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CONTENTS

One can say loosely that the more an organization is complex, the more it tolerates disorder. This gives it a certain vitality because the individuals are apt to take initiatives to fix this or that problem without having to go through a central hierarchy. It is a more intelligent way to respond to certain challenges from the outside. However, an excess of complexity ends up destructuring. To a certain extent, an organization that has only freedom and very little order, would disintegrate unless it had, in addition to this freedom, a deep solidarity between its members. Lived solidarity is the only thing that allows an increase in complexity. In the end, informal networks, collaborative resistances, autonomy, disorder are the necessary ingredients for the vitality of enterprises.

This can open a world of reflections. Thus the atomization of our society requires new solidarity spontaneously lived and not imposed by the law, like social security.

6

ON THE NOTION OF THE SUBJECT

Translated by Sean M. Kelly

I

There is considerable controversy surrounding the notion of the subject. It is a paradoxical notion which is at once self-evident and problematic. At first glance, its meaning appears quite obvious, even banal, because the first person singular exists in almost every language. It seems equally self-evident to philosophical reflection since, as Descartes so clearly demonstrated, though I may doubt, I cannot doubt that I am doubting, and therefore that I am thinking, which is to say that it is I who am thinking. It is at this level of reflection that the subject makes its appearance.

Nevertheless, the notion of the subject is not so obvious as all that—for where exactly is this subject? What is it? What is it founded upon? Is the subject a mere illusion or something fundamental? It can, of course, appear in the form of the supreme reality. Thus, when the Eternal appears to Moses and the latter asks, "But who then are You?" the Eternal responds: "I am who I am." Or in another rendering: "I am the one who Is." In other words, God appears in the form of absolute subject!

In many philosophies and metaphysics, the subject coincides with the soul, with the divine, or at least the superior part of ourselves, because it is here that we find discernment, freedom, the moral will, etc. However, if we consider the matter from another angle, that of the sciences, for example, all that we see is physical, biological, sociological, or cultural determinism and from this perspective, the subject seems to dissolve.

Now, in our Western culture, ever since the 17th century, we have suffered from a strange schizophrenic disjunction: in our daily lives, we feel ourselves to be subjects and we see others in this way. We say, for instance," What a brave man!", "What a wonderful person! Or perhaps, "What a rogue!" or "That bastard!" We say such things to try to capture something of the way people strike us as subjects. But if we examine these same people, and ourselves, from the point of view of determinism, their subjectivity once again dissolves and vanishes. This disjunction is the result of a deeply-rooted cultural paradigm, a paradigm which Descartes helped to formulate and which he merely expressed in his own fashion rather than invented. What Descartes saw was that there are two worlds: a world constituted by objective, scientific knowledge—the world of objects—and a world constituted by an intuitive, reflexive knowledge—the world of subjects. On the one hand, the world of the soul, spirit, feeling, philosophy, and literature, and on the other, the world of the sciences, technology, and mathematics. We are still split between these two worlds. What this means is that we cannot find the least support for the notion of the subject in classical science. By contrast, as soon as we leave the scientific domain and undertake the kind of reflection evident in Descartes' Cogito, the subject becomes the ground of truth, of any possible truth. In this way we are led to the idea of the transcendental Ego as formulated by Kant.

For classical science, subjectivity appears as something contingent and the source of errors (in terms of the science of information, it is equated with the "noise" that must be completely filtered out). It is for this reason, moreover, that classical science has always excluded the observer from the act of observation and the conceiver from the act of conceiving, as though, practically speaking, the subject did not really exist or, on the contrary, was firmly seated on the throne of absolute truth.

The 20th Century saw the invasion by classical science of the hitherto separate domains of the humanities and social sciences. The subject was eliminated from psychology and replaced by stimuli, responses, and behaviors. The subject was eliminated from history, which no longer concerned itself with personalities and their decisions, but only with social determinants. The subject was eliminated from anthropology, which now saw only structures. The same can be said for sociology. One could even say that, at various times and each in their own way, Levi-Strauss, Althusser, and Lacan (to name some of the most prominent figures) at once liquidated the notion of the human being and that of the subject, in this way inverting Freud's famous maxim: "Where It (das Es) was, 'I' have become." From the structuralist and scientistic perspective, the "I" must be liquidated and replaced by "It." Still, there has been a certain (usually belated) return of the subject, as with Foucault or Barthes, coinciding with a return of Eros and of literature.

In philosophical circles, however, the notion of the subject has once again become problematical. What, or who, is the subject? Must we really come to know and acknowledge it? Or is it a mere epiphenomenon or an illusion? I would answer with the following proposition: I believe in the possibility of a scientific, rather than a metaphysical, grounding for the notion of the subject, one which involves what I call a "biological" definition of the term in question, though not in the sense of contemporary biological discourse. I could say biological, by which I mean corresponding to the very logic of living beings. And why are we now able to conceive of the notion of the subject in a scientific manner? To begin with, because it is possible to reconceptualize the notion of autonomy, something which was impossible within a mechanistic and deterministic world view.

This notion of autonomy does not correspond to the old notion of freedom, which was to a certain extent immaterial and detached from constraints and physical contingencies. It is, on the contrary, a notion closely linked to that of dependence, and the latter is inseparable from the notion of self-organization. In a short and masterful piece written in 1968, Heinz Von Foerster indicated the paradox of self-organization from the outset. "Though self-organization obviously signifies autonomy," he wrote, "a self-organizing system is a system which must work to construct and reconstruct its autonomy, and this requires energy." By virtue of the second law of thermodynamics, the system must draw energy from outside; to be autonomous, therefore, it must be

dependent on the outside world. And we know from observation that this dependence is not merely energetic, but informational, since living beings extract information from the outside world in organizing their behavior. What's more, the system draws organization from the outside world, something which Schroedinger already pointed out. Thus, for example, we have encoded within us, as organisms, the chronological organization of the Earth's rotation around the sun. As with many animals and plants, we have a rhythm of approximately 24 hours, which we call circadian. Our biological clock has internalized the alternation of night and day. Our societies, moreover, require a calendar that is set to the movements of sun and moon to organize our collective lives. Autonomy, therefore, involves a profound energetic, informational, and organizational dependence with respect to the outside world; it is for these reasons that I use the term self-eco-organization, rather than simply self-organization, in recognition of Von Foerster's principle whereby self-organization is itself dependent.

It is possible to conceive of a certain autonomy at the level of artificial machines. A central heating system, for example, has, through its feedback mechanism, a thermal autonomy, which allows it to maintain a constant temperature, whatever the outside conditions. A living organism, for its part, has a richer and much more complex system of regulation, one that allows for homeostasis, which is to say a certain constancy of temperature, of pH levels, and of all the elements that constitute its internal environment. However, there is a great difference between the living organism and those artificial machines which possess a certain regulative autonomy, for the latter is obviously dependent not only on energy, on the fuel supplied from outside, but also on the human engineer who repairs the machine when it breaks down. Living machines, by contrast, have the ability constantly to repair and regenerate themselves. They can do this because they possess what I have called recursive organization, an organization where the effects and the products themselves become causal and productive within the organizational cycle. Such, then, are some of the conceptual elements necessary to understand the notion of autonomy, and particularly so when it is a question of living organization.

II

At this point we have to consider a second notion which, though in itself long familiar, has. Taken on new dimensions—namely, that of the individual. For several centuries, biology had understood very well that there existed some kind of relation between the species and the individual. The typical way of conceiving of this relation was to see the species as a kind of general pattern or model, with individuals as its particular exemplars. But there was another way of seeing things, which consisted in saying: "But species don't exist! One never

sees a species. One sees individuals, but never species." It has been the case that, according to the perspective adopted, either the species disappears and the individual occupies the whole of our conceptual field or, on the contrary, the individual disappears, becomes something contingent or ephemeral and it is the species which abides through time and possesses the true reality. One or the other of these perspectives has tended to dominate, whereas at bottom it is a question of coming to terms with the paradoxical quality of the relation in question.

One sees the same paradox at the level of micro-physics the relation between particles and waves. Niels Bohr observed that, depending on the experimental conditions, the same quantum of energy could manifest itself either as a particle—that is to say as a discrete, limited, material body—or as a wave—something immaterial and continuous. Despite the logical contradiction between these two terms, empirically, it is one or the other which manifests according to the conditions of observation. Niels Bohr himself remarked that "these two terms, though logically exclusive, remain complementary." There is a similar complementarity between the individual and the species, albeit one less paradoxical in nature. Why is this? Because we must conceive the relation between individual and species in light of the recursive processes to which I have already alluded. The individual is obviously a product; it is the product, as is the case with all sexually differentiated beings, of the meeting between sperm and egg, which is to say a process of reproduction. But this product is itself productive with respect to its offspring. We are both products and producers in the cycle of life. Similarly, society is incontestably the product of interactions among individuals. These interactions, however, create an organization which possesses its own qualities, notably language and culture. And these same qualities retroact on the individuals from the moment of birth, to ensure that they acquire language, culture, etc. . . . This means that individuals produce society, which in turn produces individuals. We have to think in this way in order to grasp the paradoxical relation involved. Thus, the individual is an uncertain object. In effect, from a certain angle, the individual is everything; without it, there is nothing. But from another angle, it is nothing or is eclipsed. From being a producer, it becomes a product; from cause it becomes effect, and vice versa. We can thus understand the autonomy of the individual, but in a manner that is extremely relativized and complex.

III

With this we come to the notion of the subject—and more particularly to that of the individual-subject. This notion clearly implies both autonomy and dependence. In other words, the definition of the subject presupposes the autonomy-dependence of the individual, without, however, being reduced to

it. For there is something more involved. But to understand this something more, it is necessary to grasp, in a fundamental way, the nature of living organization. While molecular biology and genetics have given us all the elements required to understand this organization, they have nothing to say regarding the nature of organization itself. This is one of the basic deficiencies of biology, though it should come as no surprise. We know, for example, that physics, which made remarkable discoveries in the last century, did so with the limited idea (incredible today) that the universe was totally deterministic and mechanist. And yet as early as the beginning of the 19th Century, the second principle of thermodynamics had already been formulated, and with it, disorder had been introduced into this same universe.

In its preoccupation with identifying molecules, genes, macromolecules, and particular processes, molecular biology has forgotten completely about the problem of the self-eco-organization of the living being. In fact, however, the study of genes and RNA has revealed something that could be assimilated to the notions of information, program, and memory—which is to say, to something of a cognitive nature. And this cognitive something plays a permanent role in all processes of living organization. It is the links between DNA—RNA—proteins which control the production of molecules and which inhibit this production, thereby regenerating the molecules which degenerate. It is these processes which control the behavior of bacteria and which command the autoreproduction of unicellular organisms. It is these processes which allow for reorganization, repair, and activity in general.

If we take the case of the least complex (it would be inappropriate to say the most simple) form of living organization—bacterial organization—we see that the bacterium is at once, and indissociably, a being, a machine, and a computer. In the case of our artificial machines, by contrast, we have the controlling computer, on the one hand, and the machine to which it is connected, on the other. With the bacterium, we have neither a computer nor a machine by itself, but both at once in the same thing. We have a being, a machine-being which is a computing being. I use the word "computing" rather than "calculating," which has too much of an arithmetical ring (despite the fact that the word is used non-arithmetically, as in the logical calculus of propositions). It is a computing being, I say, which means that it processes signs and data about its internal and external environments. Here we see at the same time an analogy but especially a great difference with respect to the computation of artificial computers. Not only because it is not simply a question here of binary processing, but of a more complex, and more analogical mode of processing which remains a mystery; but also in that this difference resides in the fact that the bacterium computes from itself, by itself, and for itself, which is to say that it is animated by a kind of auto-finality; it constitutes itself by-and-for-itself, in a manner reminiscent of Hegel's use of the term "*für sich.*" This is what I call the *computo*. The Cartesian *cogito* appears much later, as it requires a well developed brain, as well as language and culture. The computo is necessary to the existence of the being and of the subject. The bacterium might say "*computo ergo sum.*" I compute, therefore I am. And why is this? Because if it stops computing, it dies, for it can no longer produce the elements of which it is constituted. Thus, in looking at a bacterium under the microscope, it answers with a continuous "*computo ergo sum.*" One has to know how to listen. But what could it mean to say, "I compute for myself?" It means that I place myself at the center of the world, the center of my world, the world that I know, to process it, to consider it, and accomplish all the measures of protection, defense, etc. It is here that the notion of the subject makes its appearance, along with the *computo* and its egocentrism. The notion of the subject is indissociable from this act of computation, where one is not only one's own finality, but where one also constitutes one's own identity.

IV

We must now consider the basis of this principle of identity which, from the start, already appears complex, since it is not readily assimilable to the Aristotelian principle of identity. This principle, which is presupposed by the act of computation, and without which there would be no *computo*, is a principle of difference and equivalence, which I would formulate thus: "I am me!" But just what is this "I"? It is the occupying of an egocentric site. "I" Really means: "I occupy an egocentric site. I speak." "Me" for its part, is precisely the objectification of the I. Thus: "I am me" means that the "me" is not exactly the same as the I, since, in the act wherein the me is formed, the me appears different—it is objectified—whereas the I is the pure uprising of the subject. The act which simultaneously posits the difference between the I and the me along with their identity allows for the *computo* to process the being as subject. Thus the bacterium can process its molecules in an objective manner while remaining a being which is animated by its self-organizational subjectivity. And I would add that the me, as the objectification of the individual-subject, reflects the self, which is the physical entity. The self includes the me and the I.

There is, in effect, a complex game enacted between these terms which are at once identical and different: "me, myself, and I." Obviously, I am expressing all of this in human language, of which the bacterium is completely ignorant. The bacterium, however, contains a kind of software, whose principle—"I Am me"—allows it to process itself, and without which it could not exist.

There is thus a principle of complex identity which allows for all operations dealing with the objective processing of molecules, cells, and actions undertaken by a polycellular organism. The process is objective but with a subjective finality. It is in this way that the principle makes self-reference possible: I can process myself, refer to myself, because I need a minimum of self objec-

tification though I remain an I-subject. However, just as self-organization is in fact self-eco-organization, self-reference is really self-exo-reference, which is to say that to refer to oneself, one must refer to the outside world. There is a fundamental distinction made between self and not-self. And this fundamental distinction is not merely cognitive, but valuative as well: value is attributed to the self and non-value to the not-self. It is this process which is constitutive of subjective identity. Such is the manner in which the distinctions between self/not-self, me/not-me, and between the "I" and "other I"s are established. Science's recognition of the distinction between self and not-self emerged toward the end of the Sixties within a particular branch of biology: immunology. The immune system, which protects us from external threats, is a system which, thanks to a kind of molecular ID card specific to each organism, allows for the recognition of everything that belongs to the self. Whatever corresponds to the ID card is accepted, and whatever doesn't correspond is rejected, depending on the degree of vitality of the system in question, of course. To be sure, there is the possibility of error because, as soon as one enters the world of information and cognition, we simultaneously enter the world of error. For instance, errors arise in the case of viruses that possess the same molecular patterns of identity as the host organism, in a manner reminiscent of enemy soldiers disguised in our uniforms so as to enter our strongholds and conquer them from within.

We thus have a system based on the difference between self and not-self, along with the value attributed to the protection of self and the rejection of the not-self. Now, even prior to the existence of the kind of well-differentiated immune system we find in the higher animals, uni-cellular organisms distinguish between self and not-self. When, for instance, they absorb nutrients from outside, what they assimilate becomes part of the self and what is rejected as non-assimilable becomes waste (urine and excrement with more evolved beings).

It is in this way that, step by step, we can start making sense of the notion of the subject. It is no easy task, since it requires the prior elaboration of the principle of the *computo* along with what might be called the "software" behind the principle of identity.

There is a second, and quite fascinating, principle of identity which maintains the invariance of the I-subject despite the extraordinary modifications constantly taking place at the physical, molecular, and cellular level. This is apparent not only in the fact that, every four years, the greater part of the cells that make up my organism have disappeared to be replaced by others—which is to say that, biologically speaking, I am no longer the same being that I was four years ago. There are also enormous changes which accompany the shifts from childhood through adolescence to old age. And yet, when I look at a childhood photograph of myself, I say: "That's me!" And yet, I am no longer that child, and I no longer have that body or that face. But the occupation of this central site of the I, which abides throughout all these changes, establishes the continuity of

identity. We even live in the illusion of possessing a stable identity, without really being aware of how different we are according to our moods—whether we are angry, loving, or hating—and due to the fact (but this is a whole other story) that we are all double, triple, and multiple personalities. It is the I which brings about the unity. Such is the second principle of identity.

V

There is something more to the elementary notion of the subject, because I have not yet come to the human subject, though everything I have to say obviously applies to human subjects as well.

There are two associated subjective principles: the principle of exclusion and that of inclusion. What is the principle of exclusion? Linguists have noted that anyone can say "I," but that no one can say it for me. The "I", in other words, is something totally banal, and at the same time something absolutely unique. And this is true even in the case of identical or homozygotic, twins who have exactly the same genetic make-up. To be sure, such twins share a particular complicity, but neither can say "I" in the other's place. More remarkable still, there are snakes from the California desert at the San Diego zoo which, as a result of a genetic accident, have two heads per single organism. This is a quite complicated case, as they possess a single immune system and a single organismic subjectivity, at least until the two heads become separated. There are, however, undeniably two subjects from the cerebral point of view. What's more, this proves to be a fatal arrangement! And why? Because each head looks out for its own food, which means that when one head finds food, the other pushes it aside, and so these poor two-headed snakes succeed only with great difficulty in finding enough to eat and can only survive in zoos where each head is fed separately. Thus we see that the principle of exclusion is at work even in the case of two snake-heads sharing the same body.

But this principle of exclusion is inseparable from a principle of inclusion which makes it possible for us to integrate other selves within our subjectivity, we can integrate our personal subjectivity within a more collective subjectivity—within a "we." Our offspring and parents, for example, are part of this circle of inclusion. They are part of us, and we of them, subjectively. And there are often conflicts between the two principles. We see the conflict in animals when, for instance, we are surprised to see lionesses devour their cubs. It is sometimes the case in the animal world that parents, who are otherwise so concerned about their offspring, sometimes eat them. On the one hand, they sacrifice themselves for their offspring in trying to protect them against aggressors, and on the other hand, if they see that there is not enough food, they eat them. There is thus this ambivalence between the principles of exclusion and inclusion. This ambivalence is quite pronounced, if variable, in our

own case with respect to those close to us, those to whom we are subjectively linked.

The same thing happens with one's country in times of threat or danger. This society, which we inhabit in an egoistic and egocentric manner, to which we are bound by self-interest, finds itself in danger and we are suddenly swept up by a communitarian wave into a "we." We are brothers and sisters, children of the nation which becomes our mother, and the State our father. But some escape the wave and say, "I want to save my own life", and they desert. Here, too, then, there is a struggle between the principle of inclusion and that of exclusion. Thus the subject—and especially the human subject—can oscillate between an absolute egocentrism, where exclusion dominates, and self sacrificing devotion.

And there are other quite murky, complex, and fascinating cases. There is a book by Jaynes, *The Origins of Consciousness in the Breakdown of the Bicameral Mind*. I don't know whether or not his thesis is valid, though it seems to me to illustrate something that may be valid. In the empires of the ancient world, such as the Egyptian or the Assyrian, ruled by the king and his priests, there were two chambers in the minds of the individual-subjects (the latter, not being citizens, lived in a state of subjugation). In one of these chambers resides the dictates of the State, the power which commands: "Do this! Obey!" Like an automaton, the individual obeys the injunction from on high. The other chamber is devoted to domestic life, to one's children, and to daily concerns. And these two chambers do not communicate. In the Greek islands, however, in Athens, with the rise of the citizen and democracy, the two chambers will start to communicate, which means that the subject will be able to keep an eye on power, on the State and the gods. We too, to a certain extent, have these two chambers, and the air often circulates between them. I give this as an illustration of how the principles of inclusion and exclusion can be combined.

To these two principles we must add a third—the principle of intercommunication with what is similar, with what is like oneself, a principle which follows in a sense from the principle of inclusion. We see it already with bacteria. A phenomenon has been observed which at first was considered a manifestation of the sexuality of bacteria: a bacterium would approach another and, at that moment, would produce a kind of canal or peduncle which allowed it to penetrate its sister bacterium and inject a little DNA. One suspects this gift of DNA has some utilitarian purpose. According to one of the hypotheses formulated, when the bacteria are attacked by antibiotics and many of them die, a few manage to develop resistances thanks to their sisters' injection of DNA which serves as a defense. While this problem is really beyond the scope of this essay, I wanted to express my admiration for this act which, I would say, is at once pre-sexual and post-sexual, an act which involves both more and less than sexuality. Would that we, too, could be like these bacteria and give such a gift as an expression of our love!

It has recently been discovered that there is communication between trees of the same species. The discovery followed the experiment of a group of sadistic scientists (as they must sometimes be to do experimental work!) who removed all the leaves from a tree to see how it would behave. The tree reacted as expected, that is by increasing its secretion of sap in order to replace the leaves that had been removed. The tree also secreted a certain substance which protects it from parasites. The tree knew full well that it had been attacked by a parasite, but the poor thing thought the parasite was an insect. It did not understand that it was the greatest of parasites—human beings. What's interesting, however, is that the neighboring trees of the same species started secreting the same antiparasitic substance as the tree that had been attacked.

Thus, intercommunication exists in the world of unicellular organisms, in the plant world and, it goes without saying, in the animal world. With human beings, we have the peculiar situation, linked to the dialectical game between the principles of inclusion and exclusion, of having much communication and much non-communication! But at least we have the possibility of communicating about our lack of communication, which means, as well, that the problem of communication becomes much more complex.

VI

One can define the subject as a fundamental quality proper to living beings, a quality which cannot be reduced to morphological or psychological singularity since, as we saw above, two psychologically and morphologically identical twins are still two distinct subjects. It is a quality that involves the overlapping of multiple elements. What's more, as the individual lives in a world where there is randomness, uncertainty, danger, and mortality, the subject inevitably possesses an existential character. It carries within itself the fragility and uncertainty of existence from birth to death. It is a poor little *Dasein*, as Heidegger might say.

Everything human is subject to the characteristics I have just expressed, without, however, being reduced to them. There is something more, much more. To begin with, there is our neuro-cerebral apparatus. We don't have a monopoly here, as this apparatus evolved along with the vertebrates, mammals, primates, hominids, etc. This apparatus obviously controls both knowing and behavior, by linking them both together. And it is here that we see a different level of subjectivity than that of the immune system, though both levels remain, of course, in communication. This is to say that we have to do here with a cerebral subject which constitutes itself as subject in the "very act of perception, of representation, decision, and behavior. And we have become aware that, in the animal world, and especially with mammals, affectivity has

developed along with this cerebral apparatus: affectivity appears to many of us as the single most characteristic trait of the subject (since, when we say, "It's subjective," we allude to something linked to emotions and feelings, and always with an element of the contingent and arbitrary). The development of affectivity is linked to the superior development of the subject. Add to this the fact that in the animal world, in the world of mammals and primates, the development of affectivity neither runs contrary to intelligence nor inhibits its development. The two are narrowly linked. For we human beings, this means that the affective character of our subjectivity will forever be with us; but it is not alone, for it is linked to those egocentric and altruistic characteristics I have already talked about.

There is a second property which is truly specific to the human subject, as it is linked to language and culture. With the latter, the subject can become self-conscious by means of language as its instrument of objectification. Here we see a consciousness of being conscious and of being conscious of the self in a manner that is clearly inseparable from the notions of self-reference and reflexivity. It is in consciousness that we objectify ourselves, only to re-subjectify ourselves in an ongoing loop. We have surpassed the bacterium in its processes of objectification and re-subjectification. What's more, in all instances of archaic humanity, as I sought to demonstrate in *L'homme et la mort*, the presence of the "double" is a manifestation of the same impetus to subjective objectification proper to the human subject. This double—a corporeal specter which is perceived as identical to the self—is at once *alter-ego* and *ego-alter*. It manifests itself in shadows, reflections, and dreams, since we know that, while we dream, lying in bed, we are also wandering about and involved in all kinds of adventures. And with the coming of death, the double detaches itself from the body and goes on living its life. This experience of the double is the archaic form of the experience of the subject's self objectification, and only once we succeed in interiorizing it does it become the "soul" or "spirit." We have, then, this second, self-conscious level of subjective being, and with it, we also have freedom.

Freedom. Here again we find a concept which we can pull from its self-validating perch in the metaphysical heavens, setting it in the context of distinctly living and human organization with its dependencies and constraints. Freedom can be defined as the possibility of choice between diverse alternatives. Freedom also presupposes two conditions. To begin with, there is an internal condition, involving the cerebral, mental, and intellectual ability to consider a situation and establish choices and chances of success. Then there are external conditions which render the choices possible. Obviously, if one is in prison, one might preserve a good amount of mental or internal freedom, but one cannot chose where to go on vacation, where to practice one's profession, etc. In this way we can observe different types and degrees of freedom according to the breadth and depth of our choices.

Finally, there is that place within our human subjectivity which is inhabited by the notions of soul and spirit (animus–anima), and we have this deep feeling of incompleteness at the level of soul, an incompleteness which can only be healed by another subject. And it is, at bottom, in loving relationships, with the feeling of being in love, that we have the idea that the other restores to us the wholeness of our soul, even as they remain wholly other to us. They are us as much as they are other. We thus have these two levels of subjectivity, and while many have often sought the foundation of the notion of the subject in these specifically human traits, they could not, however, manifest themselves were it not for the prior, biological level of the subject. One cannot, moreover, reduce subjectivity to any of its elements, whether it be affectivity, contingency, or consciousness.

In other words, when Descartes says: "*cogito ergo sum*"—I think, therefore I am—he in fact implies the following operation: "I think" is a reflexive assertion which means: I think that I think." In this assertion, the I objectifies itself in an implicit "me," "I think myself," "I think myself thinking." In so doing, Descartes unconsciously effects the elementary computational operation, "I am me," he discovers that this "me" which thinks is a subject "I" Am. If the cogitating subject were to say, "Ah! Therefore I exist!", it would seem a pedestrian truth, since one could reply: "But all I have to do is pinch you to show that you exist." There are a thousand ways to prove that one exists. What's interesting here is this ergo: "I cannot doubt that I am a subject." But what Descartes did implies the computo. His cogito presupposes the *computo*.

One should not lose sight of the fact that our *cogitos*, that is to say our consciousness as subjects, depend upon the fundamental *computo* which the billions of our brain cells, in their organizational and creative interactions, incessantly cause to emerge. In other words, there is no *cogito* without the *computo*. It is precisely our consciousness which brings us face to face with the tragedy of subjectivity, something of which the bacterium is not conscious (at least so far as we can at present tell, for we have often underestimated the intellectual capacities of other living beings). In the absence of further evidence, it would appear that the bacterium does not possess consciousness as we experience it, as this consciousness requires a well-developed brain along with language and culture.

VII

And here we come to the existential tragedy of the subject, a tragedy linked to the principle of uncertainty, or rather *two* principles of uncertainty: the first principle of uncertainty is that the I is neither primary nor pure. The *computo* does not exist outside of all the physical, chemical, and biological operations which constitute the auto-eco-organization of the bacterium. The *computo* did

not descend from on high upon the bacterium, and neither was it installed by an engineer. All dimensions of existence are inseparable. The *computo* is necessary to the existence of the bacterium which is necessary to the existence of the *computo*. In other words, the compute emerges from something that doesn't compute, just as life emerges from something that is not living, namely physico-chemical organization acquires distinctively living characteristics, and in so doing acquires the possibility of computing in the first person. This means that when "I" speak, it is also a "we" that speaks, the we of that warm collectivity of which we are a part. But there is not only the "we": "They" also speak when "I" speak, a "they" which is the voice of a more cold and anonymous collectivity. In every human "I" there is a "we" and a "they." The I, therefore, is not something pure, nor is it alone. The I could not speak were it not for "they."

And there is obviously the "it" which speaks too. "*Das Es*." What is the it? The it is a biological machine, something organizational that is even more anonymous than the "they." Thus, every time I speak, "they" speak and "it" speaks, which has led some to think that the "I" doesn't exist. Unidimensional thinking only sees the "they" and so is blind to the "I." Conversely, those who only see the "I" dissolve the "they" and the "it", whereas a complex understanding of the subject allows us to join together, in an indissoluble manner, the "I" with the "we", and both of these with the "they" and the "it." Such an understanding, however, involves the principle of uncertainty, since I am never completely sure to what extent it is I who am speaking, or if in fact I am being spoken by something which speaks for me, something stronger than me and which speaks at just that moment when I believe myself to be speaking. We can never be sure. To what extent is it I who speak? It is for this reason that we must reinterpret Freud's dictum to reveal its full meaning and fundamental inspiration: "Where It was, I have become." This does not mean that the It must disappear, or that the "they" must disappear. No, it means that the "I" is something which must *emerge*.

There is a second principle of uncertainty: it is that the subject oscillates between everything and nothing. It is everything for itself. By virtue of the principle of egocentricity, it is at the center of the world, and is the center of the world. Objectively, however, from the perspective of the Universe, it is nothing, or at best something minuscule and ephemeral. On the one hand, there is this unheard of privilege which the I accords to itself, and on the other, the consciousness that we can have that this most sacred and fundamental of things, our most precious treasure, is nothing at all. We stand divided between egoism and altruism, and at any moment we are capable of sacrificing this treasure for something which possesses a richer subjectivity, or even for something which transcends subjectivity and which we might call truth, or the belief in truth: The Faith! God! Socialism! Etc.

The condition of the individual-subject is clearly paradoxical. The death of each individual is, for it, equivalent to the death of the Universe. It is the total

death of a universe. At the same time, this death reveals the fragility, the near nothingness of this entity that is the subject. By the same token, however, we are capable of seeking out this death when we offer our lives to the Nation, to Humanity, to God or to Truth.

Let me conclude by apologizing for having said at once too much and too little. I would add only that we must effect an overall and ongoing conceptual reconstruction if we are to grasp the notion of the subject. If we do not begin from biological organization, from the cognitive dimension, computation, the computo, the principle of exclusion, the principle of identity, etc., we will never succeed in grounding the notion of the subject in an empirical and logical manner. The organizational qualities of the subject demand that we associate antagonistic concepts: exclusion and inclusion, the I, the they, and the it. This requires what I have called *complex* thinking, which is to say a thinking that is capable of unifying concepts which repel one another and are otherwise catalogued and isolated in separate compartments. Now, we all know that compartmentalized and disciplinary thinking still dominates the world. This kind of thinking obeys a paradigm which rules according to the principles of disjunction, separation, and reduction. It is not possible, according to these principles, truly to grasp the subject. Nor is it possible to grasp the ambivalences, the uncertainties, or the inadequacies which pertain to the notion of the subject, or simultaneously to recognize its central and yet peripheral character, or the way it is both significant and insignificant. It is this kind of effort that is required, I believe, for the notion of the subject truly to emerge. Without such effort, we cannot but continue to split it apart, to transcendentalize it, and we will never come to understand it.