagination to reading. This is not necessarily true, and we shall discuss the reasons why in the course of these lectures.

The importance of the difference between the three attitudes mentioned ca not be exaggerated. As it is a difference in our receiving messages, (and o course also in our emitting them), it is a basic difference in our living. We either read the world, or imagine it, or participate in it. (Although of course "reality", which consists of incommunicable experiences, is neither read, nor imagined, nor participated in, but experienced.) Obviously all of us sometimes read, sometimes imagine and sometimes participate, and we combine these three attitudes and jump from one to the other without always being conscious of it. Still: one of the three attitudes always prevails over the other two in a given society, because in every society specific media dominate over others. Thus for instance Far Eastern society is dominated by surface media like painting, calligraphical art and ideographical writing, (which is structurally identical with pictographical writing),and the basic attitude of this society is imagination. African society is dominated by body media like dance, masks and sculpture, and its basic attitude is participation. And Western society is dominated by linear media like the alphabeth and mathematical notation, (which resulted in historical action and in science), and like music, (which is the most noble contribution of the West to human communication), and its basic attitude is reading. But this is now changing. Surface media like TV, the cinema, posters, illustrated magazines and shop windows become ever more important, and challenge the dominance of of the traditional linear media, and there are those new cybernetical media like computers which have a point-like and very badly understood structure. Thus our basic attitude is changing from one of reading into one of a very problematic imagination, and this is an important aspect of what is being called "the crisis of Western civilisation". In fact, this, and not the more obvious aspects, is the true meaning of the term "revolution in communication". Not that our media are becoming ever more widely branched out, ever more efficient, and ever more cosmopolitan is the revolutionary event, but that they do not have our traditional, linear, historical, scientific, structure. Which should pose a problem for Marxists. The infra-structure of society, and therefore of human life, is shown to be, by that revolution, not of an economical, but of a communicological nature. In fact, life is changing in the Soviet Union more or less in the same way it does in America, because both societies are in the grip of the same revolution in communication, and because that revolution seems to leave the other one, the economic and political revolution in Russia, in somewhat of a shadow. No doubt there is an economical, political and social explanation to the revolution in communications, as there is a technological explanation to it. Still: the impact of the revolution shows that it is fundamental, and it suggests that the infra-structure of society is the structure of communication. I shall leave the matter at that.