The New Universal Church*

(Editorial from "Survivre et Vivre" no. 9, pp. 3 - 8, translated by John Bell)

Science and Scientism

The experimental-deductive method, spectacularly successful for four hundred years, has continually increased its impact on social and daily life, and thus (until recently) its prestige.

At the same time, through a process of "imperialist expansion" which needs closer analysis, science has generated an ideology of its own, which we may call scientism. This ideology has many of the features of a new religion. The influence it exercises over the public derives from the authority of science, through science's successes. It is now firmly implanted in all countries of the world, both in capitalist and so-called socialist countries (with important qualifications in the case of China (1)). It has far outstripped all traditional religions. It has pervaded education at all levels, from elementary school to university, as well as post-scholastic professional life. In varying forms and intensities, it is dominant in all social classes; it is strongest in the more developed countries, within the intellectual professions, and within the most esoteric fields of study (2).

Although the general public is taught some of the older and cruder results of science, it has never had any real understanding of what the scientific method is all about. This lack of understanding is perpetuated throughout primary and secondary education and even extends as far as the undergraduate level in universities. Science is taught dogmatically, as a revealed truth. Thus the power that the term "science" exercises over the minds of the general public has a quasi-mystical and certainly irrational nature. For the general public, and many scientists as well, science is like some kind of black magic, and its authority is at once indisputable and incomprehensible. This accounts for the religious characteristics of scientism. In this respect it is just as irrational and emotional in its motivations, and intolerant in its concrete practice, as any of the traditional religions it has superseded (3). Moreover, it does not (as the others do) restrict itself to the claim that its own myths are true. In fact it is the only religion which has had the arrogance to assert that it is based not on myth, but on Reason alone, and to present as "tolerance" the particular blend of intolerance and amorality that it fosters.

* A preliminary draft of this essay was read by Alexandre Grothendieck and discussed at the conference.
In the eyes of the general public the priests and high priests of this religion are the scientists in the broad sense, and more generally, the technologists, the technocrats, the experts. But the very language of this religion will be for ever incomprehensible to the people; indeed, it is not even one language, but thousands of different ones, each just the particular technical jargon of a given field of expertise.

The overwhelming majority of scientists are quite willing to accept their role as priests and high priests of the dominant religion of today. They are steeped in it to a greater extent than anybody else, the more so the higher their position in the scientific hierarchy. To any attack on this religion or any of its dogmas or by-products they will react with all the emotional violence of a ruling elite whose privileges are being threatened (4). They form an integral part of the ruling powers with which they are intimately identified, and which are all heavily dependent on their technological and technocratic skills.

There is no explicit written dogma of scientism to which we can refer (5). However, although it is not explicitly formulated, such a dogma does exist implicitly; it assumes quite a precise form, particularly among the scientists themselves. We shall attempt to formulate what may be called a "credo" of scientism, formulated as a collection of principal myths. We do not mean to claim that all scientists, even those with clear leanings toward scientism, will be in complete agreement with all or any of them. For the sake of clarity, the myths have been deliberately formulated in their most extreme form, which most scientists would hesitate to endorse, even when they act as if they accept them unreservedly. However, we do contend that the credo as a whole does effectively express certain principal tendencies, or their final states at least, which are to be found in greater or lesser strength or purity among almost all scientists.

The Credo of Scientism

Myth 1: Only scientific knowledge is true or real knowledge; that is, only that which can be expressed quantitatively, or formalized, or repeated at will under laboratory conditions can be the content of true knowledge. "True" or "real" knowledge, sometimes also called "objective" knowledge, may be defined as universal knowledge, which holds at all times, places, and for all people, independently of societies and particular forms of culture.

Comments: Feelings and experiences such as love, emotion, beauty, fulfillment, or even the basic experiences of pleasure and pain are banished from the realm of valid knowledge, at least insofar as they are not subsumed under a scientific theory. Neither Jesus nor Sappho knew anything about love!

This confines "true knowledge" to the few million scientists on the planet. Babies and children have no knowledge worth speaking of, nor does any person without scientific training. True knowledge begins with the last terms of a university education.
Another consequence of this myth is that, insofar as ethics is an object of knowledge, it can be investigated by the scientific method: it follows that science becomes the foundation of ethics.

Next, we have a converse to myth 1, namely,

**Myth 2:** Whatever can be coherently expressed in quantitative terms, or can be repeated under laboratory conditions, is an object of scientific knowledge and ipso facto valid and acceptable. In other words, truth (with its traditional value content) is identical with knowledge, that is, with scientific knowledge.

**Comments:** War and many of its aspects can be fitted into various scientific theories: economics, strategy (as a chapter in probability theory or optimization theory), psychiatry, medicine, sociology. A new science, "polemology," or the science of war, has even been created by well-intentioned pacifists. Thus war is acceptable, being an object of scientific investigation. More than this, it acts as an important regulating factor for demographic and economic processes, and a stimulating element for science and technology. The subjective meaning of war for those who endure it or wage it is ignored, except as an object of "scientific" investigations whose aims are often manipulative, and whose final objective is the reduction of the life process to statistics.

**Myth 3:** The "mechanistic" or "formalist," or "analytic" view of nature: Science's dream. Atoms and molecules and their combinations can be completely described in terms of the mathematical laws of particle physics; cellular life in terms of molecules; higher organisms in terms of their constituent cells; thought and mind (including all types of psychic experience) in terms of neuron circuits (6); human or animal societies, or human cultures, in terms of their constituent members.

In the last analysis, the sum total of reality, including human experience and relationships, social and political forces and events, is mathematically expressible in terms of systems of elementary particles. This reduction will actually be carried through when science is sufficiently advanced. Ultimately, the world will become nothing more than a particular structure within mathematics.

**Comments:** Obviously the notion of purpose can have no place in such a world view. Any hint at an explanation of natural phenomena in terms of final causes is contemptuously dismissed, at least within natural science.

The fact that the basic physical laws can now be expressed in statistical form enables the mechanist viewpoint to transcend the strictly determinist conception of nature, and in principle to reincorporate the idea of free will (7).

**Myth 4:** The role of the expert. Knowledge, both for its development and its dissemination through teaching must be split into many fragments or special fields: first the broad fields such as mathematics, physics, chemistry, biology, sociology, psychology, etc.,
which are then further sub-divided ad libitum as science advances. Only the opinion of the experts in a given field has any bearing on any question within this field. If several fields are involved, only the collective opinion of experts in these fields is to be considered.

Comments: Occasionally one person may be an expert in more than one field, but nobody can be an expert in many fields. However, a real understanding of any question about concrete reality involves analysing a great number of interconnected aspects, belonging to many different scientific fields. Reducing it to a few or just one of these aspects would grossly mutilate reality (6). Accordingly, in a complex situation, no single person can be regarded as competent to understand the question, nor held responsible for any understanding or lack of understanding.

Myth 4 provides the foundation for the power of the expert deriving from the incapacity of any person outside his speciality to understand him. It also justifies the following (rarely formulated) consequence, namely, that nobody whatsoever can claim to have valid knowledge about any complex part of reality. To compensate for this, the collective power of the technocracy is laid down in the following seemingly innocuous myth within the credo of scientism.

Myth 5: Science and the technology derived from science, and they alone, will solve man's problems. This applies equally to purely human problems, notably to psychological, moral, social, and political problems.

This leads us logically to

Myth 6: The experts alone are qualified to make decisions, as only the experts "know".

Comments: Within the sphere of social and political decisions, reality is just too complex for a single expert to be really competent. This difficulty is resolved in practice by introducing another sort of expert, the "decision-making expert", who may be a public servant, a corporation manager, or a military officer. His function is to listen behind closed doors to the advice of the experts in the different specialities which are relevant to the decisions being made, and to make these decisions.

Fighting Scientism

In themselves, on a purely intellectual level, the principal myths of scientism exert a certain powerful attraction which partly explains their extraordinary success. They introduce far-reaching simplifications into the fluctuating complexities of natural phenomena and human experience. Indeed, is there a single scientist who, when learning Newton's law of universal attraction as a child, was not overwhelmed by the exciting challenge of realizing Pythagoras' bold intuition that "all is number" and of constructing an entirely mechanistic description of the world (9)?
Moreover, like all myths, those of scientism contain concrete elements of truth. Their claim to be founded on reason alone gives them extra power. In fact, during the last few centuries there has been an increasingly intransient affirmation of the superiority of reason and intellect over all other aspects of human experience and capacities, in particular, sensual, emotional and ethical aspects. And, worse still, a single particular use of the human intellect, namely, the experimental-deductive method of science, which has only developed during the last few centuries, stimulated by its great success in certain restricted fields of human investigation and activity, has been allowed to assume an increasingly dictatorial role, and has finally been identified with reason itself, rejecting everything that it cannot embrace as "irrational", "emotional", "instinctive", "inhuman", etc. (10).

We regard all the principal myths of scientism as fallacies. On the expert, who feels himself to be among the chief beneficiaries of these myths designed to strengthen his collective power, they have a crippling effect, both spiritually and intellectually, as they carry him ever farther away from the harmony of living things, turning him into an even more specialized cybernetic servomechanism. They have a paralysing effect on layman and expert alike - paralysing with respect to the natural desire to understand more about nature, life and ourselves than is expressible by a single specialized jargon, and consequently, paralysing with respect to moral commitment and personal responsibility in all fields involving society as a whole, because they contribute to widening the ever-increasing gap between these three poles of human experience: thought, emotion and action. In socio-political terms, scientism justifies the existing rigid social hierarchy and indeed tends to strengthen it ever more, placing at its summit a strongly hierarchical technocracy which takes the decisions, including those which can now vitally affect the future of all life on earth for millions of years to come.

In different forms scientism has established itself as the dominant ideology among most, if not all, of the world's countries. As such, it provides the chief justification for the mindless race of so-called "progress", viewed exclusively as scientific and technological progress (in accordance with the dogma of scientism). This, in turn, is one of the driving forces behind the religion of production and growth for their own sakes. This mindless race and reckless growth have resulted in the present ecological crisis, whose early stages we are only beginning to witness, and have led us to a major crisis in our civilization. Scientism, which has been a decisive force in creating both these crises, is totally incapable of overcoming either of them. It is even incapable of recognizing the existence of a crisis in our civilization since this would mean questioning the ideology of scientism itself.

For these reasons, we maintain that the most powerful and dangerous ideology today is scientism, although it has not been generally recognized as an ideology in its own right. It may be regarded as a common foundation for both the capitalist ideology, and the communist ideology in force within most of the so-called "socialist" countries. We feel that, in coming years, the chief political dividing
line will fall less and less among the traditional division between "right" and "left", but increasingly between the adherents of scientism, who advocate "technological progress at any price", and their opponents, i.e. roughly speaking, those who regard the enhancement of Life, in all its richness and variety, as being the supreme value.

The dizzy rise to power of the ideology of scientism over the minds of the general public seems to have reached its peak about two years ago with the first American manned flight to the moon, which resulted in what could be termed world-wide hysteria. Since then, we can detect clear signs of a "backlash", expressing increasing disillusionment and scepticism about the "miracles" of science and technology, their claim to be the key to human happiness, and their ability to solve the problems they themselves have created. The way for this backlash has certainly been paved by the world-wide rise of a marginal Counter-Culture, which can itself be regarded as being largely a reaction against the ideology of scientism (11).

This backlash is manifested equally in the much more reserved way in which the mass media now react to new scientific and technological exploits, occasionally even openly criticising them. Opposition of a harder type, although mostly still restricted by respect for science and its experts, comes from the increasing number of environmental defense groups which are springing up everywhere, becoming more radical as their militants become more aware of the problems to be faced and of the inertia, even the complicity, of the "scientific community" with the forces that threaten us. All these signs seem to us to foretell the decline of scientism.

The time is now ripe to hasten this decline in open combat.

A Fight from within

One of the most effective ways of combating scientism would seem to be a fight from within, by those scientists who have become aware of its fallacies and dangers. This fight began a few years ago, from the most varied quarters. Some of the opposition (although of a rather restricted kind) comes from certain leftist minded scientists. More radical questioning comes from the hippie movement, which has a few members or sympathisers in the "scientific community". These are generally young scientists, of relatively modest academic standing. Only more recently, it seems, have a few senior scientists joined the battle.

During the last few years there have appeared a number of groups of scientists who are engaged in more or less radical criticism of scientism. There are now certainly more than a hundred such groups distributed over various countries, and new groups are constantly appearing. "Survival" is just one of these groups, others include "Science for the People" (mainly American), "Lasitoc" (with members from various countries, including England and Sweden), B.S.C.R.S. (British Society for Social Responsibility in Science), etc.
The motivation for much of this "internal" revolt against scientism seems to be intellectual or moral revulsion in the face of its internal limitations or external implications. Be this as it may, a considerably larger number of opponents seem likely to emerge in the years to come, in the West at least, because of the considerable number of trained scientists and technicians who are going to be unemployed, or employed in a profession for which they were not trained, or with a status and salary considerably below the one to which they feel their scientific competence entitles them. We see emerging here what Marxists would probably call an "inner class contradiction" within the scientific caste, splitting off what might be called a scientific proletariat. No longer having any powerful class interests at stake, those new proletarians are likely to contribute to the downfall of the ideology of scientism.

Footnotes

(1) All the signs seem to indicate strongly that the myth of the expert is systematically discouraged in China.

(2) Esoteric = inaccessible to the layman.

(3) Among the innumerable examples of this intolerance we mention official medicine's excommunication of all unorthodox medical techniques and theories (including, in its time, those of Pasteur himself!). For a typically intolerant attitude shamelessly identified with "tolerance" see Rabinovitch's article referred to in the following note.


(5) The book "Le Hasard et la Nécessité" ("Chance and Necessity") by Jacques Monod, if not a complete dogma of scientism, is certainly a particularly striking illustration.

(6) Neuron = nerve cell.

(7) This is the "chance" of Jacques Monod.

(8) We recall in this connection France-Soir's 1962 inquiry into the Frenchman's idea of the perfect woman. The persons interrogated had to specify a forehead, a chin, a hair-style, a facial appearance, etc. - the journalists then constructed the paragon of beauty for the majority of Frenchmen ... which turns out to be an icy ugliness. Beauty is not amenable to analytic treatment!

(9) We point out that Newton himself was too acute to believe in the truth of such a description.

(10) Again see the unfailing article of Rabinovitch cited in (4).

(11) This reaction often leads to an emphasis on the mystical, magical, or religious aspects of human experience. Thus, paradoxically enough, science, which was supposed to eliminate these aspects, has, on the contrary, through the very excesses of the ideology of scientism, contributed to their rebirth.
(12) The dropping of the American supersonic aircraft project is symptomatic in this connection.