

FAITH, RELIGION, SCIENCE, AND TECHNOLOGY

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1. According to the anthropologist Clifford Geertz, the fundamental generalization to be made about human existence is that a human being is "a symbolizing, conceptualizing, meaning-seeking animal," for whom "the drive to make sense out of experience, to give it form and order, is evidently as real and as pressing as the more familiar biological needs." But to seek meaning is to presuppose that some meaning is to be found, just as the drive to make sense out of experience evidently assumes that sense can in fact be made out of it. Recognizing this, I allow myself the generalization about human existence that to be human is both to live by faith--namely, the basic faith that life does somehow make sense and that it has a meaning that can in some way be found--and to seek understanding--namely, that understanding of which religion and science are both in their respectively different ways particular forms.

2. The basic faith that life has some kind of meaning and that sense can be made out of experience has historically found its primary explicit expressions in what we are accustomed to call religion, or the religions. And this is true even though, being as fundamental as this basic faith is, it is and must be expressed at least implicitly in all the other so-called secular forms of culture as well. But insofar as we view religion not only functionally, as the primary explicit form of basic faith in the meaning of life, but also substantively, as consisting in certain metaphysical and moral beliefs that contrast with certain other such fundamental beliefs, we may incline to think of religion as but one particular species of a genus that we call "ideology." So, for example, it may seem less paradoxical to us to speak of Marxism or Communism, humanism or, for that matter, Western-style capitalist humanism as an ideology ~~then~~ to speak of it as

a religion--"religion" in our cultural tradition being peculiarly associated with the theistic religion, or belief in God, that has been formative of this tradition. In the strictly functional sense of the term "religion," however, it is arguable that Marxism is as much a religion for many Marxists as Christianity is for Christians, Judaism is for Jews, Islam is for Moslems, and so on.

3. But if to be human is perforce to live by faith, with or without the explicit understanding of religion or even ideology, one cannot be human at all except by somehow understanding oneself and one's world as they are disclosed through one's senses and learning how so to predict and control the events of one's experience as to live, to live well, and, so far as possible, to live better. In other words, simply as human beings we are beings who understand both in the sense in which understanding is involved in our basic faith in the meaning of life and experience and in the sense in which understanding is involved in coping with the events of our experience in the way just described. All the higher forms of life maintain themselves not only by adapting themselves to their environments but also by so altering their environments as to adapt the environments to themselves, their needs, their possibilities, etc. In short, to be human involves learning how to control the course of events of which one is a part, and for this reason it also involves science and technology, in the very general senses of the words, according to which "science" means the human activity of so understanding events in the world as experienced, human as well as natural, as to be able to predict and control them for the sake of human good, and "technology" means the application of such understanding so as to develop effective instruments of such prediction and control.

4. In my understanding, then, science is most basically a mode of

understanding, or, more exactly, of inquiry--a way of asking a certain kind of question that arises out of our existence as human beings given our distinctive vital interests in living, in living well, and, if possible, living better. But so, too, as I understand it, is religion, most basically, a mode of understanding or inquiry--a way of asking a related but also different kind of question that likewise arises from our existence as such given its vital interests. To be sure, by "religion" we commonly mean the answers that have been given to this question, just as we sometimes use the word "science" to refer, not to the process of critical questioning that is distinctive of science, but to some or all of the results of such questioning as of a given time ^{and place.} But in religion even as in science any answer can be called into question by all contrary or contradictory answers; and so one is forced back on the process of religious questioning as always more fundamental than any of the products of such questioning. In religion just as much as in science, answers are not and cannot be as fundamental as questions.

5. Now modern Western history ever since the Renaissance but with increasing momentum since the seventeenth and eighteenth centuries has been shaped most decisively by the thoroughgoing development of science and technology together with the attendant transformations or revolutions in the whole of our social and cultural existence. Thus the whole of our ordinary life has come to be dominated by the scientific picture of the world, and the "second creation" of which we ourselves with our science-based technology are the creators has increasingly taken the place of the first ^{creation} as the immediate context in which we live. Among the other consequences of this development has been "the warfare of science with theology" or with religion, whose outcome has been judged by many to be the displacement of religion by science. The fertility of the soil for which our ancestors prayed

to the gods or to God our contemporaries bring about themselves by the use of chemical fertilizers, and so on. Particularly when we take science and technology in their concrete context in one form or another of modern humanism--whether the older, more evolutionary form typical of our own and of most other highly industrialized societies of the West, or rather the newer, more revolutionary form typical of the Soviet Union and its satellites as well as China--the conclusion that science and technology have displaced religion is likely to seem quite compelling.

6. But science is one thing, scientism, something else. And I take the position that what has actually happened in the course of this development is not the displacement of religion by modern science and technology, but, rather, its differentiation. One reason for taking this position is that scientistic humanism, whether of the evolutionary or of the revolutionary type, is itself functionally a religion, however different it may be from the traditional theistic religion of Western culture considered substantively instead of functionally. In fact, the only way in which one religion logically could be displaced is by another religion, in which case religion as such would not have been displaced at all but only differentiated--either in the sense of being further differentiated within itself as religion or in the sense of being more sharply differentiated from other so-called secular forms of human culture such as science and technology as well as morality and politics, and so forth. Differentiation in this second sense is important because the modern conflict between religion and science has not only been to a considerable extent the conflict between one religion and another but also, and perhaps to an even greater extent, the conflict between one science and another. There is now widespread agreement among the various Christian churches and theologians that Genesis could have been thought to be in conflict

with geology only because Genesis was tacitly understood as science rather than as religion. On the other hand, to argue, as these churches and theologians do, that one can accept the data, methods, and theories of modern geology or biology without in any way coming into conflict with what is really affirmed by the creation stories in the book of Genesis is obviously to differentiate what is there affirmed from what these sciences, for their part, are properly interested in affirming. Consequently, take it in either of the ways in which it has to be taken in order really to be a conflict-- either as a conflict between two different religions or as a conflict between two different sciences--take it in either of these ways, and the alleged conflict of religion and science has eventuated, not in the displacement of religion by science and technology, but only in its differentiation in either or both of the senses previously clarified.

7. Again, it is perfectly possible to say that (theistic) religion has been displaced by one type or other of (humanistic) religion. But functionally speaking, one religion has been displaced by another, which means that religion as such or in general has not been displaced but only differentiated. Of course, this is only what one would expect if the generalization with which I began is correct, if to live by a basic faith in the meaning of life is as essential and inalienable a part of what it means to be a human being as it is to try to understand one's existence and the world of which one is a part, including understanding the order of events as we experience them so as to be able to predict and control them to the end of human survival and prosperity.

8. Yet another reason for repudiating the displacement of religion theory is the empirical fact that the more modern science and technology have

developed, the more religion has continued to manifest itself--often in some fairly bizarre and quasi-primitive forms. Why is this? Part of the explanation, surely, is that, while science and technology have overcome certain forms of human dependence and insecurity, they have created yet others--witness the catastrophe now threatening certain states in the Midwest as their coal supplies dwindle toward exhaustion. In fact, science and technology deliver more and more of the determination of life into the hands of those most undependable of all masters and mistresses, man and woman themselves. Thus we have already reached the stage where the possibilities of everyone of us, not to mention the continuation on the planet of life itself, depend on the wisdom and the restraint, or the lack thereof, of a few fallible mortals such as ourselves. But another part of the explanation, I believe, is that the transformations or revolutions effected by modern science and technology have been at best ambiguous and, at worst, more negative than positive in their net effect on human life. Thus the continuing expansion of population, consumption of nonrenewable resources, and deterioration of the environment--all due in one way or another to the modern scientific and technological revolutions--point to the shadow side of this revolution, as do the breakdown of traditional values and ways of life and their replacement by inhuman technological, organizational, and political patterns, which more and more persons discover to be oppressive and dehumanizing. Finally, scientism or "scientific humanism" has increasingly proved to be a very inadequate form of religion or ideology, in the sense that it fails to answer the problem of faith in a profound and compelling way. It is a purely horizontal "one-dimensional" religion lacking in any vertical dimension of height or depth. So, interestingly enough, the differentiation of religion represented by the emergence of scientism or scientific humanism

has continued to the point where another, two-dimensional religion--in one form or another--has recently challenged the humanistic religion of modernity in all its usual forms. Whether in the countercultural movement in the West or in the parallel turning to the personal and existential dimension of life in the East, faith is pressing hard against the narrow limits of a merely humanistic type of religiousness.

2. You will have understood by now that essential to my whole approach to the question before us is the claim that the difference between religion and science is sufficiently great to amount to a logical difference, or a difference in principle. It may seem to you to follow from this claim either that religion and science in my view are totally dissimilar or else that such similarity as there is between them is altogether unimportant. But this is emphatically not my view, nor should I in the least dispute that efforts to draw attention to the similarity between religion and science are both warranted and instructive.

10. The reason for this, quite simply, is the point I already made earlier, that the genesis of religion, no less than of science, is in our common human experience and that religion, too, in its way, is a mode of understanding or inquiry, or, as I could also say, an interpretative activity. By this I mean that I quite reject the common assumption that religious belief is primarily a matter of assent to doctrinal propositions. The truth, rather, is that religion is much more adequately conceived as an interpretation--in the literal sense of an actual interpreting, namely, of life and reality. It is an ongoing attempt to discover a solution to a problem, and in this respect it is, like science, primarily a pursuit, quest, or activity. Thus revelation is to religious inquiry rather as suggestion is to scientific inquiry, whereby "suggestion" + mean the insight that guides the scientist in his or her construction of a theory that will solve his or her problem. First, there is

the problem, then the quest for its solution, and only then is there the possibility of being struck by a suggestion as to how the problem could possibly be solved. What guides the religious person in his or her quest is an analogous illuminating suggestion that she or he is likely to speak of as a "revelation," and whose essential meaning consists in a basic proposal for solving the problem distinctive of religious inquiry. It, again, religion, rather like science, rests on certain basic presuppositions, but for the making of which there would be neither religious solutions nor even religious problems. In other words, no presuppositions, no problems, and therefore no quest for their solution, and so no possibility of being struck by a suggestion, no elaboration of a system of doctrinal propositions, etc.

11. But now to the extent of this similarity, the mature religious believer, just like the scientist or the scientifically educated layperson, is always prepared to allow experience to count against his or her assertional claims or determinate beliefs. How he or she is prepared to do this is indeed different from the way in which the scientist must be prepared to do it--as I shall presently try to explain a bit more fully. But, despite the important difference, it belongs to religious maturity to recognize that all of one's determinate claims are in their respective ways subject to revision in the light of experience. "Religion," Whitehead remarks, "will not regain its old honor until it can face change in the same spirit as does science. Its principles may be eternal, but the expression of those principles requires continual development" (SM:270). For all of their logical difference, then, religion and science are in important respects alike, and, without question, "the dogmatic fallacy," as Whitehead calls it, is as much to be avoided in the one as in the other.