

A

A CASA DA COR
CYCLE OF DEBATES
SAO PAULO - BRAZIL
AUGUST 9, 10, 11 - 1988

Conference held by VILEM FLUSSER

"IN SEARCH OF A COLOUR CODE"
(Conference held on the 10th. August 1988)

I would like to thank the organizers of this cycle of dialogues which allowed me to present you the motives that made me embark in the project of building The Casa da Cor in Sao Paulo.

He, who says "Casa da Cor in Sao Paulo", says two problems, even though convergent, coming from two completely different horizons. The problem of colour and the problem of this type of house in Sao Paulo. I was invited to speak twice. Today I will try to face the problem of colour the way it presents itself to me so that my exposition today will be in a large part epistemological and esthetical. And tomorrow I will try to approach the problem of building such a house in Sao Paulo, so that tomorrow my focus will be more political. I would like to ask you to keep this distinction in these debates.

The theme of my conference today is "colour code", and I would like to propose to you the following working hypothesis. presently we are manipulating the colours in a confusing and in articulated manner. We are, as for colours, more or less at a mythical level. At a level of prehistoric people who manipulated words without sticking to a well elaborated code. As you know,

the word "myth" has the same root as the word "dumb", so that I'm suggesting to you that concerning colours, we are still more or less dumb. We're merely stuttering, and I'm proposing to you the hypothesis, according to which it is very possible, even probable, that in a not too far off future a code, or various codes of colours, will turn into scientific, technical and artistic media which will complement or, who knows, substitute the present verbal or numeric communications. It is a very bold hypothesis. I will try to present arguments in its favour, but not even I am very convinced, and this is after all, the proposal of a cycle of debates, such as ours. I will begin with the following observation made by Jean Nouvel yesterday, "we are in the midst of a violent cultural revolution, of which we don't always seem to take notice". One of the phenomena of this revolution is the fact that images of a new type, such as granular images, are emerging and replacing the carriers of cultural information: writing. And this in spite of the inflation of written things around us. And the second, more profound aspect mentioned by Nouvel and which I agree with, is that the categories of our thought are delicately changing. We are no longer thinking exactly in the same terms, historicist terms, linear terms, progressive terms in which our fathers thought. This will be my point of departure and my point of conclusion will be that possibly, one of the more violent results of the revolution will be the fact that science, technology, art, and who knows, philosophy, will no longer articulate themselves necessarily through words, spoken and written, neither through arabic numbers or algorithms, but through colours.

I will start, to sustain this hypothesis, from the following observation: one way for us to distinguish the human species from the rest of the developed mammals or comparable complex organisms, is the fact that we transmit to future generations not

5

only inherited information, but also acquired information. What I'm saying is a double negation. Living beings store and transmit wrong information and this in an apparent contradiction of the second principle of thermodynamics, which states that in a closed system like the world there is a progressive trend towards loss of information. Living beings that dispose of a genetic memory, apparently deny the second principle of thermodynamics. Apparently, because naturally all informations stored by the biomass will be lost and forgotten in measure with the disappearance of life on earth. But for a long epoch, maybe for thousands of millions of years such information will be kept and disseminated. But we, men, have beyond the genetic memory also a cultural memory. We are capable, in a very dubious manner, to transmit informations acquired by the individual to future generations. Let us not exaggerate such human dignity. The genetic memory is very bad. As you know, when transmitting inherited informations the bio-mass commits mistakes when re-copying these informations. Our optimistic fathers saw in these errors something glorious. These are the mutations due to which appear new species. But from the point of view of fidelity of the acquired information this is a defect. And, as for the cultural memory this one is for several reasons even much worse than the genetic memory. Not only individual buildings crumble in ruins and documents in ashes but very probably entire civilizations have been forgotten. This, not only because the support of the information, in this case the stone or paper, which is subject to the second principle of thermodynamics disinforms itself, but for another curious reason: we lost the keys to the codes in which the informations were coded. I give, not for theoretical reasons but for the duration of this conference, my definition of code and symbol. A code is a set of rules, according to which we manipulate symbols. And symbol is a phenomenon which represents another phenomenon.

4

For example: the portuguese language is a code. It consists of symbols, words and grammatical rules and we manipulate the symbols according to these rules. The thing is a bit more complicated. For example, the word "house" is a symbol of something, but the word "no" is a symbol of the rule of the code. But I give this for nothing as we don't have time to deepen into these details. Therefore, the method through which we transmit acquired informations to future generations is the following: we acquire informations, be it through our organism, mainly through our nervous system, be it through communications received from other beings either directly or indirectly. These informations we store in our memories and process them, and once processed we symbolize these informations, code them into a determined code and transmit them to other people, so that they can decode them, store them in their own memories and process and transmit them to others. What I have just described is called the history of humanity. Apparently the first object thus coded or symbolized where vibrations of the air; sound vibrations, and this for an obvious reason. The human organism contains organs, which in a certain manner prepare it to emit coded sounds to be emitted. I'm raising here a colossal problem, namely what the information between the inherited and acquired relation is, but all this will be raised during the debate.

The transmission of information through speech, that is, the emission of sounds has enormous advantages. The air is omnipresent, costs hardly anything, and it is fairly easy to emit and receive information, but this method has two serious deffects. The first deffect is that sound waves are ephemereal phenomena. One has to capture them immediately and store them immediately in the brain. We deal here with a speedy and ephemereal communication. And the second deffect is even more serious. Sound waves are open to, what is called in the com-

munication theory, noises. If I speak to you, for example, the air in this room is open to other noises, such as your moving on your seats. It is perfectly possible to say that these noises enrich the message I'm sending to you. There is, by the way, a whole theory on noises. But the fact is that, if someone is interested in the preservation of information, sound waves are not a very good media for preserving communication. Which explains that very early humanity started to look for other supports to be symbolized and codified. The curious problem involved in this, and I'm going to give an example of this curious problem: one of the oldest things that have been bequeathed to us for accidental reasons, is the ceramic. Now, the ceramic comes, as you know, with specific designs in colours, such as red on black. One of the theses that tries to explain the origin of ceramic is the following: people long ago manufactured baskets to store grain, namely in the passage from the Paleolithic to the Mesolithic. So they made baskets, and in these baskets they stored seeds. To make baskets is not a very difficult gesture to explain because it is the same gesture as joining the fingers of ones hands. Now, when it came to store liquids, baskets are not very appropriate, so that the baskets were filled with mud, and thus were born vessels. If I want to keep the vessel for a longer time, I burn it. And when I burn it I have a ceramic, and on the surface of this ceramic, obviously the traces of the basketing remain. So that, who knows, this ornamenting, is not symbolic but syntomatic. They are syntoms, a syntom being a phenomenon caused by another phenomenon, so that, who knows, these designs in losangles that we notice on the ceramics are not symbols. Who knows, they are merely syntoms of burnt twigs. But, no doubt, men made use of these syntoms to transform them into symbols and code them...We lost the key. We do not know the meaning of these symbols and started evidently, with grandiose explanations of

6

profound psychology and the romanticism which is within us and breaks loose in less suspected moments and we start saying that these are water symbols, death symbols or fertility symbols. In short, we don't know what these people communicated in that time, and we don't know what that red on black meant to these people.

These informations, transmitted by our ancestors are to us, I believe, definitely lost. Not because one lost the support. The support is there, but because one lost the key to the code.

I now will speak of colour. One of the manners to transmit acquired informations, which was elaborated by our Paleolithic ancestors, for example, in the vicinity of the Dordognes, is to make paintings on the walls of caves. To those who know or have seen pictures, I give as an example, the image of two horses on a wall in a cave called Pech-Merle. On this wall you can see two horses surrounded by a swarm of blue dots. When facing these pictures, we are filled by a curious dizziness, and this dizziness which is one of the greatest experiences I had in my life and which anyone can suffer when going in there, this dizziness is, in my way of seeing it, due to two factors: the first one is that we understand the intention of these people, we understand that these "homines sapientes", people like us, who projected these pictures against a wall. Who, therefore tried to create a memory in challenge of the stupidity of the second theory of thermodynamics, that these people were like us. I will enter into some details of this enormous vision which opens itself there. The second reason for our giddiness is, that we see these blue dots. They are there. We see that they have been put there intentionally. That therefore this intention, for me to speak with Husserl, this pure intentionality behind these dots transmits an information. But it was lost, because we cannot decode it. This colour code, applied by our Paleolithic ancestors, is lost forever. And every attempt to place ourselves in these

7

people's attitude fails. I will try, in spite of this, to describe what happened in that cave. You know that in that epoch, 30 or 40 thousand years ago, the region I am talking about, the southwest of France, was a tundra between two blocks of glaciers, the glaciers descending from the Alps and the glaciers descending from the Pyrenees. Grass eating animals, cows, horses, mamuts, reindeers, these horses migrated in spring towards the north and in autumn towards the south. In the tundra existed groups of people, who hunted these animals to eat them. They were not alone. They were accompanied by chacals. The chacals made the necessary noise to attract the animals and then the people threw themselves upon them, and ate their entrails and the chacals ate the meat. And thus, turned into dogs. But the chacals did not hunt exactly like the humans. This we can see, because the humans not only hunted but also painted the game. They made a step backward of themselves to see the horse from the outside. They eliminated the body from the situation and visualized the situation from the outside. They not only "insisted" on the situation but they also "existed". What I am telling you, is purely fantastic - it is only imaginable because all of us can participate in this movement of abstraction. We are all capable of this curious thing, to regress from the world to a non-world, a non-place, to a non-topos. Now, such a retreat transforms man into a subject of the world. And the world into an object of man. And that dizziness we feel when we see those pictures, this sudden transformation of the vital world, of the "Lebenswelt" in to an objective world... and this sudden transformation of man from a being inserted in the world... of an animal into the subject to the world. I would like to insist a bit in this abstraction.

Now, when I retreat from the world to become subject of the world the information I receive from the objective world is a subject-

8

tive information. It is an experience of mine. Concrete subjective experiences are not communicable. As Wittgenstein said, "there is no sense in my saying that I have a toothache, and much less to say that you have a toothache". Who wants to express private experience is either a fool or doesn't know what he is saying. The problem, therefore, was to transform in some way the subjective information into an inter-subjective information. An information capable of being deciphered by someone else. For that one has to symbolize it, and code it. These blue spots that we are seeing on the wall of Fech-Merle are the results of an attempt to transform a vital, concrete experience, and therefore worthless, into a common, inter-subjective experience, which is capable of informing future generations. And we lost the key. But symbolizing is not enough. One has to fix and memorize the thing as well. And I'm not going to analyse the complexity of gestures that this requires. The choice of the wall, the choice of the paint, the choice of the instrument, the choice of the place. The incredible is that these things have been painted in caves where the painters were lying on their back and practically inaccessible, so that possibly we are the first ones to see these pictures. The paleolithic men, maybe, did not see them. I extended this description of the origin of communication a bit to show you the complexity to elaborate a code. A code of words, a code of colours, no matter what code. Now, during milenia humanity disposed fundamentally of two codes to communicate the acquired experiences: the speech and the image. This epoch speech/ image as you know is known by the vague term "pre-history". Now, the images that were the more stable communication, more fixed, whose memory was more faithful than the speech memory, the images have a colossal defect as information carriers. They are surfaces. But for me to decipher a surface I have to scan the surface with my eyes. And the movements

of the eyes is a circular one. I pass with my eyes over the surface. Naturally the "walk" of my eyes is in a certain way pre-programmed by the painter of the picture. I follow, whilst deciphering the image in a certain way the painter's intention. But not exclusively. I can also follow my own intention. Whilst deciphering the image two intentionalities cross themselves. The intentionality of the sender and the intentionality of the receiver of the message. The crossing of these intentionalities results in that the information stored in the picture is not denotative but conotative. The significance of the image depends just as much of the sender as of the receiver. There is a doubt that hovers over the image. Images can be interpreted. This interpretability of the images is their wealth. They have a much richer significance than denotative messages which do not allow interpretation. But in compensation they are fluid, not sharp and, speaking cartesianly, they are not clear and distinct messages. That is one defect. And the second defect is that images like all mediations, suffer from an internal dialectic. They hide what they simultaneously present. The image of the horse shows me the horse but at the same time it puts itself in front of the horse. And with time it becomes opaque. Men, instead of orienting themselves based on the images pass to orient themselves in the images based on their experiences in the world. And the image becomes reality and the world becomes the pretext. This type of hallucination, this type of madness is called, as you know, idolatry. Idolatry means that I behave in this world according to what the image imposes on me. We can evidence something similar in textolatry. An orthodox catholic, an orthodox marxist, and I can give other examples, is a typical textolater, because he sees reality in the texts and the world as a pretext to apply this reality. It is no longer to change the world using the images as a map but it now turns into changing the world, for

the world to adequate to the images. I suggest to you that the linear writing, and foremost the alphabet, have been invented so as to free us from the weight of the images. There is an iconoclastic intention behind the writing. The proposition of writing is to explain the image, describe it, explain what is implicit in the image. The intention of the writing is a critical intention, an elucidative intention. What in german is called "aufklaererisch" and what the french call, with the nice word "les lumieres". The intention of the writing is to throw light on the images, a type of x-rays which allows analysing the images.

But it so happened that to do so the alphabetic writing had to resort to the spoken language so as to fullfill this job. The alphabet is a code which, composed of symbols, signifies phonems of the spoken language. The alphabet is a method to turn visual an auditive message. When we write alphabetically we make spoken languages visual. Whilst humanity was developing the use of the alphabet there began a more and more intimate relationship between the thought and the word. To such a point that the two concepts, thought/ word, ended up by being considered nearly synonymous. To give you an example the rules of thought were called the rules of logic, that is, rules of the word. And, naturally the word was mythified. At the beginning there was the verb, for me to quote the Bible. Or, to quote a more modern testimony, for Heidegger, the word is the delay of the being. So intimate was the tie between the concept and the word, that one began to doubt that one could think without words. The extreme, as you know, in this sense, was reached by Wittgenstein, when he closed the "Tractatus", saying that "all that can be said can be clearly said, what cannot be said should be silenced, that, certainly there are unsayable things, but these unsayable things are shown (they are a mistery)". Now, we can presently say that this

is absolutely wrong. That, where the words fail us, we can resort to other codes. For example the colour codes and that there is nothing mystical in this. Because a colour code can be as denotative, as clear and distinctive - if not even more as - as the wording code, which is the theme of my conference. Now, this intimate tie between word and thought weakened within us all the other capabilities of thought. Not only did it put in check the imaginistic thought but also harnessed all other non-verbal thought, such as the thought we apply when we play chess. With one exception. It was never possible to eliminate from thought, the numerical thought. Unfortunately I cannot enter into the details of the "why", but it will never be possible to eliminate the mathematical thought from the verbal thought. Be it the numerical or the geometric thought. What matters to us here is that the numerical and geometric thought, though imaginistic, was exempt of colours.

The colours had been put completely aside. I will possibly later on, show which was the impact of this type of thought along the history of the Occident. But allow me to say that it has always been necessary to count, to calculate and when I count or calculate, when I add I cannot use words. Try to say in words what the symbol of the square root of two signifies. These are concepts that cannot be expressed in words. That can only be expressed in symbolic images such as the square root of two. This led Plato (who has an enormous responsibility for the cultural situation we find ourselves in, and not always a very good responsibility) to distinguish two types of vision. The vision that sees pure forms without colour such as triangles and which he called "theory", and the vision of the semblances that have accidents such as colour. And this led Plato to disdain the vision dealing with colour. To the point of trying to prohibit the entrance of artists into the Republic. Plato's reasoning was the

following: if I theoretically look at a triangle, I see with my theoretical sight that the sum of the angles is 180 degrees. But if I engage myself artistically, politically (I don't know what name you care to give it), if I draw this triangle in the sand I will discover that the sum of the angles is not exactly 180 degrees. So that I betrayed the idea. The artist is a traitor of ideas. He can never bring knowledge. He can only bring opinion - "doxa". Be it a good opinion - orthodoxism - be it a wrong opinion - paradoxism - but always "doxa". If I love knowledge, if I am a philosopher, I must concentrate on the theoretical vision of the triangle - that has no colour. This iconoclastic influence of Plato is colossal in this sense. Added, of course, to the jewish slight for the image, because for the jews the only valid image is the human face, as the human face is the only image of God. All the rest is idolatry, as I tried to show. Now, these two influences meet again in christianity. (the platonic idea that art is treason and the jewish idea that art is sin, meet in christianity). Colour is entirely put aside, at the service of the ignorant mass of paganism and civilized people think without colour. For example, if you analyse Jesus' parables or all the parables of the Talmud, you will verify that there is no colour. Even when Jesus speaks of flowers and birds he never mentions colour, because colour has been eliminated from the discourse of the word. After all, God can be heard and obeyed, but cannot be seen. So that colour becomes a deviation. When, during the Renaissance, humanity tried to capture the world of semblance, it tried to capture the world of colour (very badly, by the way, if you think that the Renaissance is much less coloured than the Gothic). There were people in the field of the arts who told themselves, "I will apply the theory and try to put colour into it". For example, I'll take the perspective, which is a geometric vision, project the world into my perspective and

B

then place objects inside the perspective. To speak with Leonardo: "I will use the exact phantasy, which means theory and then I'll place the nose and other little stupid things inside". What counts is the projection. And later, as you know, this projection evolved. I'll give Cezanne as an example. When Cezanne takes a table and puts some apples on it, he sees the table from one perspective and the apples from another perspective to show that the semblance and the colour, when inserted into the theoretical vision, without an image - the pure vision - acquire a new significance. This technique, worked out by Cezanne, was later on perfected by the cubists i. e. by Picasso. You can see that in Picasso the images are no longer truly images of objects but are, in reality, coloured geometrical figures. This is the first step towards the subject I intend to go to. The cubists are the first to try and discipline the colour code in function of a geometric vision.

If you watch a film or television you will notice that the problem is not what is shown but from what point of view it is shown. If I want to decode a TV program I must not ask what I'm seeing but I must ask from what point of view it was made. It is therefore a problem of theory, of perspective. When I arrive at the synthetic image, which is nothing more than a geometric projection, then geometry takes the upper hand and immediately it is geometry that acquires colour and no longer the objects. Colour acquires the significance towards which I want to go.

I would like to show you another road of the Renaissance. There existed a problem for the Renaissance and Baroque science. The problem is the following: the word is not adequate to perceive the world. Nature does not want to be described. It wants to be counted. Therefore if I want to have the knowledge of and domain over the world I must use numbers. But the number code has a grave defect: it is empty. Intervals exist between

AG

numbers. Between 1 and 2 there is an interval. And there's no use my putting 1.1 in between because the interval will then be between 1 and 1.1.

So what did Descartes figure out? He said: I will imagine that each point in the world has a number and if I put a number on each point, that is, if I invent analytical geometry, which is nothing else but a transcodification of arithmetics into geometry, or geometry into arithmetics, whichever way you want, in this way - and with the help of God, said Descartes - I can perceive, that the analytical geometry is the only way to understand the world". Which is a parallel to what Petrarca and Simone Martini do with perspective. What Descartes actually does is a "sub-specie eterni" perspective on the world. It was verified that the method is not very good, because in the last instance the intervals continue existing. So Leibnitz and Newton figured out a method to fill out these intervals, called calculus and thanks to this method they were capable of integrating the differentials, as you all know.

Well... that was a very powerful method. This explains our fathers' optimism. Their fathers, optimists also, thought that all problems can now be solved. That this is progress. That the world is a true marvel because all problems could now be put into differential equations and if they can be put into differential equations they can be technically solved. Therefore, there are no more problems that cannot be solved. This happens to be true. In theory all problems can be put into differential equations. The misfortune is that to apply these equations they have to be renumbered. They have to be retranslated into numbers. I can produce a differential equation for a problem of a bridge, but to build the bridge I must know how many kilos, how many centimeters I have to renumber. Well, problems as stupidly simple as building a bridge offer no difficulty, but there are much more compli-

cated problems. All these problems can be put into differential equations but to number them takes time. It takes more time than a human life disposes of. It may even take more time than the duration of the cosmos. So that even if I have an equation, it's useless. I can't solve the problem. That is the reason for inventing the computer. Computers are instruments whose proposal is to numerize faster. As a matter of fact they numerize so fast that they can abandon all these little mathematical tricks and numerize with two fingers. That's why one speaks of a digital code. Of course they do this very fast and, in the future will do it even faster, but that does not mean that all problems will be solved. Simply because computers use up time as well. And now I have reached the point I wanted to arrive at (and I thank you for not having lost your patience). Because, when I numerize an equation I can feed it into a computer and I can order the computer to turn this equation visual. This equation will appear on the screen in the shape of a line, or a surface and if I use a hologram, I can holograph it and turn it into a body, which I can colour. So that I now have the possibility to transcode numbers into forms and colours. And this opens me enormous possibilities to communicate acquired informations. But we have no words for many clear and distinct concepts, because we have within us that, to form a concept we need a word. I'll give you an obvious example: words in nuclear physics with concepts of particles. These particles are symbolized by determinate symbols such as greek letters. These symbols are in reality images of things, ideograms. If we want to talk about these things we must invent a word, such as "quark". But quark does not signify an atomic particle. The word quark signifies the symbol that signifies the particle. If I want to understand the atomic particle I must learn the code of physics. Speech is not enough. The physical concept is clear and distinct, but it is not

transcodifiable into words. This symbolic code can now be turned visual. I can order the computer to show me these concepts of the particles in the shape of coloured images. These colours that will appear on the screen are therefore symbols that signify directly the concepts of these particles. I'll give a more violent example: modern science started from the presupposed that the apparent world is complex on its surface but may be reduced to a relative simplicity. Stones, for example, fall anyway but the movement of these stones can be reduced to the equation of free fall, which is relatively simple. These relatively simple rules are called the laws of nature. Unfortunately we have recently discovered that most of these phenomena don't allow for such a reduction. Take, for example, the coastline of a continent. It doesn't matter how you analyse it, if in hundreds of kilometers or in thousands of millimeters, it will always retain the same degree of complexity. The same is valid for many phenomena, such as the meteorological phenomenon. These phenomena are called "self-similar". They resemble themselves at all levels. Now, this in the past was called a chaos. And it was verified that most of nature is chaotic, but this chaos can be formulated into equations and these are called fractal equations. If I take these equations and feed them into a computer, the computer will show me coloured images. Some of these images, as you are tired of knowing, are called Mandelbrot monsters. Now, these colours signify a determined function of a determined equation, and is clearly and distinctly coded. He how knows the colour code can visualize the fractal equation. It confounds us, because you can see a fractal equation on the screen that looks like an alpine formation. And here appears the linguistic problem: is it that the image resembles an alpine formation because the alpine formation has a fractal structure? Or does the fractal equation imitate the alpine formation? And we fall into


17

metaphysical digressions or similar uselessnesses.

But if we concentrate exclusively on the image, if we forget the verbal thought, if we learn to think in colours then we can clearly see what is happening: we are seeing the image of an equation and all the philosophical elocubration falls flat and we must philosophise with this image and not with words.

I could go further, but I'll simply submit to you the following hypothesis: when man becomes the subject of the world, when he withdraws from the world as he did in the cave of Pech-Merle, he submits himself to the objective world. The colours he produces are attempts to articulate this submission, subjectivity of man in front of the tyranny of the object; It's no use saying elegantly that colours don't exist, nothing exists because all is impression. It's silly to try to make a difference between colours and this table, because this table, after all, is a series of impressions which I calculated in my brain. There is no ontological difference between the colour and the hardness of the table. This distinction between accidents and substances is, I believe, finally outdated, when we know that substance is in reality "soit-disant" a swarm of particles wandering in the void. What matters here is the following: when I am subject of the world, I try to capture and orient myself in the world, capturing the message the world sends me and transforming it into symbols. This is what happened in Pech-Merle.

But today, when we dispose of this new capacity of thinking mathematically and transcodify mathematically into colours, we are no longer subjects of the world. Because these images that we are producing, we project them from these symbols. Alternative worlds appear. Worlds that were impossible up to now. From subjects we passed to projects. Our images are no longer imitations of the world, but projections of worlds. A new type of imagination unfolds. An imagination that allows us to project a



whole series of alternative worlds, of which it makes no sense to say, as my friend Baudrillard says, "simulacra or no simulacra", because this world is also a simulacrum. We are now projecting a serie of imaginative worlds which we govern according to our own rules. For the first time, I believe, man is raising himself, placing himself on his own feet. He stops being subject of, to become project over the world. Now, to be a project over the world he must elaborate his codes. One of the most important codes of projection is colour. We now nothing about it. We are totally ignorant. These colour codes that are being cooked-up around us by computers, by simulations of atomic structures, by biological simulations, by the manipulation of living beings, all these are only the first steps. We don't have a colour theory. We don't have a theory on how to code this new capacity, this imagination of the 2nd degree, what I call in german "Einbildungskraft", to distinguish it from "imagination". Now, if the Casa da Cor has one fundamental task, it is, in my view, to serve as a meeting place where in an unforeseeable future such codes can be elaborated. As Phillippe Henry says, these codes would be transversal in an extremely radical significance. Not only would colour be a language that disregards the linguistic and cultural differences, that disregards disciplinary differences, that would penetrate across the pure mathematics, chemistry, physics, biology, psychology, all the way across the sciences up to the arts and philosophy. And I add, it will be transversal because it would allow man to think the, up to now, completely unthinkable, ineffable, and do it in a disciplined clear and distinct manner... Thank you".

DEBATES

QUESTION: According to your explanation, colour would be the

correct way through the visual. From the moment we visualize something and decipher it, you believe we would make better use of it than through the auditive system. This because man, when transmitting a message cannot transmit it purely, without involving his thoughts and ideas and that the colour code or codes would suffer a personal interpretation of each receiver capturing in his own way the message. How would you explain this?

V.F.: Colours are much more finely manipulatable than words - if you take a computer palette, colours permit variations. I don't know up to what level, but I believe that you can vary the green, for example, in a variability with seven zeros. Obviously the sight cannot perceive these nuances, but the computer can decode them and transform them into numbers. So that you can express yourself through colours in a much finer way, and much more nuanced than you can express yourself with words. But there still exists a problem. When I was challenged to think about this, I naturally contacted many people because I'm totally ignorant on the subject. I'm interested in the present revolution from the granular image point of view and I never entered more deeply into the code problem. Now I have two interlocutors with whom I am trying to figure out the first outlines of a colour theory. One is a Swiss colourist, called Karl Gerstner, and the other is a German photographer, Gottfried Jaeger. Now, Gerstner ran into the following problem, which you are raising. The universe of the numbers has a hard core which is the zero, and from there the numbers advance infinitely in direction of all the horizons. The universe of the colours has an exactly opposed structure. The universe of the visual colours is limited by the red and the violet on both sides, and the black and white on the top and bottom if you wish so. But it is infinite towards the center, because you can vary the colours towards the center

infinitely. So that, at the moment I code the colours, that is, the moment I give each number a colour and each colour a number, at this moment the dialectic between number and colour comes to the foreground. So, Gerstner fed the problem into the computer and is working with this. I can't give you an answer because, as I said before, we are still stammering. As for Jaeger, he is doing something called generative photography. The problem with generative photography arises at the moment you depass the eye's sensitivity. You can react in two ways. You can say: we don't know how to look. Our eyes are not trained to see colours. So that there arises a need to train, to teach how to see. Up to what point we can sharpen the eye, which is a completely underdeveloped organ, in spite of Van Gogh, we are still crawling, remains to be seen. Who knows we can learn to see better, and when we reach this limit, who knows, we will be able to wear glasses of the computer type who will allow us to distinguish even better. In short, my answer to your question is: for the moment we are dumb. We don't know how to use the colour code because, "a", we don't have the theory, and "b", we don't have the education for that. But, who knows, in four or five generations thanks to efforts like the Casa da Cor in Sao Paulo we will learn how to".

QUESTION: "When you mention that man has now the capacity to project this 2nd degree imagination, I understand that each man, each individual has the capacity to project his own world. Now, an intersubjective code presupposes that various individuals can understand it and I understand that now each individual can project a colour code. In this manner what type of principle do you see, which may allow the selection of a colour code project by a group of individuals?"

R

V.F.: "Excellent question! There is no private code. There is no private language. If I transmit information, I always inter-subject them. One of the profound effects of the new vision of the world is the death of the author. Information is no longer born in the head of a genius. It is the result of a dialogue of people provided with equipment. And equipment is not a despicable thing, "little instruments". They are devices of frozen human intelligence. So that, if I dialogue with a computer, I dialogue with the people that projected and programmed the computer. Now, these groups of people provided with computers and similar devices will invent codes and messages which will be received by other groups and this will be, if I'm allowed to enter political problems, the true democracy. The decision will no longer be delegated to idiots like congressmen, but each one will take the decision on himself in groups and these groups will elaborate informations which will be processed by other groups with informations in colour, in forms or informations in other codes. There will be a multiplicity of codes which will be solved on fundamental beliefs or sublimated on universal codes. I'm not a prophet but I see that it is now possible to imagine oneself in a democracy that the Athenians could never imagine. A democracy where hundreds of millions of people can participate. When you say that everyone has the capacity of new imagination, they do, but it is necessary to make an effort learn and have devices".

QUESTION: "The word produces a certain psychological, sociological link among people and the word was fundamental in the historical evolution. You have been considering as a thesis the question that colour, the human being was unable to observe and, when you referred to the writing, even Jesus Christ does not mention colour in the Gospels. Is this not deliberate, that Jesus

RR

places the word to lead us to the question of colour only in the future?"

V.F.: If you ask if Jesus deliberately does not mention colour, I don't know. But I would say that there is a conjunction of proposition and conditioning. He was conditioned, through his Jewish culture to scorn images and he deliberately fought all imagistic thought, while an orthodox Jew. What I wanted to say with this is the following, that in our occidental tradition, which is not true in China and much less in Africa; in our occidental tradition, informed by the alphabet we elaborated a stupendous verbal capacity, a colossal refining. Our spoken languages, our most precious instruments that the human spirit developed. Take English. English is the biggest creation of the human spirit. And this at the expense of other capacities, particularly at the expense of thinking colours. Now, if you analyse colours you will verify that colours permit a handling at least as fine, as deep in significance as the word. What I am suggesting is not to abolish the languages, which would be foolish, because the languages are extremely precious, but that colour enters where the language fails.

For Wittgenstein we live fenced in by walls of the language and we throw ourselves against the grills of this prison and don't succeed in escaping. Now, we are seeing, thanks to this new type of thought that is appearing that we can escape. That behind the word is the colour and that we can leap, to speak with Kohn, the leap of the paradigm to, for example to philosophy with colours instead of images (I said some great words and usually end up getting hit on the head, but it's because we are still totally naive in this). Jesus is a product of his time and this time has finished. This has nothing to do with his ontological position. It's his historical position I'm talking about.

15

Jesus, while rabbi in the first century in Palestine".

QUESTION: "You stated that the computer could help us study the colours. In this aspect, for us to use the computer as a tool it becomes necessary for the colours to have a paralel, equations that could handle these colours for the computer to handle them".

V.F.: "Algorithms".

QUESTION: "The other question...the physical mathematic, its numerical part, advanced to the point of studying equations which represent dimensions above. As you mentioned fractals, which would be a fractioned dimension or a dimension above the third..."

V.F.: "Below the third. Fractals, for example, are 2.7 dimensions..."

QUESTION: "...or equations above the fourth. Is it possible that the subjective part os the representation of our colour code could be in another one of these dimensions, not necessarily the third?"

V.F.: "As you well realize, the question is difficult. In the first place I will try to answer your second question. In my point of view, this difference between subjective and objective must be abandoned in benefit of the intersubjective. But I don't want to start to philosophise. It is, intersubjectively, possible to develop a new knowledge. As for the first question I fear, because I have the experience in Europe of this, the certain contempt towards a dialogue with instruments. Now, the dialogue with instruments has always been existing. The history

of humanity is the history of the dialogue of man and his instrument. Man projects from himself a simulation to simulate this simulation in a continuous feedback. So that it becomes perfectly legitimate to speak of a chipped stone mentality, a bronze mentality, an iron mentality and a computer mentality. Because the chipped stone beats back on man, man beats back on the chipped stone and history is this continuous dialectic between man and instrument, because the instrument is an objectivated man, not a non-man. It is not that we are metamorphosing, antropomorphising the instrument. The instrument is antropomorphic. But I don't want to enter into Marx here. Because there is the problem of alienation. It is possible that the instrument escapes from our control because we forgot that we were the ones that produced it".

QUESTION: "Do you believe that colour will succeed in reaching such a denotation to be able to be used as a colour code where all will understand the same thing?"

V.F.: "I believe in the possibility that colour can become a much more exact code than the numerical code, not to speak of the word code. I believe in the possibility. But that does not mean that I believe that this will happen. Because there are many other possibilities that can avoid for this one to materialize. I have no prophetic talent".

QUESTION: "You state that the colour code opens up a democratic experience never before imagined. Can the opposite occur as well?...Or in other words, colour to transform itself in an instrument of the elected power, as another mechanism of restricting human liberty?"

25

V.F.: "Yes, it can. The problem is, if I may put it like this, of how to connect the wires, it is possible to connect the communication wires in two ways: emission centers and reception horizons where the wires form bundles, which I call the fascist connection. For example, the radio, television. And in this case you are right, there is a possibility of a totalitarianism so horrible that we are unable to imagine it. We would be programmed by colours in such a way that we couldn't even try to criticize the messages, because we would be programmed through messages whose codes we would be unable to decipher. A totalitarianism that turns the ancient egyptian totalitarianism into child's play. But there is another possibility of connecting the wires: the wires in a net system, such as the telephone, or the minitel in France now. It is possible to create a reversible connection where there is no longer a distinction between sender and receiver, but where the message flows in the net. I repeat, I'm not a prophet. As all new things are at the same time promising and horrid. All new thing has this: it fascinates but it is dangerous. This evolution we are talking about can result in the most terrible submission of man as well as a liberty impossible even to dream of, and one of the tasks of the Casa da Cor is to study these two possibilities. If the Casa da Cor succeeds, as I hope, it is a true bomb. And not only in Sao Paulo, but a true bomb in the cultural scenery. Because questions like these will have to be put on the carpet and registered on the tapes we are registering here, and sent out to the whole world"...