

NATURE, TECHNIQUE AND ARTIFICIALITY

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For the past two decades the question of the relation between Nature and Culture appears to have been examined from every angle. Yet I believe that despite everything I have read on the topic, the implications have not been fully drawn for a slightly different formulation of the question—viz., that between Nature and Artificiality. We remain implicitly convinced of the excellence of nature, and the word "artificial" always includes at least a hint of negative connotation and criticism. It is enough to think of the distinction so often made between "natural needs" (always legitimate and justified) and those "artificial needs" that are the butt of every criticism, particularly those of the consumer society. It must be clearly shown that the most natural needs are lived, expressed and satisfied in an artificial way; that the line between artificial and natural needs has always been impossible to draw; and, finally, that so-called artificial needs always have a natural basis, that it is impossible to create human needs out of nothing. We have to relearn Marx's lesson that man is a

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unique being; as is not the case with animals, when man gratifies one need or a certain order of needs, a whole new order of needs immediately unfolds for him. Even if we know all this, spontaneously we still judge natural needs positively and artificial needs critically. This is simply one example of a rather general attitude relating to many components of our civilization.

One might say that this belief dates from the acceptance of the ideas of Rousseau, but in reality it is a very old attitude which, at least since 500 B.C. in the West, presents nature as a model, an excellence, a good, or a value. As a result, we consider law or morality in terms of the "demands" of nature; we set up a model of law in natural law; and we try to construct a natural theology. (This adjective legitimates the theological enterprise.) Now, the movement of technique, the formation of an almost totally artificial world, pushes us to the wall and forces a more fundamental reflection. At the same time, this development leads directly to a more extreme evaluation of nature. Nature is endangered by technique, it appears as the sole refuge, the only remedy, the only compensation vis-à-vis the excesses of the technical system. It is enough to think of the reaction of hundreds of thousands of young people in the world, the founding of communes, the search for revolutionary "spontaneity," the flight into an apparent nature during vacations as an escape from technical work. These are wholly disparate signs, but they spring from the same convictions.

With this in mind, let us try to start from some simple givens in order to see what consequences follow. The two basic givens are that man is essentially artificial and the producer of artifacts and that theorization on the basis of nature is an error.

I. ARTIFICIAL MAN

If indeed man comes from the animals, it is necessary to recognize that man does not reveal himself as such until he manifests an artificial creation. We must be precise. According to some thinkers, one can be sure that human beings are present only when a tool, however rudimentary, is produced. It is, then, the appearance of this artifice that characterizes the passage from animal to man or that would mark the appearance of man. For others, it is language that makes man. They mean a language that would be neither mechanical, nor a simple automatic transmitter of concrete data, but a language that brings into play, for the speaker and the hearer, the realm of the imaginary and something beyond mere reality. Consequently, it is a language totally different from the establishment of a code of communication such as we find among bees and ants. The debate on this subject is not closed. Some thinkers (e.g., Laborit) estimate that

language is a recent development—that man as such existed long before language and that language refers only to the material elements (tools). On the other hand, a very fruitful school (e.g., Leroi-Gourhan) teaches that man and language are consubstantial—that man is *always* a talking man. In both cases, however, we should note that language is an artificial creation of man. It is not the same thing to say "man from the beginning is one who talks" and "dogs have four legs." Man is not endowed with language in itself. Language is instituted progressively and it does not change by natural evolutions, but by invention and imagination. There is no "natural" unfolding of a language. Man is no more a "language-er" than a "maker." The production of language is as artificial as the production of tools and the two obviously go together.

Furthermore, Marx (but following others!) is equally right to insist on the fact that only man is a worker. He fulfills his life through work. He changes his environment through work. Already (as a third example of the *same* view of artificiality) we have here a basic question of ecology. Each animal is integrated into its environment. We have all seen diagrams of the balance of nature showing that such and such an animal—nourishing itself in such and such a way, diverting the course of a stream, etc.—by its very *being* contributes to the balance of the environment through a sort of mechanical system. As soon as the aspect of work appears, there is a disturbance in the environment by a nonnatural intervention that cannot be integrated. That is to say, man as worker does not obey the laws of the environment and the ecological balance, but rather he obeys his own "law," his desire, his power, his interests—that is to say, a collection of voluntary and sometimes calculated factors (for example, the hunters or fishermen who respect the game in order to allow reproduction). It is no longer spontaneous adaptation, but the choice of balancing and successively making adjustments among three factors—what man desires, what the natural environment gives, and the means man has available (the instruments of action). Thus, when a balance is re-established, it is no longer a fact of nature, but of choice and artifice (for example, the birth control practiced in the Polynesian islands in terms of what is possible for subsistence).

Linked to this first set of artificial givens which are coextensive with humanity, we find a second grouping with problems that can be called morality. For some people, man is man only after he poses a norm different from what his spontaneity leads him to do, and this norm is essentially: "Thou shall not kill." Not to kill is nothing innate in the nature of man.¹ Even if you cannot see yourself as a carnivore pure and simple, a killer by nature, you still have to recognize that the *formulation* of the norm (which is very general) is an a-natural intervention. When man gives himself rules of conduct or family organization, he performs an

artificial act. Let us understand this properly: ethnology shows us certain correspondences between animal behavior and human behavior. The unique factor, however, is that this behavior is made explicitly normative. The rule establishes a behavior as obligatory or else it opposes that behavior and prohibits it. This is what is human and, at the same time, artificial.

We can consider two examples. If we accept Konrad Lorenz's thesis about the natural restraints on animal aggression against animals of the same species (namely, that the restraints are more powerful in proportion to the harm the animal can do), then on man the "natural" restraints, the physiological ones, are obviously very weak, since the natural human resources for aggression (nails, teeth) are very weak. A shift takes place when man invents artificial resources for aggression (weapons); from this moment, he is dangerous. But his physiological restraints are fixed. In order to counterbalance the power of these formidable new resources, for himself as well as for his neighbor, he has to come up with commandments, prohibitions, a morality which is also both essential to man and, at the same time, artificial. The other example concerns organization. A complex system of taboos in relationships, prohibitions (for example, against incest), etc., is neither the sign of primitiveness nor the expression of crude interests.² On the contrary, it is the sign that man is not a simple animal. None of these things are "inscribed" on his "nature"—neither the prohibition against incest, nor the durability of sexual relationships transformed within marriage, nor the length of the educational relationship between the mother and the child (filiation). All these things were willed; the whole system is an artificial institution from which man finally issues. It did not just appear. Man had to establish it, to conquer it, and it is in self-restraint that man was wrought.³ On this level, the problem is not to find out whether some morality is worth more than some other one (as to content), but rather it is the coexistence of man with a system of norms (moral, religious, political, juridical) which he imposes on himself, making himself in the process of self-regulation.

In these two cases, we see that the limitation and the coercion do not come from outside, nor are they imposed by necessity, nor do they express an internal spontaneity (any more than putting a handle on a piece of flint is spontaneous). Once more there is the interplay among the external constraints, the possibilities for action (here the possibility is the norm itself!), and the choices (and it is hard to say whether they come from a sense of utility, efficiency, conservation, etc.—a matter of small importance). Thus we are constantly led back to the decisive character of the artificial.

Basically, we find exactly the same thing in the Bible. Nowhere do we see a human nature affirmed there. On the contrary, we are shown the

aspect of human initiative and innovation willed by God. Man is made of clay (hence the natural factors), but God breathes His spirit on him, and this is a spirit as free and as initiating as the Spirit of God. God charges man "to dress it and to keep it" (Genesis 2:15), that is, to enhance Eden in an artificial way, by human "art" and not simply to watch growing whatever is growing. In addition, man, endowed with the word of God, does not have a language set in advance. The story of the animals is very characteristic. "God brought them unto Adam to see what he would call them" (Genesis 2:19). It is impossible to state more clearly the initiative left to man and the artificial, fabricated character of this language. Biblically, then, man is an "uncertain" being who is not endowed with a fixed nature, a purely mechanical movement; he is not a figure of repetition but of history. Even if it is said that man is made in the image of God, it is not made at all definite in what this image of God consists. It is a mistake to say that this image is a nature for man, for this would mean that God is a nature! Thus, the Bible presents man's constant invention of the artificial as his "vocation," his role. This description comes "before the fall," but it remains the same "after the fall," only with a double transformation—the natural environment has become hostile to man and man is going to express the artificial, above all, in technique.⁴ Therefore, the artificial aspect of techniques is not abnormal and the invention of techniques, the production of an artificial environment, is not evil. But neither is it purely and simply the product of necessity where man finds himself taking this route in order to survive. (Certain interpretations of Marx describe this development far too mechanically.) If, biblically, techniques are inscribed in the world of the fall from the beginning until today, it does not mean at all that, as such, they are the product of sin. Man is shown as artificer before as well as after the separation from God. Thus, the problem raised by modern techniques is not at all their artificiality which would be judged by the standard of nature⁵—an artificial evil in the face of a natural good. We shall see what the real problem is, and that it is something completely different. Let us remember simply that man is the artificial producer and that, from the beginning, he has asserted himself *over and against* nature.

II. THE ERROR OF THEORIZING ON THE BASIS OF NATURE

I am leaving aside the question of the existence of a fundamental human nature. It seems to me that the staggering variety among peoples, as shown to us by historians, ethnologists, sociologists, etc., makes the question of a human nature at least problematic. Quite the contrary, I see the decisive importance of the artificial both in the appearance of man as

well as in his cultural development. I have sketched some givens concerning man. Brought into existence by means of the artificial and himself the producer of this art, man is the "artificer." If this is so, then we cannot adopt the usual simplistic assessment that says behavior is good if it conforms to nature, that it must obey the "laws" of nature, that it must obey a natural model. The Greeks invented this idea which has pursued us relentlessly and we still live with it. "Conformity with nature" is normal; "nonconformity" is abnormal. Right from the start, we meet a formal difficulty, one that Hans Kelsen shed light on some time ago. Nature is not an animated being, so that, even if we admit that its "laws" are the good which man should obey, it is never nature "who" tells us we ought to obey. Nature does not give commands; it never says "you ought." Consequently, it is left to man's freedom to impose on himself the duty to observe nature, but in this case, it is an artificial obligation, one that comes from a human choice. He prescribes the law of nature to himself as law, exactly as he could have chosen others, or else he must assume the existence of some transcendent which imposes on man, from the outside, a specific commandment to observe the laws of nature.

In any case, this obligation is not at all biblical. We do not find it anywhere in the Bible.⁶ God does not ask us to observe what nature does. On the contrary, He declares that His Law is not at all comparable to anything found among other peoples. It is not a natural given, but a declaration of a separation. As for the formula that God will place His law in the heart of man and will transform these hearts of stone into hearts of flesh, this is a prophecy of the end of time; this is a promise through which we are assured of some future accomplishment, but it in no way refers to the present. In fact, it demonstrates just the opposite. If the prophet announces it as a final miracle, then it is not the case now! Just as the law of God is exterior to man, written on tablets of stone, so the word of the Beatitudes is not at all what we find in human nature (if one exists). It is even the exact opposite. Let us think of a single formula, "Blessed are the meek: for they shall inherit the earth" (Matthew 5:5), an expression that is clearly contrary to reality! And again, "My thoughts are not your thoughts, neither are your ways my ways, saith the Lord" (Isaiah 55:8). What better way to say that whatever is found spontaneously in man has no common ground with the will of God? The will of God, then, is not natural. Nowhere do we come across a commandment to obey nature. In other words, nature has its laws, its structures, in which man is situated, but there is no natural morality with a commandment to obedience, no natural law which would be valuable to man in itself.

We come then to this necessary double formulation: *nature is not a model*, and *nature is not a limitation on human action*.

Nature is not a *model*, for man entirely within nature obeys other

models (the mythical, the rational, etc.), and from the beginning his relationship to nature has been at least twofold. It is the environment from which man derives the necessities of life, yet at the same time, nature endangers him and threatens to obliterate him. Facing this situation, man is always the one, as I have said, who disturbs and upsets the natural order. Human artifice means that the natural cycles can no longer recur indefinitely without changing. Man substitutes history for cycles. Clearly man cannot be disconnected from that nature which provides the entire substratum of his existence; he cannot claim to lead a life itself totally artificial (and in reality this is our present drama, although it was nobody's intention); he cannot ignore the "laws" of nature. On the contrary, it is through discovering them that he uses them in order to make something other than what seems to be the natural direction. He cannot claim to live without breathing, but the fact that he uses nature also involves the non-natural in life. We do not have to reject what he does, for that would be to deny man the benefit of his environment. The observance of natural laws does not at all express the Good which man should be content to imitate and to which he should adapt. On the contrary, the observance of nature is the efficient means for changing things, for making them useful. It follows that we do not have to look to what happens in nature to try to find a model of goodness and right behavior. Those who believe that they are coming back to the good by returning to nature present another problem altogether. They continue to live in the realm of the artificial, to cultivate, to modify the countryside, to use it. They just lead healthier lives. They respect nature. They have happier work. They find a happiness other than the consumption of industrial goods. All this is fine, but they are not at all "imitating" nature. They do not lead a life *of* nature. To take up nature as a model appears as a false temptation for ecologists and others as well.

Two examples: Much has been said about the natural balances and feedback loops within natural systems. They seem excellent and a good to be imitated—as if the existence of these mechanisms could be worthwhile for the human group as a model for human action. Now, we must make clear distinctions. The processes of feedback and balance are indispensable for the natural environment to maintain itself. Without it, man clearly would no longer exist. To disturb the processes, to prevent nature from functioning, is to run a considerable risk, but it does not mean that human behavior should be modeled exclusively on nature, and that it should be copied, taking, for example, feedback as a model. Feedback (which is a process of constantly returning to an antecedent balance, or a reintroduction into some cycle of new elements destined to be reused so that the cycle can recur) cannot be a model either for human action or for human organization. When we speak of feedback in human systems, it is a

question of something totally artificial, having nothing in common with the natural model. Of course, it is possible to argue that this utilitarian attitude is not moral, that to relate nature to whatever is necessary for human life is an untenable anthropomorphism. My reply is to ask what "nature" would be without man. An empty sky. An empty earth that could continue its cycles without any meaning. It is man who gives meaning to nature by modifying it, by not limiting himself to copying it. Man has to respect this natural environment in order to continue his own work which is precisely the invention of something other than this environment.

The other example is the instincts. We see the spread of proclamations on the excellence of instincts which we must obey as opposed to the abnormal and perverse character of law, morality, etc., and, particularly nowadays, the liberation of the sexual instincts from prohibitions and taboos. Instincts are good because they are natural. It is most remarkable to note, however, how much the human "instincts" in the area of sexuality are different from animal instincts. We know that animals mate about three months during the year. Since man has no cyclical limitations, human beings make love anytime and not in terms of their needs, but in terms of a desire totally divorced from the natural and the procreative. This sexual "instinct" of man is perfectly anarchic and explosive and it can be tolerated only if it is transformed, reworked, modified. This change can take place in an aesthetic manner and then it will be eroticism (which unfortunately is confused with the frantic liberation of the sexual instinct although it is a perfectly artificial construction). More frequently, and fortunately for the survival of human groups, the change takes place with the elaboration of rigorous behavior, taboos and prohibitions that finally make the anarchic sexual behavior of man tolerable for all. It is, however, the same problem as with violence—to the extent that for human beings there are no fixed and determining laws of behavior, man must freely and artificially give himself some laws of peculiar behavior which are not the expression of his nature nor the copy of a natural model.

Secondly, nature is not a limit in itself. That is to say, man has always set himself up as an enemy of nature, as an exploiter, as a more or less respectful transformer. Furthermore, to the extent that nature has always been his enemy, it does not present any absolute and impassable limit to him. There is no natural limitation on his action—that is, no other limitation than the fact that if he transgresses the "laws" directly he dies, but this is a problem we have already discussed above. There is a point at which, if he wants to stay alive, man should choose not to go on. Nature, however, does not dictate any conduct, does not impose any limit on him: he can go on just the same and commit suicide. Surely man has an instinct for life, for self-preservation that will lead him to obey the laws of nature

in order to survive? Yes, but it seems to me obvious that there is also a death wish (despite recent denials by philosophers and psychoanalysts who claim it did not exist for Freud) which leads to the passion for suicide and absolute risk. Even if it were not possible to speak of it on an individual plane, I find it indubitably present in the history of societies. There are periods when a society wants to self-destruct completely.

We encounter the same ambivalence with reason. For a very long time, it has been asserted that reason is the nature of man—that by obeying nature man behaves reasonably, and that reason leads to a behavior in conformity with nature. It seems to me that when we consider human reality, we are now in the presence of a construction that is both ethical (and it is desirable that it be so) and metaphysical (if pushed, and despite appearances, I would affirm that this is the case). Yet, there is nothing "natural" here. Reason is a human conquest. It does not seem that "primitive" man had reasonable, let alone rational, behavior. It seems that progressively and in different parts of humanity reason has been affirmed and when people pass to the stage of rationality, they clearly have entered into the realm of pure artificiality. When reason draws reasonable limitations on human action, it is a deliberate act, a choice which is not at all dictated by a natural impulse. Reason imposes a mode of behavior on man—one that is not derived from nature, for the nature of man is just as irrational as it is rational. There are, then, no limits in themselves within nature, for nothing is irrefutable or insurmountable. There have been only limits that man could not yet go beyond, simply because he did not have the means. When these were found, it was possible to transgress everything. We see then another shift in the problem—not the existence of natural limits in themselves, but rather the technical possibility or impossibility of going beyond them.

Finally, in order to confirm this certainty in another area (the certainty that it is an error to want to take nature as a model and limit, and that we must not theorize on the basis of nature), I shall go over two theological aspects.⁷ First, contrary to classical theology, which tried, at any price, to find a continuity between nature and God's intervention, if we respect the biblical message, we are obliged to say that grace is not a super-nature, but the antithesis of nature, that grace is the contrary of nature. The Law in the Old Testament was an obstacle, a check, a canalization of the natural tendencies: grace is a pure contradiction. We merely have to read the parables of the Kingdom of Heaven to see at what point the activity of grace is the contrary to what nature would command (not to uproot the tares, not to reject the prodigal son, to pay the workers from the last hour the same as the others, to invite beggars and vagrants to the banquet of the king). Also, the behavior of Jesus (for example, the washing of feet: it is because I am the Lord that I act as a servant) is contrary both to

"natural" nature, to human nature and to social nature. Grace which expresses the fullness of love contradicts the processes of nature which can be governed by "laws," but not at all by love. There is no love within nature; there is no "natural" love. Love as *Eros* is a human invention which is superimposed on the sexual instinct, and *Agape* is found only in God. Grace is a refusal of the natural.

The second point to underline is that the Kingdom of God is not the outcome, the fulfillment of nature, but the assumption and the recapitulation of history. As I have often discussed, the Kingdom of God is in no way a return to a previous state of nature (Eden) with the annullment of every human invention, nor is it the establishment of a natural balance. It is not the triumph of nature. It is the fulfillment of the will of God. Let God be all in all. Let us be able to see face to face and know even as we have been known. This has nothing at all to do with any kind of nature however reintegrated in its purity, its splendor, etc. The Kingdom of God is the irremissible communion between God and man, but with the fullness of man; that is, with all he has been, all he had made, all he has lived, his history. Put differently, we can put forward the scandalous proposition that *Christianity is anti-nature*. It does not refer us to a natural model. It is not a question of a fulfillment or re-establishment of nature and, if God loves all His creation, it is in terms of man and not in itself. Genesis is very clear in this respect. It is man who responds in love and not the stars: it is man who manifests the love of God in nature and not a nature by its own existence. Finally, within Christianity, nature is not superior to man, and the laws which operate within nature are not the school he should attend. He has to listen to the word of God, to know the will of God, to listen to Him and to love Him. That is the one and only school. There is no identity between the will of God and the laws of nature. A simple comparison: a technician who fabricates computers sets up mechanisms capable of operating according to some program. The technician is married; he loves his wife. Obviously he does not expect his wife to obey the computer program. It would not be a proof of the wife's love to function as a computer or to repeat the program.

When I say that Christianity is anti-nature, I do not mean that it is anti-creation. If man has to love, respect, admire and use creation with moderation, if he has to keep it and make it fruitful with his care, it is not because it is nature, but rather because it is the creation of God. Because he loves God, he has to love God's handiwork and to admire God in His creation and to praise God for this creation. The Bible teaches us to read creation as a mirror of God, but it sends us to Him through it. To be anti-nature is to challenge—to refuse to accept that nature is a value in itself, that it exists for itself, that its intrinsic laws are good. Christianity challenges the project brought into being especially since the eighteenth

century in the West, a project which corresponds exactly to the religious transformation of nature brought about in antiquity—the adoration of the moon or the sun so strongly attacked by the prophets. To glorify the natural, as do the present-day nudists or all those who justify themselves by saying “because it is natural,” is precisely to practice the idolatry condemned in the Bible and is, in reality, antihuman.

III. NECESSITY—FREEDOM

It is a quite traditional commonplace that life within nature is a life of freedom, while social life is a life of constraint and obligations. I myself have often shown that technique is a destiny, a fatality, an anti-freedom. Here, I should like to specify further something that is not of the order of the technological society. Beyond the shadow of a doubt, man enclosed within nature is in no way free. He is strictly conditioned by the environment and, as has been shown so often, he is constantly threatened by environmental forces whether these be animals, poisons, the danger of famine, illness, cold, or lack of water. Because of these things, he is tightly locked into a struggle for his survival that was surely no freedom.

Furthermore, nature is a combination of necessities. Everything science discovers has been summed up in the terms “chance” and “necessity.” Anything that is not in the order of necessity is in the realm of chance. And chance does not correspond to freedom. Chance too is an order of necessity. Everything we know about heredity tends to show that man emerges in a web of necessities and of conditioning. Genetics does not give even a glimpse of freedom, nor can we look to culture for the source of freedom. For some years now, I have insisted on cultural conditionings—the fact that language is a yoke, that the social environment ensures “reproduction,” and that culture becomes a second nature for man. As a result, everything in the natural order is of the order of necessity. This is what the nineteenth-century scientists were implicitly saying when they were searching to formulate laws.

Thus we see the extraordinary and astonishing error on the part of “liberals” when they figure they can guarantee freedom by a policy of “laissez faire” (nonintervention). Nonintervention in what? In economic or sociological laws? Not to intervene in the economy, so that wages and prices are settled all by themselves through the interplay of the economic laws of the marketplace? This approach, however, does not take into account the pain, the disasters, the uprootedness, the despair that this free play of natural laws is going to produce. The freedom in question is not human freedom; it is the freedom of economic laws and that’s all there is to it. It’s just like saying, “The laws of gravity, heat, etc., want this avalanche to fall here. There is nothing to do except let it fall and if there

is a village in the way, that's too bad." There are as many good things as bad things in nature, but "good" and "bad" are anthropomorphic judgments. And, in fact, it is a question of good and bad things *for man*. When we assess that we ought to follow the laws of nature, this "ought" is clearly directed to man! Then the argument does become relevant. *Essentially nature represents the locus of human necessities, implacable fatalities and, in reality, man's destiny.* Man asserts his freedom only by putting checks on the apparently inevitable chains of nature, only by using these "laws" in order to bring about other results, only by opposing certain regularities to accomplish something other than the copying of the natural cycles—in other words, by involving himself in the artificial. The artificial (and technique) are the expression of human freedom and the road to this freedom. Man is free only in his own invention, when he builds an environment for himself (society) and gives himself the tools for it (knowledge, religion, art, and technique). It is here and not in nature that he is free, that he frees himself from natural servitude, and that he revives freedom. The natural realm is the world of necessity; the artificial realm is the expression of his freedom.

But it is necessary here to be careful not to transform this historical and sociological statement of fact into a philosophical, metaphysical, eternal truth. I am not saying that nature is *THE DESTINY*, nor that technique is *THE FREEDOM*. For me, there is neither absolute destiny nor absolute freedom. There are situations and circumstances more or less oriented in one direction or the other. Similarly, I am not saying that they are stabilized and established conditions. In the next section we will have to see the reversal that our society experiences in this area. For now I am trying to determine what has been the historic route man has taken and also the way in which man lived these things and these situations, more perhaps than the reality itself. For concrete man, the formidable natural environment was the center of fatal forces, and the means with which he had to struggle against it constituted his freedom. If this is the case, then we must accept an undeniable consequence: namely, that there is no irreparable contradiction between technique and Christianity. Coming from me, this conclusion might seem astonishing, to the extent that people have often interpreted what I have written as being based on this contradiction. If, however, on the one hand, technique cannot be declared evil because it is artificial and anti-nature (as would be the case if you drew from nature a theory, a generalization, a good and protective diversion); and if, on the other hand, as I have indicated, Christianity is anti-nature; then there is no opposition. If man becomes man through his declaration of an ethical intention and also by making tools; if man wins his freedom through artificial means, in the realm of the artificial, and by dominating natural determinations; and if, at the same time, the grace which is in Christ is the

activity which truly liberates from what is inscribed in human nature (namely, sin); if grace, as opposed to nature, is the covenant and reconciliation of whatever by nature has become hostile; then there is even a coincidence between technique and Christian faith. Both are equally artificial and artful.

From these statements, however, we should not draw any unwarranted corollaries. In particular, I am not saying that one springs from the other. Technique is not brought forth from Christianity, nor does Christianity appear because of a certain level of technique. Both are the expression of a self-same human movement; both are situated in the same relationship to nature. No more. Similarly, in this coincidence, we should not see a permanent generality. This is why I have so often criticized the arguments of philosophers (Heidegger, Habermas, Mounier) and theologians (texts from the World Council of Churches, Harvey Cox). They present universal arguments, whether starting from a conceptual analysis in order to apply it to our times or from a concrete study of our times in order to derive a rule for every age. In other words, some commit Hegel's idealist error and others commit Marx's materialist error. They are missing (and this is the meaning of what I have been trying to shed light on from the beginning) the radical newness of our age—the fact that technique today has nothing at all in common with previous forms of technique; that the modern state in no way follows from royal, feudal, etc., political power; and that the ideas of ancient philosophers are of no use to us. With regard to Christianity, traditional interpretations as well as modernist adaptations are false and useless.⁸ We must clearly understand that if man remains artificial and the artificer, then the relationship between nature and the artificial has been reversed, has been thrown into disorder, and we have to situate ourselves in relationship to this reversal. The considerable difficulty then is to become capable of thinking the reverse of what man has lived for thousands of years, to overcome our schemata and our stereotypes, to retrace our steps. That is to say, we now have to consider that what used to be means to freedom has become a condition of slavery and what has always been the mechanism of necessity has become the occasion for a possible freedom. This is the main difficulty for ecology which should not be a romantic dream or a medieval pastoral, but which should be correctly thought in terms of a precise analysis of the technical world. Again, we must ask ourselves how a similar reversal could be carried out.

IV. THE REVERSAL

History has changed course. Two phenomena have provoked this unbelievable reversal. First (something that could not be imagined before), it seems that technique carried within it immoderation, pride, unlimited

power. In ancient times it was impossible to understand the strange relationship in the Bible between Cain and techniques, while technique was simply a modest means for survival and freedom. Today we can see the prophetic meaning of the passage. It is within this meaning that technique is essentially in contradiction to the limitlessness of God, the grace and love of God. It is arrogance competing with the biblical God; it is the concrete and unchained power against the symbolic and self-bound power of the God of Abraham, Isaac, and Jacob. It is the victorious demon against the humility of Jesus. Already technique contained all the possibilities for expansion, but it needed certain economic, social, and cultural conditions for it to blow up. Now we are immersed in this path of power, in this delirious expansion that no one can any longer control or measure or canalize. Everything is subordinated to its growth and everybody participates by his choices, his work, his consumption—the evidence of progress. As I have often said, it is no longer a matter of man's good will nor of man's ability to come up with a good use for technique. The only problem is the unlimitedness of the growth and the unlimitedness of the power. We can search out all the other material elements in human cultures and see that only technique contained, in itself, these implications. This possibility was included from the beginning, but it was unknown.

The second factor in the reversal involves the danger itself of freedom. Surprisingly, it too carried a sort of potential for indefinite growth. For man, it was a question of a hard-won freedom against the natural environment and then it was the struggle against social oppressions. As soon as freedom is secured, however, intolerable obstacles appear again. When nature is dominated, we are irritated that it does not always provide more possibilities for utilization. When space is dominated (by rapid transportation) we feel terribly bullied if vehicles are slowed down a bit, either by traffic problems or by administrative decisions. Obstacles to "freedom"! The more freedom there is, the more the anger against the little that remains of limitations. In the social realm there is exactly the same attitude; we have overthrown the tyrannical power, we have annihilated the taboos or collective moral ruses, but the few that remain seem like a monstrous tyranny. The few remaining limits on pornography, family or social constraints, or work obligations appear in turn as the negation of freedom. When there were genuine constraints, some genuine lack of freedom, the struggle that took place day by day, one step at a time in order to win freedom, was the struggle of hope and the affirmation of man, with heavy sacrifices and a vocation. Today, when we live in an incredible laxity, nobody wants to endure any more sacrifices for freedom. It is mistaken for laziness, negligence, stupid incoherence, infinite unreasonableness, etc. Actually, the change has been made greater on a material

level. As long as man had few instruments for action, freedom for him was centered on body-to-body combat. He had to be involved completely in a contest where he knew the real obstacles that put him to the test. From the moment when he had powerful enough instruments to overcome all obstacles, then freedom changed its meaning and its significance. It is clear that freedom was the very life of man as long as he did not have the absolute means to put it into practice, as long as it was a difficult game to be played against real oppressions. It became a danger and a lie when it was matched up with unlimited means.

This double factor has brought about two results, the tragedy of which we are living out. First, the mortal danger of the exclusively artificial. Man is an artificer, *but in a natural environment* and in relationship to it. Everything is changed by the complete victory of the artificial which involves a negation and an elimination of the natural. When man replaces everything given him in nature with the artificial, then he makes an environment for himself that is totally unliveable. All the natural products replaced by plastic, all natural foods replaced by new chemical substances, to the extreme that the image promised us is that of the living conditions of the astronauts. This is even the image presented as the ideal in animated cartoons for children. We forget that man still remains a creature of flesh and blood and also of passion and freedom and that it is not human to be reduced to the stage of a guinea-pig living in a totally artificial world. The elimination of the natural does not coincide with what is still man. When I speak in this way, I am not referring to a human nature, but to the long march over thousands of years toward our present destination. That is, the destruction of the natural in favor of the artificial leads to the negation of what successive generations have desired and searched for throughout five thousand years. It is the negation of the human model which has been long elaborated throughout the course of history. At this point, there is a total negation: artificial man becomes the negation of man the artificer. He is himself subjected to the artificial that has become independent of him. In turn, this destruction of the natural environment removes any meaning for this human work, this art, these artifacts, for they had meaning and value only to the extent that they referred to an existing natural environment. Nature was the basis, the condition, the substance, the possibility for making the artifices that let man live. Human life was ensured to be meaningful in the interrelationship between the natural and the artificial. If the first is destroyed or allegedly replaced, the second no longer has any meaning or value. This reduction and transgression of nature is no longer the victory of freedom, but on the contrary, the destruction of freedom. In effect freedom exists only in the recognition of necessity. Where there is no longer any necessity, there is no longer any freedom. We know freedom only when we have

to struggle against a destiny. Without that, we are in a weightless universe. It is very significant that beyond the pull of gravity, it is impossible to move. The weight which keeps us on earth is also the force which allows us to distinguish high and low, to situate ourselves and, even more, allows us to walk, to move forward. Without this weight, we gesticulate in a perfectly ridiculous manner coming to nothing. Without this heaviness, we are much freer than with it, for, freed from this constraint, we can certainly float in the air, but without having a hold on anything. Here we put our finger on the folly of those who have always dreamed of escaping the constraints of this earth and of being *free* because of being no longer connected to the ground. We discover then that this "freedom" is only an impossibility of doing whatever and an impossibility of being. It is a freedom of perfect indifference in which right and left or high and low are identical and meaningless. It is a freedom that "man" at this moment shares with things, since an object thrown into this weightlessness floats in just the same manner. Man can no longer intervene at all; he has been reduced exactly to the state of an object. In effect, this is what happens to us globally, collectively. In return for having made a totally artificial universe, having eliminated the natural constraints, we have placed ourselves in a world where freedom is no longer possible *at all*.

We come then to the last implication of this exclusively artificial world, to what Bernard Charbonneau has called "the lie of liberty."⁹ This lie seems to me to be twofold. First, it consists in having transformed into an ideal, an absolute, a principle, a declaration, or a system what really is the order of experience, the concrete, the lived, or the everyday. The lie consists of changing freedoms into Freedom, of trusting in the program of Freedom when we are deprived of all practical freedoms, of claiming to be free through the realization of new institutions. Secondly, there is this transformation that has taken place: that which was the instrument of freedom has become our slavery. Technique, as I have said, used to ensure a certain freedom for man, but now everything has changed. Technique has ceased to be an instrument and become instead the law of our being. It has its own determinations, it is autonomous and it develops independently of the will of man. It is a fatality that conditions man in everything. Following his path slothfully, man maintains that since technique has increased, his freedom has increased as well. Yet this argument is based on an assimilation of our situation with that of the past. Nothing is harder than to understand this reversal of roles and that the liberator of yesterday has become today an even more authoritarian master than the one he succeeded in conquering and dominating.

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In our situation it is truly impossible to go back in time, to recover nature, to move back to a natural level, and to yield again to the laws of

nature. We cannot forget our history. I have also said that it is inconceivable to take the laws of nature as a model. We can take only ourselves as a model! But under what constraint? Heraclitus wrote, "The sun itself could not transgress its limits without the Erinyes catching it in the act" (fr. 94). This formulation has often been wrongly interpreted by those who believe in the noncontravenable laws of nature. Heraclitus does not say that "the sun cannot . . ." but that if it does do it, then "the Erinyes. . . ." Put differently, transgression involves the vengeance of the Furies. This is exactly what we now know. Let us not say that "nature takes vengeance" for that would imply an anthropomorphism which I have criticized above. Nevertheless, by the excess of technique and liberty, we ourselves have set in motion a destructive reaction. We are confronted with a decisive choice which must be conscious. The choice is between whatever is going to allow the continuation of life and whatever is going to end it. It is between life and death, bearing in mind that life for the human species is both biochemical and spiritual—the two have to go together. It is not only a question of death through atomic destruction, but of everything that produces the extinction of that which has characterized the human being.

Now what avenues are open to us? A return to the past or to nature is excluded, at least in the order of voluntary choice, although it is not impossible that, after an atomic catastrophe, a remainder of humanity would find itself back in "natural" conditions—a classic theme in science fiction that we cannot go into here. Yet it is time to proceed to the voluntary choices. Once again we have to choose the artificial. But what kind? It is a question of what I shall call the Second Level of the artificial. In what would this Second Level consist? One temptation open to us is thinking that technique will resolve technical problems, a solution that is correct for anything involving *individualized and fragmentary problems*, but radically incorrect for the central problem I have alluded to here. No technique is able to respond to nor is it permitted to dominate the complex phenomenon of technical pride and incoherent freedom. Some techniques will be useful in responding to such and such an inconvenience piecemeal (for example, it is possible to mitigate pollution, to reduce the effects of an immoderate consumption of water or energy, etc.), but it is not a collection of specific problems that constitutes the situation we are in. Technical solutions (necessarily more and more technocratic) will not suffice. The classic formula—that it is not by grace of less technique but by more technique that the situation will be altered—is thus at once correct and incorrect.

Also, we must not think that the Second Level of the artificial will be made up of the information processing system perfecting and superimposed on the technological system. Elsewhere I have explained that modern technique implies an ensemble of techniques of the second de-

gree, situated on the informational level. This second stage of information processing is not, however, the second level of the artificial.

Finally, this second level cannot be formed by science. We see more and more scientists thinking that science is the only way open that will allow us to overcome all our problems—"more science." In France, there are Monod, Jacob, Laborit, etc. from the natural sciences, but also E. Morin and many others from the social sciences. In the "committed" world, the Marxists think that Marx provides the true science and thanks to this science all our problems will be resolved. Now I do not have to express my opinion on the validity of such and such a science (namely, whether Marxism or the social sciences are really sciences), but I proceed from one statement of fact. Man has always succeeded in rising to the test, in meeting the challenge presented to him by means other than those which are the source of the challenge. To respond to the danger of nature, man did not remain on the level or within the framework of nature. He created the means and then the universe of the artificial. Here we must rigorously draw out the implications of the fact that technique has established the new environment for human life, completely replacing nature as environment. One of the consequences is that science is essentially the same as the new environment. It is not at all the means for acting on the environment in question because it both produces this environment and is produced by it—the cause and effect of this environment without being in the least dissociated from the world. *Science is a reduplication of the technical environment.* It cannot provide any escape because it can only confirm what already is. To have recourse to science, *in our day*, would be to do exactly what the "animal-man" in the first ages would have done had he buried himself in the natural, not differentiating himself at all from the environment, copying it and identifying himself with it—that is to say, "refusing" to become man by refusing the route of the difference, the distance, hence the artificial.

The question is whether, with respect to the new environment, we are going to be capable of reproducing what specifically determined man with respect to his first environment. Are we going to differentiate ourselves from it, to use it, to master it, to reorganize it, just as man, through the first level of the artificial, was able to do to the natural environment? But what orientation do we choose now? Perhaps we have one indication from the analysis itself of the artificial on the first level. We have seen that it was characterized by two operations instituted by man—tools and the formulation of rules of behavior not imposed by reflex and adaptation, but chosen in order to dominate nature. With regard to the technical environment, we already have some tools for domination (and it is here that I place the techniques of compensation and information that certainly are not negligible), but we have no new orientation for behavior. Put differently, taking into consideration the profound reality of human history,

the specification of man, on the one hand, and, on the other, the reality of the new environment, I am led, not by an arbitrary choice nor by an ideological preference but by the situation itself, to think that the second level of the artificial is ethical. With respect to this environment, it is a question of reproducing the decision of man formulated in the commandment, "Thou shall not kill." Of course, there can be no simple return to a traditional morality, since this involves taking a position toward the natural environment. It is indeed an ethical question, but one to be constructed and produced in order to discover not what conduct to follow (for this path would come back to the belief that it is enough to change how technique is used), but the *being* to be assumed. Who should we be in order to respond to the challenge and place ourselves on the second level? The experience of the first level teaches us, in any case, that if there is one impossible way, it is the path of adaptation. All those who preach a better adaptation of man to technique are the grave-diggers of the human species. On the contrary, it is by refusing the technical conditionings, by distancing ourselves in relationship to the conditions of life we have made, by allowing ourselves (through a radical critique of the new environment) to put it in front of us as an object—thereby denying its fatality. Even if it takes a "magical" operation comparable to the one carried out by primitive man on nature, it is by this path that we can discover which artificial will allow us to master the artificial. There is no other escape and no other possible reference.

In this area I shall distinguish two orientations: recognition and limits. Recognition is a form of complex research; it is recognition of the real, of our past which remains inviolable, of the multiple aspects of reality, recognition of the *other* as well as recognition of *nature*. This task takes place only within a constellation made up of contemplation, communion, respect, meditation (but not in itself, or centered on the Infinite or the Absolute, but on the finite and the contingent!), consideration. This framework for recognition is basically new in relationship to the usual grouping of Western ethical orientations. Further, it is a question of the recognition of simple things, of elementary "principles" (as against the present intellectual sophistication that can be good for nothing and makes us more and more impotent toward our environment; I am thinking of the whole Parisian school—Lacan, Derrida, Guattari, but also Foucault, etc.). It is the recognition which is a movement of discernment and reclassification of the essentials. Recognition as opposed to desire. Recognition in the sense of joy and gratitude for what we have, for what we are and for what we have been given. Recognition instead of demands (as against the whole school influenced by Marxism which makes class struggle the beginning and the end of every explanation and all behavior).

The second major orientation is the attempt to find and set voluntary limits on action. Now man has to limit his consumption and his demogra-

phy. By himself, he should set limits on his powers. This idea is totally different from that of a "good use of means," but on the contrary, it moves exactly in the direction of man's search for a restraint to complete the insufficient physiological restraints—the search, as we have seen, that allowed man to become man. To set limits, to give up his own power, not to do everything it is possible to do, to reject the "always more" (larger, faster). To refuse both the temptation to unlimitedness (the conquest of space!) and the identification of freedom with the disappearance of limits. To learn, on the contrary, that it is the formulation of limits on his own action that is the act of freedom *par excellence*. The refusal of fatality and dogmas, through the critique of power, becomes the imperative for setting limits, ones that are genuine because they are coherent and not fleeting unto utopia. *This, above all, is the supreme test.*

What I have just said is not new? I know, but what is important to me is whether it is accurate. What I mean to show is that this way is the *one and only possibility* for man to resolve the problem posed. It is not at all idealistic, but given the situation, it comes from a rigorous realism. (The disconnected idealists are the politicians living in their imagined reality.) My suggestion is not a gratuitous choice founded on personal preferences, but is the result of a rigorous analysis both of "becoming man" and the modern situation in which the artificial of the first degree has placed us. The artificial of the second degree can be only the invention of an ethics allowing man to situate himself and live in the world he has made for himself. All the rest is futile talk. Of course, and this is the big question, an ethic cannot be made artificially: it cannot be the product of one person. It is a question of a collective elaboration (which can be formalized by one person or group, but no more) and a common adoption of a certain way of being. Nothing guarantees us that people, all together, will enter the path for which I am laying down some signposts. At the same time, nothing allows us to say that they will not do so. Presently there are some small indications that did not exist twenty years ago. There is a certain awareness. There are some attempts at new living. Probably the elaboration of human morality and society commenced in the same manner. The second level of the artificial does not imply that we are supermen nor that everyone will adopt this new way of being without any violations. ("Thou shall not kill" was also transgressed; yet it is what allowed the species to exist and man to be constructed as man.) The second level of the artificial does imply that this new way of being will be laid down as the human aim, not abandoning responsibility either in institutional change (politics) or in utopian evasion (religion).

Translated by Katherine Temple;
edited by Carl Mitcham and Jim Grote.

NOTES

1. Clearly, we must not generalize, as is done so often, from the fact that ethnologists have discovered here and there some tribe, some small human group that is peaceful, nonwarlike, nonaggressive. Such a situation is an accident and not the general prehistoric condition.
2. This is why I agree only partially with Lévi-Strauss's explanations of the elementary primitive structures of parenthood. He shows their artificial character clearly, but he is wrong to structure them too rigidly in terms of exchanges between groups by the bartering of women.
3. Here we see the absurd character of the present attitude that is destructive of taboos and moral norms: Man himself is destroyed in the name of a pseudo-Freudianism. Freud saw more clearly when he spoke of sublimation.
4. Jacques Ellul, "La Technique et les premiers chapitres de la Genèse," *Foi et Vie* 59, no. 2 (1960): 97-113. See also my *The Meaning of the City* (Grand Rapids, Mich.: William B. Eerdmans, 1970).
5. I would like to underline the general misunderstanding at the time of the publication of my first book on technique in France, when people thought that I was "condemning" technique from the standard of nature and the excellence of natural man. (See, for example, Duverger, "La Langue d'Esopo," *Le Monde*, Spring 1954.)
6. Except in certain texts of Proverbs (e.g., Proverbs 6:6—"Go to the ant, thou sluggard; consider her ways, and be wise").
7. It is beyond the scope of this article to state the radical difference between the concepts of creation and nature, which are perfectly antithetical. The Bible does not know the idea of nature.
8. I am pointing to three tendencies: a) the *adaptation of Christianity* to what some people believe to be the new social reality (e.g., abundance, rapid "change," decolonization, socialism, etc.); b) the *following of an ideology* which some people hold to as the actual truth to which Christianity must be adapted—I mean those who are convinced of the truth of Marxism, communism, materialism, and who want a materialist reading or interpretation of Christianity in terms of class struggle; and finally, c) the *view of scientists* convinced that rigorous methods allow a more accurate understanding of the Bible—for example, structuralism or linguistics. Actually, these honest theologians radically by-pass the problem that the modern world presents to man and they render Christianity completely useless.
9. This is the title of an admirable book by Bernard Charbonneau, in my opinion the most profound analysis of our age and our society—but one which has never been able to find a publisher.