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The Dark Side of Science: Changing features in the Alliance between Science and Religion

Introduction

In spite of the great differences between religion and science, there has been an alliance between the two that has helped to form what we call modern civilization. At the present time the ties that have bound the two together are becoming less secure. In this paper, I want to suggest some reasons why it is in fact desirable from the standpoint of religion not to take it for granted that religion and science have the same goals in common.

In an earlier paper,¹ I distinguished three ways in which science and religion might be related. According to the first, science and religion are understood as diametrically opposed. According to the second, religion and science are viewed as separate spheres that neither agree nor disagree with each other because they never directly engage. Since each functions in an absolutely disparate realm (values or facts, as the case may be) neither can be in conflict with the other. Finally, there are also many attempts to establish some kind of intelligible synthesis between religion and science in which their tenets and values are understood to be inter-connected components of a single whole.

The alliance between religion and science to which I refer has made use mainly of the "two spheres" paradigm with occasional suggestions of actual synthesis at some points. It might seem at first that the point of the two sphere's option is to preclude alliance. However, the presupposition on which it is based is that science and

1. W. Richard Comstock, "Consciousness, Purpose and Mystery—A Review of Physicist Schilling's Work to Relate Science and Religion" *Zygon*, 12 (4) Dec., 1977, pp. 390-410

religion are benign forces each of which is able with equanimity to respect and support the authority of the other over its respective sphere. An alliance of sorts is thus clearly supported.

Now the possibility of direct opposition to science on the part of religion is precluded from the standpoint of either the second or the third option. But it is this strictly positive affirmation of science that is at the present time becoming subject to question. Science has always reserved the right, even within the alliance, to observe the presence of a "dark side" to religion. It has now become apparent that there may be a serious "dark side" to science as well. Perhaps a further option needs to be introduced that deals not with a direct opposition between science and religion, but with a critical distance that might be and ought to be cultivated between them.

The Grand Alliance

Although in the popular mind the conflict between Galileo and the Inquisition has seemed to characterize the relation between Christianity and science, a more positive connection between them is also evident. This is especially so in many Protestant circles of the seventeenth century where an affirmative alliance between faith and science was forged. For example, Robert Merton has described the way in which Puritan thinkers developed a means of bringing together their faith in a transcendent God with a belief in the value of a scientific study of nature.

Thus in Boyle's highly commended apologia of science, we read :

...it will be no venture to suppose that at least in the Creating of the Sublunary World, and the more conspicuous Stars, two of God's principal ends were, the Manifestation of His own Glory, and the Good of Men.

...it will not be perhaps difficult for you (Pyrophilus): to discern, that those who labour to deter men from sedulous Enquiries into Nature, do (though I grant, designlessly) take a Course which tends to defeat God of both those mention'd Ends.

This is the motif which recurs in constant measure in the very writings which often contain considerable scientific contributions:

these worldly activities and scientific achievements manifest the Glory of God and enhance the Good of Man. The juxtaposition of the spiritual and the material is characteristic and significant. This culture rested securely on a substratum of utilitarian norms which identified the useful and the true. Puritanism itself had imputed a threefold utility to science. Natural philosophy was instrumental first, in establishing practical proofs of the scientist's state of grace; second, in enlarging control of nature and third, in glorifying God. Science was enlisted in the service of individual, society and deity. That these were adequate grounds could not be denied. They comprised not merely a claim to legitimacy, they afforded incentives which cannot be readily overestimated. One need but look through the personal correspondence of seventeenth century scientists to realize this.²

According to our scheme, this alliance can be characterized both in terms of the two spheres paradigm (each independently serves God) and that of synthesis (each produces knowledge of God's ways that reinforces the other). One feature of this alliance that merits special emphasis is its espousal of a belief in progress.³ As Roger Bacon put it, "Science is valued both for its service to the glory of the Creator and the relief of man's estate."⁴ While the Puritan may have deemed the final beatitude of man as a transcendent state to be achieved beyond the grave, his "this-worldly asceticism" also enabled him to work for the well-being of the human condition of man within this world as well. As Thomas Sprat put it, science "fits us not so well for the secrecy of a Closet: It makes us Serviceable to the World."⁵

According to Merton, this Puritan support was of inestimable help to science in the seventeenth century when religion had a higher status in the cultural order than empirical knowledge. Science has gradually gained the place of ascendancy, and it is religion that now seeks in science for some kind of validation of its own concerns. To put it another way, the alliance between religion and science has led to the transformation of a sacred society into a secular one. This is not to

2. Robert K. Merton, *Science Technology and Society in Seventeenth Century England* (New York: Howard Fertig, 1970), pp. 84-5.

3. *Ibid.*, p. 81

4. *Ibid.*, p. 88

5. *Ibid.*, p. 90

say that either religion or science taken alone has been the dominant factor in these sweeping social changes. As Merton puts it: "...both Puritanism and Science were components of a vastly complicated system of mutually dependent factors."⁶

Now my purpose here is not to propose some general theory of social causation. It is rather to make use of the historical and sociological data cited to develop an understanding of the changing situation in which the religious factor of Western culture now finds itself. Let us, then, take a look at how the alliance between science and religion has fared and how it looks at the present time.

The Alliance in Trouble

W.S. Gilbert was impressed by the fact that everyone alive is either a bit liberal or a bit conservative. We can say that he is also a bit optimistic or pessimistic, as well. In the sixties, of course, the mood was one of heady affirmation. The modern doctrine of progress had led to a conviction that the ultimate consummation of the dream beatitude was at hand. The details were ambiguous. It was to take place through science, or through the repudiation of science, through social revolution, or through the spiritual transcendence of society, through religion or through the demise of religion; it was to be a creative union of machinery and ecstasy.

The Yea Sayers continue to hold forth in the eighties. Alvin Toffler, for example, argues that the doom-song of Cassandra is mistaken, because "beneath the clatter and jangle of seemingly senseless events there was a startling and potentially hopeful pattern."⁷ Mankind, he says, has already passed through two great waves: the agricultural and industrial revolutions. Now it is in the midst of the creative turmoil of a third wave, in which technology itself brings about reformations of the family, business and the nation-state into more benign and humane forms.

I would suggest, however, that these utopian scenarios are, for the moment, more like romantic reveries than sober estimations of where mankind actually is and where it seems, according to the evidence, to

6. *Ibid.*, p. 105

7. Alvin Toffler, *The Third Wave* (New York: William Morrow & Co., Inc., 1980), p. 17

be going. Cassandra seems to have a better case than Pollyanna. Of course, in matters of this kind, our judgments cannot assume the character of either religious revelation or scientific certainty. We must rely on a human estimation of the way things are that is certainly fallible but is the best response of which we are capable of making to the available evidence.

Robert Heilbroner's *An Inquiry into the Human Prospect*, (1974) is an excellent essay of this sort.⁸ Heilbroner is a liberal economist with socialist leanings. In this work, however, he comes to some rather grim conclusions about the prospects of mankind in the near future. Heilbroner remains a long-range optimist, but he is a short-range pessimist. Because of the growth in population and the finite quantity of natural resources available, he sees mankind as forced to consolidate into a number of nation-states based on hierarchical élitist principles in which the mobility between classes will be greatly restricted and the majority of mankind will live at a greatly reduced standard of living. Of course, eventually these societies may evolve into more benign ones, but for the next century and even beyond that, an age of iron severity will prevail.

The basis for Heilbroner's pessimism is to be found in three social factors that are assuming crisis proportions at the present time: population growth, war and environmental deterioration. By now we are all familiar with the fact of those dilemmas. There is, however, one facet germane to our topic that merits special emphasis. Heilbroner points out that it is the very science of man that was supposed to mitigate these problems that has in fact exacerbated them.

I must identify a fundamental element in external situation—not so much a fourth independent threat as an unmentioned challenge that lies behind and within all of the particular dangers we have singled out for examination. This is the presence of science and technology as the driving forces of our age.

It is hardly necessary, I think, to spend much time defending the cogency of this unifying proposition. The population explosion that looms with such horrifying possibilities is directly traceable

8. Robert L. Heilbroner, *An Inquiry into the Human Prospect* (New York: W. W. Norton and Co., 1974)

to the consequences of new techniques of science and technology in the area of medicine and public health: it is not a rise in fertility rates but a science-induced fall in death rates that has set off the unstable demographic situation that now threatens to overwhelm the under developed areas. The responsibility of science and technology for nuclear armaments is self-evident, as is also their joint effect in bringing about both the rate of industrial expansion and the peculiarly dangerous nature of modern industrial processes. That science and technology may also be indispensable agents for the mitigation of these external dangers, through birth-control techniques, sophisticated means of arms detection or defence, or greatly improved methods of energy production and pollution suppression, does not vitiate the contention that these external dangers arise in the first instance because of the development of science and technology in that era we call "modern history."

The very possibility of using science and technology to mitigate our present problems indicates, however, that it is not in the extraordinary development of these forces, as such, that underlies our predicament. It is, rather, their fusion in a civilization that has developed scientific technology in a lopsided manner, giving vent to its disequilibrating or perilous aspects without matching these ill effects with compensating "benign" technologies or adequate control mechanisms. In turn, this raises the question of whether scientific research and technological application follow their "own" courses of development, or whether these forces are imperfectly constrained and directed because of inadequacies of the economic and social milieu within which they have arisen.⁹

It would seem, then, that as science assumes a more questionable and less obviously benign shape in our eyes that religious thinkers might begin looking at the alliance of the past three centuries with more critical eyes. Heilbroner suggests that religion may become again more inward.

It is therefore possible that a post-industrial society would also turn in the direction of many pre-industrial societies—toward the exploration of inner states of experience rather than the outer world of fact and material accomplishment. Tradition and ritual,

9. *Ibid.*, pp. 56-7

the pillars of life in virtually all societies other than those of an industrial character, would probably once again assert their ancient claims as the guide to and solace for life. The struggle for individual achievement, especially for material ends, is likely to give way to the acceptance of communally organized and ordained roles.¹⁰

Such a religion would in several respects be quite conservative as it inculcates in its members the ability to endure the restrictions of their lot, rather a concern to transform them. It is not that it would prevent man from changing what he can. But it would insist on the necessity of distinguishing between what can and cannot be changed (at least in the immediate present and future) and of remaining in a non-destructive relation to the stern reality of that difference.

Heilbroner does not, of course, offer this sketch as his model of what he would like to see. His own dreams are more utopian and democratic in character. His essay is offered, however, as a reasonable view of what is likely to take place in the near future. Without insisting that Heilbroner is obviously and necessarily right, I propose, now, to consider how the alliance between science and religion might fare, if these particular projections about man's future are taken seriously.

Conclusion

If the main points of Heilbroner's essay are accepted, even as a thought-experiment, they ought to affect the traditional alliance between science and religion that is accepted by most religious intellectuals. So long as science is experienced as a benign human force, any attempt to restrict its power seems reactionary. But if it appears that its activities are more ambiguous, a mixture of good and evil, light and dark, then it may be that religion should abjure its role as validator and assume a new role as critic and restrainer.

One symptom of this change in roles has been the revival of conflict models. The "creation-evolution" controversy, which refuses to die, assumes the shape of confrontation and direct opposition between religious and scientific communities. While some points made in this

10. *Ibid.*, p. 140

paper might seem to support such a relation, such is not my intention. I take the conflict model to be inadequate because both religion and science are clearly human propensities that a full-blown humanism ought to respect. However, I do see the growing virulence present in these kinds of religious-scientific controversies as an important sign, though an unfortunate one, that the traditional alliance between science and religion has become extremely fragile for the reasons indicated.

It would, then, be a mistake to respond to the conflict model by an unthinking reaffirmation of the alliance as being obviously in the right. Rather, what is needed is the development of a critical distance between science and religion in which each becomes, first, more mindful of its own autonomy, and, second, more aware of the need to listen to the other as to an outside observer with an important input to offer.

I take it for granted that science has offered all sorts of critiques (psychological, sociological even physiological) that have affected religious thinkers and their communities in all sorts of ways. My point here is to suggest that in the traditional alliance between religion, and science, it is science that, after its modest beginnings, has taken the ascendent role, while religion has been relegated to, and has accepted, a more passive subordinate position. But now, with the problematic character of science becoming more evident, it may be time for religion to assume a more active and critical status in the relation.

The new status assumed by religion would be in part a renewed sense of its own autonomy and independence. Religion is not merely a passive function within the scientific world, but a distinct human phenomenon with an irreducible character of its own. In the iron world of the near future, religion would perhaps serve to keep that which is human and that which is divine from extinction, just as perhaps religion did before in an earlier "dark" period.

The new status would also be critical in that it does not merely validate every scientific invention as obvious evidence of the glory of God (and/or man). It is not that it is hoped that religious institutions would become obstructive forces within the technological society. But they could serve mankind well if they provided a means to look at its projects with greater distance and more critical attention to their real implications for human happiness and the life of the spirit.

I will cite one example, my own particular worry. The nuclear bomb, chemical waste, etc. are problems that are, of course, of great importance and which come immediately to mind. But what of the technological inventions that are turning governments into even more efficient agents of control and oppression? With computers that can process information about every member of society, where is the place any longer "to hide" from the government official or representative of the corporation? Alan Smith points to the beginnings of this trend in the seventeenth century:

Scientific developments also began, in this period, to have an effect on the administrative machinery through which governmental decisions were carried out. The second half of the seventeenth century saw the rise of what contemporaries called political arithmetic and we would call statistics, and it was quickly realized that statistical methods—themselves a reflection of the age's rapidly developing interest in all branches of mathematics—would, if they could be applied to problems of the men and natural resources at its disposal and consequently improve its efficiency and its potential political power vis-a-vis its neighbours.¹¹

Is such knowledge necessarily a good thing? Perhaps it is good for government, but is it good for man? Again, the answer depends on what we mean by man. Perhaps an all-powerful government equipped with all the latest surveillance devices is good for some abstraction called Mankind. But is it good for the individual man or woman?

In the iron world of Heilbroner's future, the individual will have many trials, some of which are caused by science. It therefore behoves religion in such a time to keep a respectful distance from science and to focus on the individual and his plight. It would appear that this individual is in for some hard times. A religion sensitive to his condition may be of great, even fundamental, importance.

11. Alan G. R. Smith, *Science and Society in the Sixteenth and Seventeenth Centuries* (New York: Science History Publications, 1972), p. 180