

SCIENCE AND RELIGION: ATHENS AND JERUSALEM IN DIALOGUE ABOUT ATHENS' SALVATION

By Philip Hefner

My comments here are framed by a dialogue between Athens, representing contemporary science, and Jerusalem, standing for Christian theology. The three sections of the presentation correspond, first, to Athens telling Jerusalem what Athens itself conceives is essential for its salvation, that is, for Athens' own salvation. The second section consists of Jerusalem's own reflections upon the implications of Athens' testimony for the Jerusalemic understanding of Athens' condition and possible salvation. The third section presents Jerusalem's further reflections upon the consequences of setting the first two perspectives alongside each other.

Thus it should be clear that I am not speaking of a genuine dialogue between Athens and Jerusalem. Rather I am lifting for consideration what I believe is the actual course of the conversation between science and religion. Athens speaks its mind about what it believes it sees concerning its own salvation, whereupon Jerusalem turns the Athenian testimony to quite another purpose, namely, that of informing the indigenous theological tradition of Jerusalem. Finally, recognizing what it has done, theology reflects upon what Athens has told us and upon its own transformation of that testimony into God talk.

SCIENCE ON SALVATION

What does science tell us about salvation? Is it concerned with salvation? Dealing with the second question first, I must respond that science certainly is concerned with salvation. And not just indirectly. When I say this I mean that scientists are frequently very much exer-

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cised about the continued existence of the world or its continued existence at a level or at a quality that will sustain human relationships in what we believe is a satisfactory manner. Science is often concerned, in other words, with the survival of the world as we know it. This survival is threatened, in the scientific view, by human action which is not in conformity with the dynamics of the evolutionary process and which therefore threatens to render the human species maladaptive and subject to extinction. The situation in which survival is at stake is marked by humankind's relatively recent acquisition of the power to intervene significantly in the evolution of the species.

I am speaking in very general terms and simplistically, but I believe that I have characterized accurately the perspective of a great number of scientists. Names such as George Wald, Garrett Hardin, R. W. Sperry, Donald T. Campbell, E. O. Wilson, Paul Ehrlich, and René Dubos are just a few that sound familiar to our ears. These scientists often speak in impassioned tones; they appear on TV talk shows and before the press; and they tour the country on the lecture circuit. That they speak of the future existence or nonexistence of the human race and do so in terms that are serious and almost evangelical in their fervor is my justification for saying that they speak about salvation, defined as survival.

This message is what I have called Athens' testimony about its own salvation. Athens tells Jerusalem that it is afraid that it is going to die. This grim message then leads directly into an earnest concern with values, which are necessary if humans are to be motivated to act in ways that will lead to the survival of the species and its home, planet earth. This scientific concern for values is so massive and widespread that it requires our closest attention. It is in my opinion a powerful expression of the scientific concern for salvation and therefore also one of the theologically most important dimensions of the scientific enterprise today.

I have called the concern for values massive and widespread. That is surely an understatement. There are a number of journals concerned with values and of societies formed to address the concern with values; a large number of foundation grants have gone to support the study and analysis of values in recent years. The values area is probably the one in which it is easiest to establish dialogue with scientists, the one in which cross-disciplinary activities are generally most likely to be carried out.

What do we mean by "values"? As William Frankena writes, the term is not so easy to define, and talk about values tends to be careless, "both in and out of philosophy." Frankena himself suggests that, however we use the term, we should be consistent and define it as nar-

rowly as possible. It should not, for example, be a simple synonym for terms such as rightness, virtue, goodness, and the like. Rather it should cover "that to which such terms as 'good,' 'desirable,' or 'worthwhile' are properly applied."¹ The scientists I am referring to are quite consistent, I believe, in speaking of what they consider to be desirable qualities which can motivate desirable action which will enhance the possibilities of survival by *Homo sapiens* and planet earth.

Some essential aspects of the scientific concern for values must be kept clearly in mind. First, the scientist tends to think that values are rooted in the evolutionary process itself, and since this process is the object of scientific scrutiny the scientist is both able and obligated to discuss values. The traditional distinction between facts and values is being revised rapidly, if not rendered unuseful altogether. The scientist believes that values are embedded intrinsically in the facts or data that scientists observe. In terms of evolution we have millions of years of evolutionary experience to observe, and in that long experience we can see plainly the emergence of values which have made the development of life and human life possible and enabled it to endure up to now. One cannot speak of a value-free evolutionary process which awaits interpretation; rather the value-laden record of evolution is available for all to see, if they have the competence to observe it. The traditional distinction between "is" and "ought," between "description" and "prescription," thus is called into question. The evolutionary process which "is" and whose "isness" is millions of years long is permeated with the history of the "oughts" which have enabled it to persist for those millions of years. When we refer this line of thinking to our theme, we may say that for the scientists the evolutionary record is full of revelations of what has been and is necessary for the survival of life and the earthly ecosystem. If the record is full of revelations of what makes for survival, it is then in scientific perspective revelatory of what makes for salvation.

This leads us to a second essential aspect of the scientific concern for values. Desirable actions are those which have made for survival; desirable characteristics are those which motivate these actions. In this framework the term "value" tends to be synonymous with the term "need." That which is a value, which is termed desirable or worthwhile or good, is that which the species and its ecosystem "needs" for survival. What is needed for salvation is what is considered to be a "value." We pause a moment to ask again, "What is Athens telling Jerusalem about Athens' salvation?" It is telling us that what makes for salvation is visible in the evolutionary record and that salvation is tied to our basic needs. What we have then is the largest, most prestigious knowledge-producing institution in the world, the interna-

tional scientific community, speaking in very earnest tones to humankind about salvation, defined in the only way science knows, as survival of the species and its ecosystem.

What have the scientists come up with as values that make for survival? We can survey only a few examples. George Edgin Pugh has written a comprehensive book, *The Biological Origin of Human Values*.² This book is one of the most noteworthy scientific examinations of values. Pugh, himself trained in physics but more recently also a student of biology, anthropology, and primate behavior, considers the evolutionary process which has eventuated in the human animal into a "value-driven" system. By this he means that human beings, for example, are driven by values (or needs) that emerged before we had any control over them or were able to choose them. As such they are primary values, which may be disregarded only at our peril. Pugh classifies these primary values as "selfish values," which serve individual survival; "social values," which serve group survival; and "intellectual values," which motivate the intellectual activity essential to our species. The selfish values include such items as hunger, thirst, fear, sucking urge, and anger. These may be called values—desirable items—because they serve the survival of the individual by producing the action which is necessary for survival. Social values include the desire for dominance, desire for approval, enjoyment of both talking and listening, desire to work with others for common goals, desire to do something meaningful for society, and the like. Intellectual values include curiosity, humor, truth, esthetic values, and the like. I have not listed all of the items that Pugh includes in his three categories but simply have illustrated them. Nevertheless Pugh's listing is relatively brief, including about twenty-five basic values.

We must observe that Pugh's values are matters which cannot be ignored if humans are to survive. Fear, anger, desire for dominance, desire to do something meaningful for society, curiosity, humor—these will not go away, and if they are not satisfied human survival is threatened. How we satisfy them is another matter, one that requires thought and upon which there is a variety of opinion. We may enable persons to dominate by being racist, sexist, or tyrannical; or we may guide them to be the best football player on the block, the best dressmaker, the sharpest lawyer, or the fastest worker on the assembly line.

We note furthermore that Pugh's list of values is rather complex and rich. He provides considerable documentation that these values are rooted in biological development, in psychological development, and in the inheritance we received from our closest ancestors among the higher primates. Yet he has come up with much more than eating

and sucking and making love. Food and circuses will not meet basic needs or values. The regard for truth, for humor, for talking and listening, for meaningful work—these are also “primitive” basic needs.

Campbell, experimental psychologist and past president of the American Psychological Association, presents another interesting example. He has written extensively on the survival of complex societies, such as the present, human urbanized society, and he has concluded that altruism is essential. In no uncertain terms he describes the disastrous consequences of cultural trends that foster “skin-surface hedonism,” self-gratification, and the denial of creative self-deprivation. In his celebrated presidential address to his peers he goes on to assert that on scientific grounds the religious traditions of East and West that promote asceticism and altruism are more reliable guides to human behavior than contemporary psychotherapy, which in his opinion has substituted foolishly gratification for discipline and self-denial.³

The prominent sociobiologist Wilson has proceeded similarly, in his own field of study, and he has suggested such values as altruism and fostering of diversity, which leads into a concern for universal human rights. His recent book, *On Human Nature*, is a fascinating argument of how these and similar values are rooted in the survival thrust of the human species, as seen in the evolutionary record that brought us to this point.⁴

This is a quick but representative survey of what some scientists are propounding as values derived from their scientific study of the evolutionary process. I have referred deliberately to persons from three different sciences—physics, experimental psychology, and biology—to indicate how any given scientist may move into the discussion of values. Furthermore, I have selected examples of scientists who write on values as part of their basic scientific work. What I have described from Pugh, Campbell, and Wilson are not side issues on which they write for popular consumption outside their main scientific work. Rather study of these values is central to their work.

I close this section by reverting to the original imagery. The Athenian scientists report that the world is troubled, as it is caught up in the struggle to survive in the evolutionary process that is marked by a natural selection which is the great winnower guiding some species to survival, others to extinction. Athens tells us furthermore what is needed for the salvation of the troubled world, and that message of salvation comes in the form of scientifically grounded systems of values which must be observed if we are to survive.

MAKING THEOLOGICAL SENSE OUT OF SCIENTIFIC DISCOURSE

Bear with me as I make an involuted turn in my discussion—it will be followed eventually by a still more involuted twist! Jerusalem hears the testimony of Athens—I will not say that Jerusalem listens, but it does hear. But Jerusalem immediately transforms the Athenian testimony into material that will fit into its own preconceived ideas of what pertains to God and his salvation for the world. When I make this observation I do not mean it to be a pejorative statement. I am describing what we theologians do; I am not at this point negating it—nor do I intend to negate it at a later point, although I will seek to effect a revision of Jerusalem's response to Athens.

Jerusalem does not accept the suggestion that salvation is synonymous with survival in the evolutionary scheme of things in the way that scientists seem to be saying. For the theologian salvation is God's gift of fulfillment, perfection, or consummation to the creation He has called into being. Salvation is an act of God, in His will, in His own time. The relation between survival and salvation is a complex one. We cannot simplistically say that salvation has nothing to do with survival. This matter, however, I will comment upon later.

The Jerusalemic community of theologians does not, in other words, take the Athenian scientists at their face value. They do not put the scientific communications together to form the message that the scientist intends. The theologian is more likely to make another kind of hay out of the scientist's communications. The theologian turns them into information that throws light on the theologian's prior *system of belief in God and His ways with the world*. As the theologian does this, he or she believes that the scientific message thereby is rendered relevant to the world's salvation because it is being related to faith in God. The scientists also believe that their message is pertinent to salvation but, as I have described, in quite a different sense. It is perfectly natural for the theologian to do what he or she does, however, since the scientist's inability to share the theologian's belief system puts the burden on the theologian to make theological sense out of scientific discourse.

I will observe briefly some of the chief instances of the theological usefulness of scientific discovery. These are examples of how Jerusalem makes the Athenian testimony pertinent to salvation.

1. Evolutionary theory throws light on the nature of the human condition. It clarifies the process of God's creation work and to some extent its purpose. It illumines the earthy, material character of the human being. *Homo sapiens* as a spiritually gifted creature is not a creature in which something new has been added to the material of evolution.

Rather the spiritual character of the human itself has emerged through and from evolution. The brain and its spiritual accompaniments are the result of complexity, not a different kind of substance. Pierre Teilhard de Chardin put it vividly when he wrote that “man is evolution become aware of itself.” In some sense then we can say that the purpose of evolution and of God’s creation work has been, to this point at least, to create the human race and its increasingly complex social existence. Evolution reveals to us what God can make out of the stuff of His creation.

The course of evolution to this point is significant. As life has become more complex, resulting in the human species, evolution’s creatures have taken an increasingly larger role in the direction of evolution itself. In the human we see a species that can intervene so dramatically in the evolutionary process that we can say with much truth that humans in a limited but significant manner control their own evolution and that of the planet earth. The planet has become hominized, that is, humanified in a way that it has not become dolphinized or blue whalified. By that we mean human action is decisive for the entire planet’s life in a way that no other creature’s is. There is a sense in which we can say that God has created us to be His cocreators. God does His creating through cocreators now that the human species has appeared upon the scene. This tells us something about God’s apparent need for or insistence upon having free, cocreating creatures in His world.

The salvation relevance of this insight is that we are forced to conclude that whatever salvation God has in store for us it is the perfection or fulfillment of freedom, of cocreatorhood. God has not played a trick on us, creating us to become what we have become in the course of evolution, only to say that consummation or fulfillment will bear no consistency with this created reality that is planet earth and human species. Were there no consistency between creation and salvation we could not speak of consummation or fulfillment.

2. Scientific discovery reveals the marvels of “nature,” and the transcendence that is present in the “in there” of nature. Nature is not merely nature in the current scientific view. Mere nature is not very “merely,” we may say in the manner of Paul Tillich saying that a mere symbol is not very merely. There is a fantastic richness to a nature that can go from primeval slime to human species. There is an awesome mystery in a process that can go from big bang to fireball to solar system and planet earth and its subsystems. And the way in which these marvels and mysteries unfold for us is through the journey inward—through the history of the evolution of the universe,

through the study of our genetic structure, our evolutionary development from slime to higher primate to *Homo sapiens*.

We are finding that transcendence is as surely in the "in there" as it is in the "out there." Even more the concept of the "out there" is increasingly unimaginable. Where or what is the "out there"? And how can God be there? Where? How far "out there" must we go? It is actually easier now to imagine that God is "in there"—in the depth and complexity of the atom and the gene—than in the "out there." But this transcendence "in there" is as full a transcendence as the earlier conceptions of the "out there" or the "up there." One philosopher has coined the term "inscendence" to speak of this interior transcendence.

This insight is pertinent to salvation because it tells us something of how God works, in this case with nature. The world in which we live is holy ground; the evolutionary process which has given birth to us is holy ground. Nature and evolution are bearers of transcendence and the witness to transcendence. This of course extends to the nature that in humans has become history and society.

These two transformations of scientific discovery into theological witness are very comforting. They tell us that this is God's world and hence charged with the grandeur of God (Gerard Manley Hopkins). There are other items of Athens' message that render things more ambiguous, however. For example, we know that God has created every other species to be finite in its life span. A few million years is very likely all we have, unless we are really a totally new kind of natural phenomenon. Furthermore, there is the apparently inescapable demise of planet earth. Even if we tend this planetary garden well, even if we love our mother earth exceedingly well, the garden will fade, mother will die. The evolution of our sun will take it through the red-giant phase in some five thousand million years in which it will engulf us and burn our planet to a cinder. This will happen regardless of how well we tend our garden or how well we liberate the poor and the oppressed.

What are we as theologians to make of these scientific points? Some say that by the time our sun becomes a red giant we will have traveled to other parts of the universe in space colonies. This in itself is no comfort, however, since the finitude of our species life itself may be less than five thousand million years, whether on planet earth or in the farther reaches of our galaxy.

In the face of such scientific talk we are forced to faith and silence. We believe that God will fulfill this, what He has created, that He will consummate and perfect it. We do not know how or when. In this we are fuller in our vision than the scientist armed with evolutionary

values. The scientist simply must face the prospect of no more human species, no more values. This leads us to wonder why the scientist puts such premium on survival, when it can be only a relatively short-term success for humans. It is significant that scientists and theologians both stand facing a dead end when they seek to extrapolate the human survival from the present. That dead end is either the whimper of extinction or the bang of the red-giant sun.

So what has Jerusalem made of Athens' message about salvation in a troubled world? On the one hand we have taken the Athenian communication and permitted it to enlarge our view of God and His creative-redemptive ways, while on the other hand we have been forced back to the wall of faith and confessed our sense of mystery and inadequacy to visualize how salvation and consummation will come about and what form they will take.

DIALOGUE WITHIN THE THEOLOGICAL CONSCIOUSNESS

Permit me a final involution in this train of argument. Jerusalem recognizes what it has done with Athens' scientific message, it recollects the original scientific communication, and it reflects on the two stages I have just described. In other words, I am pointing not so much to an external dialogue between science and religion as to the internal dialogue that goes on within the theological consciousness. We respond to science, to be sure, but the internal dialogue may be the more real for theology. We talk to ourselves about the implications of science more than we talk to scientists about those same implications.

What is the substance of Jerusalem's reflection upon what it has done to the Athenian communication? The question of survival and salvation rises again to consciousness. It will not go away. Theology rejected the scientists' equation of survival and salvation because survival seemed too restricted a term. We are loathe to bind the divine power to the material survival of a bundle of bones, skin, and hair called a human being. Things are not so simple, however. If God's creative work is reflective of who God is and what He intends and if the transcendence of the "in there" is taken into account, then terms such as natural selection and survival are theologically charged. They no longer belong exclusively to the scientist because we have raised the question of their theological significance. Survival and salvation may not be so far apart. That is not the deepest question that confronts us. The profounder question is what survival means, what it refers to in theological perspective. It must mean more than physical survival of the species because now it is inseparable from

terms such as consummation, fulfillment, and perfection. In Jerusalem's quiver of terms, survival now refers to what God intends for His creation, including human beings—God being the faithful God of the Covenant that we take Him to be.

Taken in this way, survival is no answer for Jerusalem or Athens because neither one can see what the human species will look like beyond the big burnout or beyond the natural extinction of the species. However, the theologian has a hope based on the purpose which God has framed, which leads us to say in faith that burnout and extinction are transformations, not terminations.

Where does this put us with respect to the scientific message of salvation, a message that is, we recall, couched in terms of a concern for values? Now that our theology is operating at ground level, so to speak, that is, within the marvelous and mysterious world of nature and the transcendence of the "in there," we will accept, I believe, the possible validity of the scientist's values. Not unquestioningly, of course and (for Christians) not without filtering them through the person and work of Jesus Christ. These values are survival values, and that we cannot see where survival is leading us does not justify our being indifferent to them—in fact, to the contrary, since survival is itself part of the mystery of the transcendence of the "in there." And since we believe that God is faithful to His creation we will be exceedingly attentive to survival needs and follow them up. We will say that Christ defines what altruism, contributions to society, the desire to excel, and the like really mean. But we will insist that, far from being outside the survival system, Christ reveals to us what form survival takes.

Where does this bring us? It brings us to the point where in an unpredicted way perhaps we have been faithful both to the original message from Athens and to our Jerusalemic task. If we are permitted to say so, we may have synthesized the two perspectives on the salvation of the world.

One more observation. If we take the scientific message seriously, we are on the road that seems to lead to reductionism and functionalism. Christ serves survival! How offensive that sounds to many people. God works within the context of evolution that also is offensive to our sensibilities. However, when we remember that we have carried Athens' message within the walls of Jerusalem, the terms "survival" and "evolution" become theological terms. We must remind ourselves of that continually; we must remember that the Trojan horse also came within the walls. We are not cutting Christ down to biological size. We are insisting rather that biology is for the theologian christified (to borrow a term from Teilhard). This means in turn

that the old question of primary and secondary causes is opened up again as a fresh and cutting-edge question. The medieval theologians established the substance of this area of inquiry. Protestants traditionally have considered the area to be a barren field. However, now the question looms with more relevance. If God is creator and faithful to His creation, then we must reconceive how He is related as cause to evolution, natural selection, survival, big burnout in five thousand million years, and the values of survival as formulated by a Pugh, a Campbell, or a Wilson. This fortunately may be left to a future time for discussion.

Let me summarize in these terms. In a troubled world that is concerned with salvation, science brings a message about basic values which cannot be ignored if we are to survive. Christian theology finally must enter into dialogue on the possible theological meaning and significance of the survival-oriented value preoccupation of science. When theology does so, it comes to recognize that our knowledge of God and His creation is enhanced and deepened. But so are the mystery and unfathomableness deepened. Our knowledge of God thus blends into faith in Him and His confidence. The dialogue has transformed Athens' communication about its own salvation in a dramatic way. But Athens also has had a profound effect upon Jerusalem and its theologians. The dialogue has theologized the Athenian talk, but it also has brought theology down to earth. It has forced Jerusalem to recognize once again that its knowledge of God and faith in Him are inseparable from knowledge of the world and faith in the world which God has promised to save in His work of consummation and fulfillment.

The last book of the canon, the Revelation or Apocalypse of Saint John, is permeated with a sense of what salvation and consummation are all about. The writer or writers knew what the earthly Jerusalem was like—destroyed, rebuilt, destroyed again, several times unto the end of the first century. It was a smelly, unkempt city, we may guess, perhaps a bit like our Chicago. Yet, in the twenty-first chapter, the seer could picture the consummation in these terms: "The angel who spoke with me carried a gold measuring-rod, to measure the city, its wall and its gates. The city was built as a square, and was as wide as it was long. The wall was built of jasper, while the city itself was of pure gold, bright as clear glass. The foundations of the city wall were adorned with jewels of every kind . . . jasper, . . . lapis lazuli, . . . chalcidony. . . . The twelve gates were twelve pearls, each gate being made from a single pearl. The streets of the city were of pure gold, like translucent glass."

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The form of this vision reflects very sound theology. In poetic and almost hallucinogenic fashion the point is made that there will be a consummation, and this consummation will be the fulfillment of the real world of the actual Jerusalem that the seer had known or heard of. He knew the radical difference between the actual Jerusalem and the city of his vision, yet he drew this picture for his troubled world. He knew, so to speak, that he was likening the Dan Ryan Expressway in Chicago to a gate of pearls. It is a significant footnote to recognize that American blacks sang this vision of the new Jerusalem in their own troubled times.

I draw this final point. We know what the evolutionary process of survival looks like. It is mundane, earthy, and it is full of pain, blemish, and demonic evil, just as the earthly life in Jerusalem was. A contemporary view of the consummating salvation of God's will includes a poetic vision of survival values and processes that is comparable to the passage I quoted from the Revelation of Saint John. It is an accurate indication of how primitive our dialogue with science is that we are so far from a meaningful poetic rendering of this survival process. Teilhard attempted it with only limited success. He was too far ahead of his time. Sooner or later someone will succeed. The Christian faith in God's consummating salvation of His creation will not permit us to avoid that task.

NOTES

1. William K. Frankena, "Value and Valuation," in *The Encyclopedia of Philosophy*, ed. Paul Edwards, 8 vols. (New York: Macmillan Co., 1967), 8:229-32.
2. George Edgin Pugh, *The Biological Origin of Human Values* (New York: Basic Books, 1977).
3. Donald T. Campbell, "On the Conflicts between Biological and Social Evolution and between Psychology and Moral Tradition," *American Psychologist* 30 (1975): 1103-26 (reprinted in *Zygon* 11 [September 1976]: 167-208).
4. Edward O. Wilson, *On Human Nature* (Cambridge, Mass.: Harvard University Press, 1978).