

TECHNOLOGY AND THE GOSPEL

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This very difficult theme calls for some preliminary remarks. Firstly, the question I want to raise here is an existential rather than a theoretical one. My concern is with the ethical and spiritual implications of the revelation in Jesus Christ rather than the erection of a dogmatic structure based on a certain theology. It is not, in other words, a question of expatiating on the two centuries' old question of "Faith and Science". What people are trying to provide in this field today is, in the last analysis, a theological explanation. Starting from the conflict which suddenly broke out in the eighteenth century between the biological and historical sciences and the Bible, attempts have been made either to reduce Christianity to proportions acceptable to science (liberalism) or to qualify science in such a way as to maintain the integrity of Christianity (conservatism), or again, to seek from science a confirmation of the biblical revelation (all those books showing that "The Bible is true"), or, finally, in our present period, to find a theological reinterpretation of revelation which will legitimize work in science and technology in such a way that theology provides science with additional justification for being what it is. Thus a feature which vitiates all these attitudes is an obsession with unity, a desire to reduce all the complex elements to a unity.

I have no room here to offer a serious critique of this "unitarism" which is an error both spiritually and intellectually. The different elements of the truth must be conceived as being in a dialectical relationship rather than as concordant or uniform. I am not concerned here to legitimate science or technology nor to find an intellectually satisfying harmony. Nor is it a matter of describing, on the basis of revelation, a projected society, one, for example, in harmony with the findings of science and technology or with what they make it possible for us to accomplish. In my view there is no basis for all this; it leads nowhere and lacks interest.

Nor is it — though this would certainly be of interest — a question of entering into explanations of the dialectic between revelation and technical and scientific development, which is a specifically theological concern touched on here only indirectly. What this brief study seeks is the relevant word to be addressed to a scientist or technologist today.

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My second preliminary remark concerns the person to whom such a word can be addressed. The fact is that in our technological society there is an enormous difference between, on the one hand, the person who creates, innovates, researches in the scientific or technological fields or who is highly placed in the application of technology, and, on the other, the mass of human beings who make up this society and who are merely those who have no choice but to use technology, whether as professionals, or in communications, entertainment, health and so on. In the case of the former, we are dealing with people who are aware of what they are engaged in, who believe they are able to channel these activities in this or that direction, who feel themselves (in some measure) responsible for their results and effects, whose role in this whole process is an active one and without whom nothing would happen. In the case of the rest, we are dealing with people who are in fact alienated by the surfeit of technologies, who are extremely passive consumers, who, while having lost the sense of responsibility, are at the same time tormented by a profound sense of impotence. Only at the level of a latent distress do the two classes meet on common ground.

In this brief study I shall be concerned only with the former category; the relationship of the rest to technological society is a generalized one which can only be examined by a close analysis of this society. The evangelical message which must be directed to them is not explicitly related to technology and science but rather to the human condition as a whole as this has now developed. Not much more need be said than that the only proclamation required here is that of hope, comfort and forgiveness.

A third preliminary remark concerns the different ways science and technology have developed in these past twenty years. Everyone knows that science is passing through a fundamental crisis. This is not just the moral crisis exemplified by Einstein and Oppenheimer in connection with the effects of science, but a crisis over methods and attitudes. For example, the very possibility of scientific objectivity has been called in question, as have the absolute character of scientific discoveries and laws, the value of *all* the epistemologies of all the methods, and even of the results which one took for granted. This has led scientists to raise questions as to the legitimacy of even their research work and we have witnessed a large increase in philosophical works written by scientists.

This is a far cry from the heyday of scientific optimism, the conviction that science and truth are one and the same thing, and the notion that rationalism is the only reasonable guide for human life. The scientist today, if he is sensitive and sufficiently expert, finds himself involved in a crisis both at the intellectual and at the moral and spiritual levels. But then there is no question of Christianity being a comfort, a life-belt, or a fall-back position (which is what I suspect in certain scientific movements such as the Princeton gnosticism). Instead, the sense of crisis must be deepened in order to get beyond it to a comprehension which is broader than the realities. The person who practises technology at a high level of decision-making, on the other hand, is unaware

of this crisis. Technology is always efficacious, always sure of itself, always permits the achievement of evident results; in the field of technology there is always an accelerating advance to new developments.

Doubtless there are challenges, not only from the ecological lobbies, but also from the Club of Rome, etc. but these challenges are, in fact, of very little consequence from the technologist's point of view. The criticisms come from outsiders. They recall the criticisms which theologians or philosophers were able to direct at science in the nineteenth century. In view of the actual results obtained by means of these technologies such criticisms cannot be taken seriously. Even if the technologists accept certain of these criticisms, their familiar answer is simply to say that all these disadvantages or negative effects can be solved by an improved technology. It is only necessary to develop technology a little further and a satisfactory situation will be reached. In other words, there has at present been no lessening of the activism and optimism of the technologists. The development of technologies has not as yet been affected by the crisis in the sciences. So we see a definite disparity between the intellectual and spiritual life of the scientist and that of the technologist. At the existential level, how can the proclamation of the Gospel possibly take the same form for both?



I.

The first aspect of the Gospel message I wish to consider here is the question of meaning. It seems to me plain that this problem was constantly raised by Jesus in the Gospels. What is the meaning of the law? Of moral customs (the sabbath and man)? Of the authorities ("Thou wouldest have no power at all . . .")? Of prayer ("Shut thyself in thy room . . .") and so on. Is there any meaning to what we do? Can we assign meaning to our life? Do we receive meaning from something outside ourselves? This brings us at once to an existential question which is also an ethical question. And this is inescapable once we turn to the revelation — and in fact we are then also faced with what is probably the most penetrating question for both scientists and technologists.

The fact is that we have lived through a century in which meaning seemed to be *contained* in science (which was thought to have access to the truth in itself) and in technology (which was thought to be putting science to practical use for the benefit of human beings). Meaning was equated with progress, namely with the current practice of science and technology. In neither of these two fields is this any longer self-evident. For though technology may continue its present direction, it has lost its meaning in the measure to which it has broken its relationship with science.

The radical change may therefore be described as follows: while the work of science and technology may continue and even be intensified, it no longer has meaning in itself, it provides no guarantee of meaning either in its consequences or in its discoveries. Henceforth it must receive its meaning from outside itself. For quite clearly it needs to have meaning! Man is unable to work or live for long if he is expected to derive satisfaction just from activity for activity's sake, devoid of all meaning. He needs meaning (and it is precisely this that the philosophies of science written by scientists seek).

In this search for meaning outside itself, one of the temptations to which science and technology is most frequently exposed is the political temptation. If science is in crisis, if technology produces negative results, this is the fault of the social and economic system (capitalist) in which we live; let us change the system by political action and everything will be righted and meaning reappear.

In the limits of a short article, this error cannot be analysed in detail. I confine myself to two comments only. First, the socialist countries display an incredible sterility in almost every scientific field and in the field of technology are limited to copying the United States and Europe (these statements can be documented). Changing the system does not produce meaning; merely to baptize science as "socialist" does not suffice to give it meaning. Secondly, politics is a reality rigorously integrated with, subject to and assimilated in the technological system in its entirety. It has no autonomy whatever, no specific identity, no unity; it is determined by technology. It is incapable, therefore, of giving meaning to anything at all, or only, at best, an illusory and fictitious meaning.

In reality, the scientific and technological system has become so all-embracing and complete that nothing of any human reality or worth is any longer located outside it. We are confronted with a complete system which has completely swallowed up all the different human activities. Our choice, therefore, is either to seek an intrinsic meaning (but we have seen that this has vanished) or to face up to the fact that nothing has any meaning (but we know that this is a suicidal and untenable position).

Or else we must seek meaning from the only reality which can remain outside this all-embracing system, the unique external reality which is — God himself, provided we keep strictly to the truth of "transcendence".¹ This is just the theological expression of the fact which Jesus teaches us of the Father who is "in heaven", namely, beyond and distinct from the totality of the world of men and of the created universe. This "transcendence" alone guarantees us the possibility of meaning for our scientific and technological activity, on condition, of course, that we keep to what the Bible teaches us about "transcendence", namely, as the transcendence of him who comes and reveals

¹ Discussions of the word *transcendence*, which criticize this term as referring to a spatial dimension, to an "other connection", to a religious concept etc. are hardly serious! These are the arguments of a very insipid rationalism reminding us of the very worst effusions of the 19th century.

himself, enters our history, speaks our language and finally identifies himself with a human face. In all this, however, he remains the transcendent One — and if he did not remain the transcendent One, the whole of this history of ours would no longer have any meaning. The identity between the truth and the reality realized in the transcendent One is precisely what gives meaning to our search for the truth, makes it possible for us to comprehend reality and to modify it.

Beyond that nothing else is acceptable. As we put ourselves in the horizon of *this* transcendence, both scientific research and technological activity receive meaning and cease to be uncertain, mad histories carrying in them the temptation to suicide. But once we accept that meaning can (and can only) be given by the transcendent One, then this presupposes a different, a “direct view” of scientific and technological activity, a view other than that which is possible merely from within these activities. For the meaning which is thus given does not leave the activities themselves unaffected. Once meaning comes from the transcendent One, the result is necessarily a critical view. And this, it seems to me is the second vital aspect of the encounter. It is vitally important that the scientist and the technologist should be able to subject their own research to criticism on the basis of this view from without.

It is not the theologian or the moralist who can do this: the new thing is that now it is the scientist himself who must conduct the critique of science, though he can no longer do this within the framework and on the basis of this science itself (this can only be destructive). He must start from that which establishes it and gives it meaning, a meaning which is comfort and confirmation for the scientist himself in his work. Science can no longer evade the confrontation with that which is beyond it. But the only person who can perform this task effectively is the person who has at one and the same time sufficient knowledge and this external viewpoint.

So too, only the technologist himself can effectively criticize his technology. A whole new generation of technologists is needed who, while perfectly familiar with their technology, also have the critical training to enable them to carry out (not simply with a view to improving technologies!) this critique of their achievements as these touch on social, political, economic, and, above all, human contexts. This critique can only be effected on the basis of meaning, and this meaning they can only receive from the transcendent One. This is simply the implementation in these areas of the central imperative: “Be not conformed to this world but be ye transformed by the renewing of your mind” (Rom. 12 : 2).

In other words, so far as technology is concerned, we are confronted here with the need to effect a complete change. In fact, since the beginning of the technological era (eighteenth century in western history) technology of every kind has had only one aim, namely, the multiplication of means of power. But we have a Gospel which reveals another direction for life, another choice, namely, of non-power. God elects to reveal to man this non-power and does

so already in the period of the prophets (I Samuel). At the moment of his arrest, Jesus makes the radical statement: "Do you think that I cannot appeal to my Father, who would promptly send more than twelve legions of angels to my defence?" But in fact he chooses non-power (not impotence, for he could be powerful, but he chooses not to act in that way).

This choice of non-power (which goes well beyond the non-violent position) is the determinative point for the critique of technology. Does this mean the complete abandonment of technology? That direction would obviously be utopian and impossible, but on the other hand so is the common idea that we only need to change our way of using technology, using it properly instead of badly. It is not a matter of the use to which technology is put: means directed exclusively to quantitative growth, complete efficiency and power, cannot serve non-power! What we really need to do is to invent a new technology. (In recent years there has been much talk of "soft" technology or of technologies adapted to and subordinated to living beings.) Nor is it necessarily a matter for scientists or scientific discoveries, for it is at the level of technological innovations that this is located. What can give meaning to the technological enterprise implies a radical change in the direction of this enterprise. The two are connected.

This is the first element in the evangelical message to scientists and technologists. They must also realize that should they fail to proceed to this positive self-criticism and renewal, they will on the one hand be committed to the way of meaninglessness, and the consequence will inevitably be collective disaster for the society in which such a science and such a technology is developed. And on the other hand, it becomes impossible to discover any coherence in scientific development. Thus, contrary to what was believed fifteen years ago, the theologies of demythologization, the death of God, and so on, although perhaps accessible and reasonably acceptable to most, are of no use whatever, render no service to anyone in the scientific and technological society in which we find ourselves, so far as new problems are concerned.



II

The Gospel message necessarily includes the exact counterpoint to what we have just said. Faced with the difficulties confronting them today, to the extent to which they realize the situation and are morally sensitive to what is involved, scientists and technologists feel above all their impotence in relation to the system. This impotence has to be seen at two levels. The first level is that of a "technostructure" or "the military-industrial complex".

But these two must not be confused. A technostructure is the correlation existing between a set of technologies and the human group which sustains it, the vector of these techniques (because it knows them and applies them). In this case there is inevitably a confusion between competences and interests. In other words, the group of technologists inevitably adopts an aristocratic, dogmatic, hermetic position at the level of knowledge and a defensive position in relation to its situation. And since it is this set of technologies which guarantees this situation, this amounts to a defence of these technologies. This then is precisely what the technostructure is and the term should not be applied, therefore, to anything else (such as the relation between the capitalist system and technology) as is constantly done.

As for the military-industrial complex, clearly every scientific discovery is translated into technologies, every technology helps industry, industry boosts scientific and technological research; but the main aim, the chief source of funds, is research which is useful from a military angle. The army is the main customer. The peaceful uses are simply "by-products" of research which is of use to the military.

This somewhat simplistic line, so useful for propaganda, is partly true. Nonetheless, the truth is that the greatest scientific and technological advances have always taken place in the course of wars and in preparing for them or clearing up after them. More often than not, however, this connection seems coincidental rather than causal. However that may be, informed opinion readily accepts that the military-industrial complex is extremely influential.

The second level of reflection is based on the observation that, first, technology does not consist in specific independent technologies and sets of technologies but constitutes a veritable system in the scientific sense of the term,² and secondly, that the advance of technology happens in a causal rather than in a purposive fashion, and, finally, that the technological system is strictly autonomous over against everything else (politics, economics, morality, etc.). Scientists and technologists are more or less aware of this. They are very often alive to the existence of the military-industrial complex, sometimes to the existence of the technostructure, but rarely to that of the system. But they have a fairly strong sense of their situation within the system, instinctively and without nationalization. In other words, they are obliged to live in a threefold situation: first, they have become convinced that there is no such thing as "pure" science, but that every science involves countless effects which neither the scientist nor the technologist controls. Secondly, as groups they realize their intimate dependence on social structures and on their own scientific organization; there is no longer any "island" of integrity and rationality (scientists in the midst of immoral society, a society which is corrupt and the prey of special interests).

² I cannot develop this statement further here. Reference may be made to a book of mine which is to appear this year on the subject of "The Technological System" (*Le Système Technicien*) and where all this is fully explained.

Finally, they have often come to realize their close control by and integration into a system they can do nothing about. The dependency of scientists and sometimes of technologists arises, therefore, from the twofold conviction that "they" use our discoveries for wrong ends and that we are unable to do anything at all to alter this. We cannot deliver ourselves from the "complex" or the "technostructure" or the "technological system". Here again, it must be mentioned without going into detail that an illusory "solution" is proposed by political means: namely, to believe that a change in the political system will provide an escape from this vicious circle. But, in fact, this is the most dangerous "opium of the intellectuals".

I content myself with just two remarks. First, in France we have seen many scientists launching themselves into politics and it may safely be said that never were men so blind, so ignorant, so manipulated as these scientists. Secondly, we now know that in all those countries which have "changed their system" (gone over to communism), the military-industrial complex, the technological system, and the technostructure have remained exactly the same, and probably intensified their hold. It may, of course, be said that these countries are not really socialist or communist, but in that case the politics we are talking about are purely mythical, and we are dreaming of a new system which is political fiction.

If we extend our horizon to include the transcendental dimension (and this will certainly have secondary repercussions in the area of organization, structures, etc.) the specific Gospel message is that of liberty:³ Man's liberation vis-à-vis everything, his emancipation from the powers, what was traditionally known in the Church as "redemption". The point of departure should be the discovery of the biblical God as, above all, the Liberator. From Abraham onwards he reveals himself as such, and manifests himself with Moses in the first great act of liberation. In Jesus Christ he accomplishes for man liberty in its totality. It is this evangelical message which should restore to the scientist and the technologist not only the realization that there is an initial liberty already given and acquired (and which embraces the whole life of man and not just the inner, spiritual life, since biblically spirituality and corporality cannot be divided), but also at the same time, the knowledge that on this basis there is a real possibility of action. But only on the basis of the *reality* of liberty is this action, directed to or against the machinery of social and political determination, possible. Without this liberty, there is no recovery possible for man.

The reality of this liberty acquired in Jesus Christ signifies, on the one hand, that man is liberated, first, from the "powers", myths, beliefs, idolatries, presuppositions, ideologies etc. which ensure a system's control over human beings, but also, on the other hand, that there is a real independence from effects, i.e. that the game of causality in which we think we are imprisoned is never

³ Cf. my *Ethique de la liberté*.

the whole truth. To some extent we have acquired this conviction, though in a curiously negative form (I make a *splendid* scientific discovery; I apply it to positive technology for the benefit of mankind and, by heaven only knows what sort of pure malignity, the results are disastrous and end in calamities; whereupon we accuse the wicked politicians or capitalists). We need to develop a positive understanding of this discrepancy between effects and causes, effects and actions: in other words, when we act within a complex which we feel determines us, it may well be that the effects of our action are astonishingly positive, and if this is so, there must be another force at work, and, to put it more radically, the force at work is God's intervention *hic et nunc* in history. But this is very hard for us to believe and accept. The whole theological trend of the last twenty years has been to reject this. What we fail to notice is that in this case there can be no other outcome than the scientific cataclysm.

Let me be precise: I am not speaking here of a *deus ex machina* nor of any expectation of the permanent miracle which changes evil into good. All I am saying is that the Gospel will lead to my liberation (that of scientists and technologists *vis-à-vis* the systems) and that I have to put this liberation into practice. But what I can do is minimal and apparently without effect. Then, however, into this action, on the basis of this action, there enters the appreciable force and efficacy of the action of the Wholly Other which gives my action a consequence I could never have anticipated. What is needed is to restore to scientists and technologists the conviction of their liberty in Christ (*only* in Christ, not a natural or a political liberty); this liberty in Christ makes possible the *spiritual disintegration* of complexes and systems.

But our intervention must be at this level. Changes in political direction and the unfreezing of institutions necessarily follow the spiritual disintegration produced by the play of individual liberties. We should not forget that the entire negative aspect of the development of the modern world started in fact with the spiritual change from the fourteenth to the seventeenth century. There was a spiritual change preceding the intellectual change and this made the socio-economic change possible. The challenge to our very existence posed by science and technology today can only be met on the basis of a spiritual renewal, on the discovery of a new foundation for human life (above all for the life of scientists and technologists on whom almost everything depends) namely, on the basis of the choice of non-power and on the practice of liberty.⁴

⁴ The so-called theologies of liberation and of revelation are, of course, the very opposite of what I mean here by the practice of liberty, since they are based on political illusion and on the opium of the intellectuals.



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