

## A MINISTER-SCIENTIST LOOKS AT SCIENCE TEACHING IN RELATION TO THE SEPARATION OF RELIGION FROM SCIENCE

*by Charles A. Howe*

The existing dichotomy between science and religion is of deep concern. Despite many glib statements to the contrary, the dichotomy does exist—it is real. Many people assert confidently that there is no conflict between science and religion, but I suspect that many of these persons have compartmentalized their thinking, placing science in one compartment, religion in another. There is, of course, no conflict possible under such circumstances, but neither is there any relationship possible either, and the dichotomy is certainly there. A dichotomy, by definition, is a division resulting from a cutting in two, and this is precisely what has happened in the modern age in terms of man's understanding of himself and the universe.

Prior to the advent of modern science, men held a coherent, unified view of their place in the universe. This view varied from culture to culture, but in each case it was a unified one. With the coming of the scientific age, however, the process of dichotomization began. Man's understanding became cut in two—into a scientific sphere and a religious sphere. The religious sphere, moreover, has gradually atrophied, and with this dichotomy and atrophy has come a tragic loss of meaning. Many young men and women despise the prospects of their futures. They see adulthood as meaningless, absurd, as lived in an existential vacuum. They see the universe as “a gyrating stupidity in which the mind of man is nothing but a chemical fantasy doomed to frustration.”<sup>1</sup> Not all look at things this way, of course, but enough do to cause grave concern.

We ask, “Why has this happened?”

### ORIGINS OF DICHOTOMY BETWEEN RELIGION AND SCIENCE

Before the scientific age man found meaning through myth, and this

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regardless of his particular culture, be it Christian, Jewish, Muslim, Buddhist, Hindu, American Indian, or something else. Myths are accounts of great cosmic dramas in which both man and God (or the gods) participate, and they deal with great themes—themes such as Creation, Fertility, Birth, Death. Man thus saw himself as part of a cosmic drama, and participation in this drama gave deep meaning to his life. The recounting of the myth involved not simply a commemoration of past events but a reliving of these events. Acceptance of the myth consisted in being overcome by it and being transported into its own sphere, away from the ordinary, everyday sphere of human existence.<sup>2</sup> With the recounting of the Genesis myth, the ancient Hebrew felt himself to be actually *in* the Garden of Eden in the cool of the evening in the presence of Jahweh.

Myths of creation were recited at any important new beginnings. For example, when a child was born among the Osage Indians a man “who had talked with the gods” was summoned to recount the story of the creation of the universe, ending with an account of the creation of man, to the infant before it was given its mother’s breast. Later, before the infant was given water to drink, the same man repeated the story of the creation of the universe, ending with the creation of water. Still later, before the child was given solid food, the creation story was repeated for him, this time ending with the origin of grain and other foods. Thus was the infant linked to the great cosmic drama, to a universe full of great meaning.<sup>3</sup> Through myth, then, did man in the prescientific age have a coherent understanding of the universe and his place within it—an understanding which gave meaning to his existence.

With the discoveries of Copernicus, however, the process of separating religion from science began, and this process was continued and accelerated by the physics of Sir Isaac Newton, the Age of Reason, and Charles Darwin’s theory of evolution. The scientific age was ushered in with its emphasis on rational, logical, objective thought, and as a consequence man’s attitude toward myth was radically changed. Myths came to be regarded at their worst as hoaxes, at their best as simply untrue. This attitude toward myth persists to the present, as evidenced by such phrases as “the myth of mental illness,” or “the myth of white supremacy,” or “the myth of Green Bay Packer invincibility.”

As a result, science and religion, the two spheres of man’s understanding resulting from the dichotomy, were pitted against each other. In a literal-minded age, this proved to be an unequal battle,

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and the credibility of religion was badly undermined. The religious sphere of man's understanding became badly atrophied, and science came to be considered the only true way of apprehending reality.

La Place, the famous French astronomer and mathematician, foresaw in 1886 a "Universal Knowledge"—an intelligence which would know "all the forces by which nature is animated and the respective positions of the entities which compose it, would embrace in the same formula the movements of the largest bodies in the universe and those of the lightest atoms; nothing would be uncertain for it, and the future, like the past, would be present to its eyes."<sup>4</sup> Such a mind would possess a complete knowledge of the universe!

With the passage of time, science tended to become more and more specialized, more and more concerned with detail, dissection, analysis. With this concern for dissection and with the repudiation of myth, man no longer could see himself as part of a cosmic drama. Instead, he began to see himself as alone, surrounded by and separated from a cold, dark, meaningless universe. Archibald MacLeish, in his play, *J.B.*, has captured the mood of desperation that comes with such an outlook. The play portrays a rich, successful, pious businessman who, like Job of old, is suddenly beset by misfortunes. In rapid succession he loses his home, his business, his fortune, his children. The play closes with J.B. and his wife, Sarah, clinging desperately to each other, their religious faith completely gone, and Sarah speaking these lines:

... blow on the coal of the heart, my darling,  
... It's all the light now.  
Blow on the coal of the heart.  
The candles in the churches are out.  
The lights have gone out in the sky.<sup>5</sup>

For many people today, the lights *have* gone out in the sky; their lives are empty, without meaning. To a certain extent, those of us who are or have been science teachers share the burden of responsibility for this tragic state of affairs. Many of us have fostered in our students a hyperobjectivity and the idea that science is the only valid way of apprehending reality. Many of us have pushed our students so far in the direction of dissection and analysis that they have become obsessed with details and have lost all perspective—have only a highly fragmented view of things. Many of us have been unpardonably dull in the way we have taught our students, with our courses sometimes degenerating into dry exercises in applied arithmetic or rote memory. No wonder that our students find it impossible to see themselves as participants in a great cosmic drama!

TOWARD A COHERENT VIEW OF MAN'S PLACE IN THE UNIVERSE

While I am deeply concerned about the present state of affairs, I see them as far from hopeless. For there is something in the human spirit—still very much alive, still far from extinct—that stretches out for coherence as against fragmentation, for meaning as against meaninglessness, for a more satisfying image of man's place in the universe, something that stretches out for the stars. And because of this religious impulse, there is, I believe, a way out of our dilemma, a way of overcoming the present dichotomy, a way of revitalizing man's religious understanding and unifying his outlook once again. If this occurs, we will not, of course, be back to that same view of man's place in the universe held in the prescientific age. The understanding will be a coherent, unified one again; but it will certainly be different.

Teachers should take to heart these words of Edgar Friedenberg: "The highest function of education is to help people understand the meaning of their lives, and become more sensitive to the meaning of other peoples' lives."<sup>6</sup> Science teachers can help to do this by teaching in such a way that there is more room for feeling and intuition, for wonder, awe, and mystery, for myth. Certainly there can be no repudiation of science, but teachers can teach in such a way that students acquire a richer world view—one which will give more meaning to their lives.

George Wald, the Harvard biologist and Nobel laureate, an inveterate Bible reader, doubts that a people can long survive without myth.<sup>7</sup> If he is right, then we are in real danger unless we can open ourselves to myth once again. Even if we cannot relive the ancient myths fully, we can begin to appreciate them once again, recognize their wisdom, and perhaps relive them in part. Even more important, we can keep ourselves open to the possibility of new myths that may be emerging in our own time. Certainly the raw materials are present—our scientific knowledge plus imagination, intuition and a generous dose of wishful thinking! Some see science as being the central myth of our time, as providing the three-dimensional matrix in which we find our orientation in time and space.<sup>8</sup> At best, however, science by itself is an incomplete, inadequate myth which fails to bring meaning to our lives. It needs rounding out with artistic imagination, with intuition, with wishful thinking if it is to provide the great cosmic drama which we need to participate in to find meaning.

As Pierre Berton has put it in his book, *The Comfortable Pew*: "We need to revere the spirit within ourselves, and in the world around

us, which represents ultimate reality, which gives a purpose to existence, . . . which is bound up with 'the feeling for the inexhaustible mystery of life, the grip of the ultimate meaning of existence and the invincible power of unconditional devotion.'"<sup>9</sup> This is true regardless of our individual religious traditions, regardless of which particular myth we live by.

What can science teachers do? Science teachers can foster a fresh attitude toward myths both old and new and can help the new, adequate myth to emerge. Some books that help overcome the dichotomy between science and religion include *The Immense Journey* by Loren Eiseley, *The Outermost House* by Henry Beston, *The Phenomenon of Man* by Teilhard de Chardin, *Design with Nature* by Ian McHarg—and, from the past, the writings of Saint Francis of Assisi and Henry Thoreau.

The scientist or science teacher of today must be more than a scientist in the narrow sense. He must be not only a scientist but also a humanist, and if not a theist, at least a pantheist—which is to say that he must have a deep sense of the sacredness of nature. He must be able to think *and* to feel—not only know about the creation, but love it!

Let a new spirit inform science teaching, full of a sense of mystery, wonder, awe, reverence. This spirit is expressed in these words of Ian McHarg:

We may now be quite sure that as men we depend upon the sun, the major elements and compounds, water, the chloroplast and the decomposers. With this new conviction we now turn to the sun and say, "Shine that we may live." We can contemplate matter and say, "From this is the universe, the world and life made." To the oceans we say, "Ancient home, nourish us with water." As the clouds rise from the sea, rains fall and rivers flow, we say, "Nourish us from the sea that we may live." Look to the plants, say, "Through you we breathe, through you we eat, through you we live." To the atmosphere we ask "Protect and sustain us." Hold in your hand some soil, know the essential decomposers are there and say, "Be and work that we may be."<sup>10</sup>

Or this passage from Henry Beston's *The Outermost House*:

Whatever attitude to human existence you fashion for yourself, know that it is valid only if it be the shadow of an attitude to Nature. A human life, so often likened to a spectacle upon a stage, is more justly a ritual. The ancient values of dignity, beauty, and poetry which sustain it are of Nature's inspiration; they are born of the mystery and beauty of the world. Do no dishonour to the earth lest you dishonour the spirit of man. Hold your hands out over the earth as over a flame. To all who love her, who open to her the doors of their veins, she gives of her strength, sustaining them with her own measureless tremor of dark life. Touch the earth, love the earth,

honour the earth, her plains, her valleys, her hills, and her seas; rest your spirit in her solitary places. For the gifts of life are the earth's and they are given to all, and they are the songs of birds at daybreak, Orion and the Bear, and dawn seen over ocean from the beach.<sup>11</sup>

If the science teacher can capture this spirit, this attitude, this stance, he can help overcome the dichotomy, help heal the breach, help generate a coherent, unified view of man in the universe—a view that is both scientific *and* religious, and consistent, moreover, with all high religions. He can help men see themselves as part of a great, cosmic drama, and through participating in this drama find meaning for their lives.

#### NOTES

1. Alan Watts, *Beyond Theology* (New York: World Publishing Co., 1967), p. 223.
2. Michael Polanyi, Seminar on Meaning, University of Texas at Austin, Spring Semester, 1969.
3. Mircea Eliade, *Myth and Reality* (New York: Harper & Row, 1963), p. 33.
4. As quoted in Polanyi, *Personal Knowledge* (Chicago: University of Chicago Press, 1958), p. 140.
5. Archibald MacLeish, *J.B.* (Boston: Houghton Mifflin, 1956), p. 152. By permission of the publisher.
6. Edgar Z. Friedenberg, *Coming of Age in America* (New York: Vintage Books, 1965), p. 221
7. George Wald, Lecture in the Colloquium on God and the Modern World, General Assembly of the Unitarian Universalist Association, Boston, July 12, 1969, in *U.U.A. Now*, July 28, 1969, p. 33.
8. Indebtedness is acknowledged to Miss Judith Merrill, a fellow participant in the Eastern Ontario Fall Conference of the Science Teachers' Association of Ontario, for her insights on science as the emerging myth of our times. See also Henry A. Murray's introduction to the issue on "Myth and Mythmaking," *Daedalus* 88 (1959): 211–22.
9. Pierre Berton, *The Comfortable Pew* (Philadelphia: J. B. Lippincott, 1965), p. 126.
10. Ian L. McHarg, *Design with Nature* (Garden City, N.Y.: Natural History Press, 1969), p. 53.
11. Henry Beston, *The Outermost House* (New York: Viking Press, 1962), pp. 221–22.