

# CONTRIBUTIONS OF SCIENCE TO THE UNITARIAN UNIVERSALIST TRADITION: A PHYSICIST'S VIEW OF RELIGIOUS BELIEF

by *Sanborn C. Brown*

*Editor's Note.* This paper by Sanborn C. Brown on the contributions of science to the tradition of a particular religious denomination is published in *Zygon* not because it is a tract in a denominational debate—although it surely is that. It is published because the editor sees in this tract a significant reflection of a widespread, interfaith cry on the part of persons who often are among the most intelligent and informed leaders of religious laity, a cry against what they perceive as a neglect of the fundamentals of religion by some of their clergy and religious leaders. It is a call to the leaders of religious institutions to give up their diversions of church functions into the functions of other institutions (e.g., assorted pressure groups for political, social, and economic causes) and to return to focus upon their own proper function selected by history: providing sound creeds or beliefs about a person's proper responses not merely to other persons but primarily to the ultimate system of power that creates, sustains, and controls all—including human destiny. It is published also because Brown is a distinguished physicist who from a long study of this problem provides a view of how such a creed can be stated as fully credible on scientific grounds. His view may be helpful to those religious leaders who for decades have supposed either that "God talk" was unable to stand in the face of the scientific world view and hence God was dead or that God had to be talked about as existing in a different realm of reality from that described by the sciences and hence for all practical purposes was dead to those who could not honestly be persuaded of another realm. It is true also that the particular denominational background may serve to accent the effect of this paper because it argues for creed and God from a denomination whose history has manifested an earlier and stronger movement against creedalism and "God talk" than have most other religious groups.—R. W. B.

Just twenty years ago I was a member of a group which attempted very hard to formulate statements of theological beliefs for modern liberal

Sanborn C. Brown, emeritus professor of physics, Massachusetts Institute of Technology, lives in Henniker, New Hampshire 03242. This paper is adapted from Study Paper, no. 6, presented at a meeting of Unitarian Universalist Advance at Boston University, Boston, Massachusetts, June 22, 1978.

[*Zygon*, vol. 14, no. 1 (March 1979).]

© 1979 by the Joint Publication Board of *Zygon*. 0044-5614/79/1401-0004\$01.00

religion. The effort flew like a lead balloon. Our American Unitarian Association Commission on Theology and the Frontiers of Learning worked long and assiduously over a period of about three years to develop a methodology for formulating an empirical, liberal, natural theology based on modern science. We reported to the general assembly of the Unitarian Universalist Association five years later, and it took no notice of our report at all. Social problems of the United Nations, women's rights, and the Black Caucus occupied everybody's attention. No one appeared to be interested in theology, and clearly we were talking to the wrong organization. The U.U.A. has other foci than theology. Witness the agenda for this meeting. Delegates come here to discuss bylaws and rules, Esperanto, smoking, bicycle paths, and the rights of whales. There is no agenda for theology or religion. But clearly the Unitarian Universalist Advance is trying to change that.

One of the main tenets of our liberal denomination is a lack of creed. We are proud of our lack of creed; we glory in emphasizing that every person is free to make up his or her own theology and believe whatever he or she chooses; and no one will try to persuade each one differently.

I think that this attitude is wrong. I believe that Unitarians and Universalists need a creed—formalized, adopted, and advertised—if the denomination is to survive and flourish. I am encouraged greatly by Robert Hemstreet's scholarly review, "Creeds and Creedlessness in Unitarianism and Universalism." In it he said: "At the present time, our movement has no recognizable theological shape. Our liberalism is formless. . . . After two centuries on the American scene, we are seen as a kind of synthetic sponge, soaking up whatever happens to be the latest fad: encounter groups, yoga, meditation, parapsychology, and even astrology."<sup>1</sup>

I want to amplify a theological focus here. The other day I picked up in our church a little red sheet called "Unitarian Universalists Believe." In it we read: "This . . . liberal religious movement re-affirms a positive faith in humanity. . . . [It] proclaims: the main concern of religion is human existence on earth."

Having spent a lifetime in thinking as a scientist, I cannot agree with this pamphlet. It reflects a failure of communication between scientists and others interested in theology and religion.

A faith which proclaims "the main concern of religion is human existence on earth" is certainly good human evolutionary theory, but it is so narrow in its boundary conditions that no wonder "God is dead," and, to use a common phrase, "science has little to offer a valid theology." I have no quarrel with the statement that we proclaim "the main concern of religion is human behavior" because religion is clearly a human enterprise. But a theology which focuses on the welfare of

human beings cannot safely turn its back on the wonder and glory of the nature in its totality which produced and sustains us.

#### THE HUMANISTIC CREED

Let us look at a little history. There is nothing novel about attributing an antiscience attitude to our Christian culture. Many writers have shown us that, of all the major religions of the world, Christianity (with its Judaic background) has been the most insistently antinature. As the historian Lynn White, jr., has written, "in the minds of the average Christian, nature's chief function is to serve man's needs. In extreme cases, nature is seen as the source of demonic threats, fleshly appetites, and animal instincts that must be vigorously repressed."<sup>2</sup>

This attitude is what David Worster calls "Christian pastoralism":

Christian pastoralism idealizes not man's relationship to nature but the pastor's relationship to his flock of faithful believers. In its origins, the word "pastoral" refers to the care exercised by the shepherd in feeding his sheep and protecting them from harm. Then it also came to mean the spiritual guidance and nourishment given by a minister to his congregation. . . . The Christian focuses on the image of the Good Shepherd as ideally expressed in the life of Jesus Christ. The Good Shepherd of the New Testament is more ascetic and other-worldly than his pagan counterparts. Probably he is also meant to be more humanitarian, at least toward those fragile human creatures in his sheepfold. In the Christian version of the pastoral dream, the shepherd does not merge with nature through his flock. . . . On the contrary, he is the defender of the flock *against* the hostile forces of nature. . . . His profession is to lead his lambs out of this sorry world to greener pastures.<sup>3</sup>

In our Unitarian Universalist denominational development we have gone away from this Christian pastoralism, but we have retained our Christian cultural ties by embracing humanism. To quote again from the little red pamphlet, our "movement seeks to affirm the natural, rational human personality . . . and to increase the sense of the personal worth of each person."

This focus on human individuals, the supreme importance of human beings, their behavior, their interaction, and their ultimate salvation (however that is defined) leads to a continuation of the Christian ethic that nature's chief function is to serve man's needs. And I see grave dangers in a theology that places man a little less than the angels. If man's interaction with man is the most important thesis of religion, then everything else in nature has lesser significance; and depending on how vigorously we pursue this commitment we use, we dominate, or we ravish nature's framework.

Humans are as much a part of nature as the nuclei of  $U^{235}$  atoms, neither more nor less significant, subject to the same laws of physics,

chemistry, and biology. The scientist does not find any one part of nature more significant than any other part.

But before I go on, I want to talk just a little about the history of Christian doctrines as man has come to know he occupies a less and less central position in his concept of the world around him. In the Judeo-Christian tradition God placed man on earth to be fruitful and multiply and to have dominion over all the earth. The universe revolved about man. So deep was the cultural shock brought on by Copernicus and his demonstration that the sun did not revolve about the earth but that our planet was off on the outskirts somewhere, that whole philosophies and theologies came crashing down and new religious traditions were born and flourished to cope with that monstrous scientific discovery.

The same deep cultural shock occurred when Darwin showed that God, as understood by classical Christianity, did not make man in his own image. Humans were a product of a biological evolutionary process which was shared with all other living creatures. Here again the classical theology could not stand the shock, and new ones sprang up which were more believable.

I feel that we are headed for a third round. Much of my scientific research life has been spent in a field that goes by the name of microwave radiation physics. It is the field of radar microwave communication, and of huge radio telescopes probing for signals from distant universes. It seems likely that in the not too distant future we will detect the existence of intelligent societies in those far reaches of space in which it may take thousands of years for the signals to reach us. When this happens we no longer will be able to assume that we are the most intelligent organisms in the supergalaxy. While we were chipping flints and inventing language, signals with sophistication equivalent to our present state of knowledge started out on their way to us. No longer will we be the most advanced organism. But to go even further, it could well be that we may discover that these other organisms are not just farther advanced technologically than we are but that we are just not mentally capable of it, in the same way, for example, that a dog is incapable of understanding how it is being manipulated by a person, for all the love and affection which may exist between them.

I am not just speculating wildly here in a science-fiction sort of way. Not only do I think that this scenario is a real possibility, but I think that, if we can imagine such a discovery being made, we should develop a theology that is solid enough to withstand the shock. I do not think that humanism could withstand that shock.

John Ruskin Clark in his *The Great Living System* has given us a masterly description of the new philosophy emerging from the sci-

ences. But I want to refine a very important concept which is not properly clarified in his and in most writings about a theology based on the scientific views of man's ultimate concerns. Clark talks about our "control over our environment" and man's "triumph over nature." From a scientist's point of view these are very erroneous concepts. Clark really does not agree with those phrases either. He very clearly states that man's search for the unknown by the methods of science is aimed at fitting more nearly perfectly into nature's scheme. Moreover, Clark makes it clear that he does not believe that we control any of the laws of nature or that we triumph over them.<sup>4</sup> But these phrases are such common concepts that they become almost clichés in our language.

Later I will be quoting the Harvard sociologist Daniel Bell. Although he has much to tell us, he bothers me greatly by repeatedly talking about "nature being mastered by scientific knowledge." Nature is not mastered by anything. The accomplishment of science is to unravel details of the operation of nature so that man may fit better into nature's scheme.

My essential point is that, just because the laws of nature control not only what we are and why we are but also how we behave and how and why we live our lives, I as a scientist am attracted to the philosophy that the laws of nature can be equated with the more orthodox concept of God. It is at least as foreign to the scientist to think of controlling nature as it has been to theologians to conceive of controlling God, triumphing over God, or God being mastered by scientific knowledge.

The scientific concept that nature is totally in charge is clearly like a return to the classical concept of God as the ultimate ordering and controlling reality. The "will of God" becomes the so-called laws of nature. What is unique about this approach to theology is that it is completely natural; there is nothing supernatural from the perspective of a scientist's view of nature. Revelational theology maintains two worlds: one, the natural world, the one we deal with all of the time; the other a mysterious supernatural one which is called variously the "world of the spirit," the "Kingdom of Heaven," etc. There is no scientific evidence that a nonnatural world exists. On the other hand, the new theology is subject to scientific validation. Whereas classical religion assumes that there is a dualistic character to the world of human experience, that there is a separation between man's spirit on the one hand and the physical world on the other, this new theology is unitary, emphatically not dichotomous.

The basic assumption that nature is the same concept as most people's idea of God is widely misunderstood. A typical illustration of this

misunderstanding is a letter to the editor of the *Unitarian Universalist World*: "What's this about some UUs contending that the universe is God? . . . If we are to think of the universe as God we must think of the primordial mass as God centrally located, and the less tenable implication that some 20 billion years ago God exploded in all violence and from that time to this pieces of God have been hurtling out in all directions. Is this really a view of God that UUs should be presenting as appealing to rational, serious minds?"<sup>5</sup> The author of this *reductio ad absurdum* clearly has missed the point that we are talking not about any physical structures or events but about what Kirtley F. Mather used to call the "Administration of the Universe."

At a meeting of the American Academy of Arts and Sciences Bell gave a paper entitled "The Return of the Sacred: The Argument about the Future of Religion." Among many thought-provoking themes, he expresses the opinion that "if there are to be new religions . . . they will . . . return to the past, to seek tradition and to search for those threads which can give a person a set of ties that place him in the continuity of the dead and the living and those still to be born. . . . In this sense, religion is . . . the passage out of the past, from which one has come and to which one is bound to a new conception . . . freely accepting one's past . . . and stepping back into tradition in order to maintain continuity."<sup>6</sup>

From this perspective one can read Genesis ("In the beginning God created the heavens and the earth. The earth was without form and void, and the darkness was upon the face of the deep") as a wonderfully artistic way of expressing God as the laws of the physical sciences. Define God as the laws of botany, and "the earth put forth vegetables, plants yielding seeds according to their own kind, and trees bearing fruit in which is their seed, each according to its kind, upon the earth." Or equate God with the laws of zoology, and "let the earth bring forth living creatures according to their kind: cattle and creeping things and beasts of the earth according to their kind." Then God said, "Let us make man, so Biology created man, male and female it created them."

#### A RATIONAL AND PRACTICAL THEOLOGY

Let me now briefly outline my own concept of a theology based on science. You are all familiar with the theory of evolution, and you know the scientific accounts of natural selection as well as I do. But have you considered accepting natural selection as descriptive of God? If you do, it is to understand natural selection as the ultimate and fascinating power to which man may ascribe the marvels and wonders of the creation and the continual ordering of all things, including mankind's

own privileged powers as the most advanced creature on earth. It is also to recognize natural selection as the ultimate law man must find and obey if he is to continue to flourish.

The process of natural selection is the absolute dictator of all forms of life. For us it controls what we are, who we are, and lays the foundation of how we will behave from the cradle to the grave. Although many people look for some supernatural force which has this power over each human life and its behavior, it seems to me to be completely unnecessary when a perfectly natural explanation exists.

I must hasten to emphasize the fact that I am not talking only of biological evolution. Natural selection operates as well in human personal and social affairs. As a matter of fact, it is this type of natural selection which differentiates humans from other animals. The behavior of squirrels, cats, and elephants is what we call instinctive; that is, their behavior is controlled by the blueprint programmed into their genes and transmitted from their ancestors. Genes operate similarly in humans, but in addition humans, because their brains evolved an ability to remember and to communicate their past experiences to other brains, evolved a system of cultural heritage, which is as truly subject to the operation of selection by natural circumstances as their genetic heritage.

Under the stimulus of scientists such as Theodosius Dobzhansky, Julian Huxley, B. F. Skinner, and Donald T. Campbell new studies on the nature of cultural heritage and its evolution are being expanded.

The development of the living human being, starting at the moment of conception, is now seen as the interaction between genetic heritage and the environment. And by environment I mean not just the physical environment but also the social and cultural environment which surrounds each individual as he adapts and reacts to it throughout his whole life.

In biological evolution the basic building block is the gene. This is the unit that is mutated, that produces changes that are tested for viability, and if found viable the organism survives. In cultural evolution the basic building block is a pattern learned by a brain, including an idea. The habit pattern or idea that a human could survive better by cooperating with other humans, rather than by trying to kill mastodons by himself, achieved tested survival value. The cultural ideas or habit patterns transmitted from brain to brain that fire could be controlled and that houses could be built instead of humans relying on natural caves and shelters improved man's ability to stay alive as surely as did his physical ability to stand upright or to develop a prehensile thumb. Clearly these two types of evolved guides for living, the cultural and the genetic, are so intertwined as to be often indistinguishable.

## ZYGON

I am persuaded that this theology based on science, this equating of God with the forces of Nature, leads inescapably to the human, religious concepts of good and evil.

The idea of human cooperation, the idea of human self-sacrifice, the idea of working for the good of society, the urge to excel, the urge to love other human beings, to be kind, to be gentle—these are not supernaturally given emotions and drives. These tendencies are programmed into our genes and cultures because of their survival value. Through the long millions of years of genetic selection and thousands of cultural selection those humans who showed these characteristics survived better. They were good for the continuity of the species. On the other hand, as human societies required greater cooperation for viability, those societies with too many of the uncooperative, the selfish, the lazy, the vengeful and mean did not, statistically, survive as well, and with the passage of eons they contributed less to the gene pool. Those traits were bad for the species.

Good is what promotes the survival of the human race: the greater the survival value, the greater the good. Evil has negative survival value: the greater the danger to survival of the species, the greater the evil.

In the poetry of the Old Testament

You shall not kill;  
You shall not commit adultery;  
You shall not steal;  
You shall not bear false witness against your neighbor

are all good evolutionary survival commandments, as is the warning against the transgression of nature's laws: "I, the Lord, your God, am a jealous God, visiting the iniquity of the fathers upon the children to the third and fourth generation."

With this biblical quotation, let me turn to religious societies. From the point of view of evolution religious societies of all kinds grow and flourish as a felt cultural need to celebrate and to advertise the positive values in sociocultural evolution basic to survival. Except for the individual philosopher and theologian, the church, the mosque, and the synagogue are almost the only places where people consciously contemplate and explore their ideas and try to arrange the direction of their actions to achieve the greatest good.

Religious worship serves the important function of emphasizing those values which lead to cooperative evolution. If Hemstreet is correct and the Unitarian Universalist "movement has no recognizable theological shape," then as a religious society our denomination is not doing its evolutionary duty. As individuals some of us may be, but as an organization we are having little or no effect.



We can change this if we can stop being so proud of our creedlessness and can agree on a persuasive theology. We should develop a creed. When I say this I am accepting Philip Schaff's definition of a creed. In his book *History of the Creeds of Christendom*, published in 1876, Schaff suggests that "a creed or Rule of Faith, is a confession of faith for public use, a form of words setting forth with authority certain articles of belief which are regarded by the framers as being necessary . . . for the well-being of the . . . church."<sup>7</sup> I would frame a creed thus: "I believe in the forces of Nature, the forces Almighty, creators of Heaven and Earth, and in human beings, not as Nature's only sons but as beings who must fit into the vast and interrelated universe which formed us and controls our destiny." I would like to see us as a denomination explore the great problems of our time against the background belief that mankind is searching for ways to cooperate perfectly with the laws of the cosmos.

Let me take a couple of illustrations from our debates at this 1978 general assembly of our churches. First, the general resolutions on world hunger, abortion rights, and infant nutrition in developing nations. We are debating these on the grounds of humanism. We basically are assuming the overriding value of individual human lives. But I think we should be guided by the answer to a much more fundamental question: What should be the total world population to fit properly into a balanced planetary ecology? Against the test of the laws of human evolution, against the background of the laws of evolution applied to all other living organisms, what is the proper balance for mankind? This is not merely a scientific question but also a theological one. It is the responsibility of all of us to develop theological criteria against which to test how well we are fitting into the laws of nature. Are we following the dictates of Genesis, "Be fruitful and multiply," or should we conclude that there are too many humans on earth already and that rather than being fruitful and multiplying as ordered by the God of the Old Testament we should reduce human population drastically as ordered by the God Nature?

Are we ravishing our natural resources because the God of ancient Israel said, "Fill the earth and subdue it and have dominion over the fish of the sea and over the birds of the air and over every living thing that moves upon the earth," or are we destroying our planet in opposition to the philosophy of fitting mankind into "what the cosmos has decreed for successful and advancing life's patterns," in the words of Ralph Wendell Burhoe?

I may be accused of being so out of date theologically by going back to Old Testament theology that I am not persuasive. But what I am trying to point out is that we are dealing here with questions that are and

always were theological problems. "Be fruitful and multiply" was good for the human species when its numbers were small. It was good for human evolution. Now I think it is bad for human evolution. Conditions change, and as they do, so should theologies.

The second illustration is our Resolution Eleven: Whereas several species of great whales are immediately threatened with extinction, be it resolved that whaling should be curtailed. I applaud this sentiment, and if I were a delegate I would vote for it; but to me it is based on a conviction almost as archaic and inapplicable as some other items in Genesis. The published reason why our denomination should support this resolution and work hard for its goals is that "these species have sophisticated brains and a capacity for communication, empathy, and caring that may equal or exceed our own." Not only has the sanctity of life been extended to all animals, but whales have a special claim to our protection because they may be almost as good as we are. To me that makes no sense from an evolutionary point of view. It is this kind of thinking which cannot survive the shock of a discovery of more intelligent beings than we are somewhere in the universe. I do not believe this is the theology of the future.

Actually I do not know enough to know whether it is good evolution. Whether it is better for life in the world ecology for whales to die off I just do not know. After all, the present state of life on earth, including human, would be very different if the dinosaurs and other great reptiles had inherited the earth. Nature is in charge, and it is our responsibility to discover nature's requirements and adapt to them, not to suppose our present wishes necessarily have ultimate authority.

This brings me to one last example of a theological problem which I believe we should address under the rubric of a theology based on science. In classical language the problem is stated as "Should we play God?" In the language I have been using it becomes "Should we seek to change the basic conditions and laws of nature which shape the ecological balance which thus far has operated to produce life on earth?"

If you say "no" to this question, you are coming to the same conclusion that has led me to a theology based on science. Obviously the scientific view of mankind joins traditional theology in seeing man as impotent to change the ultimate powers that ordain life. But neither classical Judeo-Christian theologies nor humanism seems to recognize these powers as one with the nature described by science, a nature which prescribes our necessity to live totally within the physical, biological, chemical, and psychological frameworks dictated by that nature.

The older theologies often have pictured mankind as against nature, which is quite proper so long as "nature" meant some local environmental conditions that would destroy our life. Our genes preceded our

religious information and still continue to tell us how to steer our way so as to avoid the life-destroying contingencies of nature and to find a viable ecological niche. But the framers of the older theologies did not have the present scientific understanding of "nature" as the ultimate laws and conditions of the cosmos upon which life depends, which created life on earth, and which are essential for its continuation—a reality system to which mankind must adapt. The ancient theologies used the term "god" to convey a reference to such an ultimate power before which humans must bow. If we are careful to define what we mean by the term "nature," we can say properly from the perspective of both modern science and traditional theology that man is against nature, if we mean those local environmental conditions that destroy life, and that man is and must be with nature, if we mean the ultimate realities upon which our lives are dependent.

Humanism focuses attention on the well-being of the human animal as paramount. It concludes that our making changes in the environment are all right provided they are in the best interest of the survival of humankind. The trouble with the humanist approach is that we humans do not necessarily have consensus on what is in fact in the best interest of humankind and its survival. Of course, we humans are naturally and properly interested in our own wishes and feelings. But our immediate wishes and feelings, we have learned, are not necessarily adequate criteria for a theology or set of prescriptions that tell us how to behave if we want optimum chances for life. Humans, like other living creatures, from time to time find themselves in a new ecological niche where adaptation requires that we have a new pattern of wishes and behaviors. The reality context provided by the larger nature or ecosystem provides higher criteria for our life than our existing wishes and concerns. Here we come up against age-old questions such as: How do we know what nature requires of us? Is there more than one pattern of response that nature offers? Are some choices better than others? How, in general, can we learn what man's best interests are?

A scientist's way to answer such questions—and I am talking about social scientists as well as mathematical physicists—is to seek to learn what the laws of nature are and how they fit together in all their ramifications to shape the context to which our ways of living must be adapted. Students of a theology based on science should profit by information that the scientists can supply and should explore as deeply into the thesis that every human life is sacred as into the antithesis that humans are doomed to hydrogen-bomb themselves into annihilation.

It was the eminent biologist Hudson Hoagland who, after looking at the human brain's production of the atom bomb, quipped that the rapid evolutionary increase in the size of the human brain might be like

the abnormal growth rate of a cancer that would annihilate us. But, after looking at the equal capacities of brains to be selected as instruments to evolve theologies that generate a necessary faith, hope, and love for a cooperative social life, we may join Hoagland in another of his suggestions: that the brain is also the organ by which humans adapt to the religious and moral requirements for life made by the larger totality of nature which selects us—a nature that includes our society, our culture, our bodies, our ecosystem, and our future in the scheme of things.

Our denomination once took the lead in developing a theology—a theory of God—which is rational, fits with modern science, and leads to persuasive religious and moral guidance. We ought to turn again to this kind of theological development using the greatly advanced scientific information about human nature and the nature of the world that created and supports us. It should be remembered that such a theology not only requires scientists. They can provide their best understanding of their exploration of the nature into which we must fit, including elements of our own inner nature. But the advancement of theology also requires philosophers; students of ethics and morals, of religion and its history; poets, artists, writers, preachers, and humanist thinkers. I think such a theology should be the main focus for both lay and professional leaders of our denomination. It is a challenge which, if met, can make us significant again in present-day religious thinking.

NOTES

1. Robert Hemstreet, "Creeds and Creedlessness in Unitarianism and Universalism" (paper delivered at a conference on theology, Unitarian Universalist Advance, Chicago, November 1978).
2. As quoted by David Worster, *Nature's Economy: The Roots of Ecology* (San Francisco: Sierra Club Books, 1977), p. 27.
3. *Ibid.*, p. 26.
4. John Ruskin Clark, *The Great Living System* (Pacific Grove, Calif.: Boxwood Press, 1977).
5. Robert E. Crenshaw, letter to the editor, *Unitarian Universalist World* (March 15, 1978).
6. Daniel Bell, "The Return of the Sacred: The Argument about the Future of Religion," *Bulletin of the American Academy of Arts and Sciences* 31 (March 1978): 29-55 (reprinted in *Zygon* 13 [1978]: 187-208).
7. Philip Schaff, *A History of the Creeds of Christendom*, 3 vols. (London: Hodder & Stoughton, 1877), 1: 1-2.