

THE THEOLOGICAL ANTHROPOLOGY OF RALPH WENDELL BURHOE

by *Joel E. Haugen*

Abstract. A central aim of Ralph Wendell Burhoe's scientific theology is to define and interpret the meaning of human existence in relation to "ultimate reality." As such, it can be understood as an exercise in theological anthropology. For Burhoe, this ultimate reality is "nature," understood as the total reality system which is studied by the sciences and which the sciences are showing to be the sole determiner of the way things are. This article discusses various aspects of Burhoe's theological anthropology, as well as its value and credibility, and raises questions concerning his understanding of the value of the individual and the problems of evil and human sinfulness.

Keywords: coadaptation; culture; evil; evolution; freedom; genes; god; Lord of History; meaning; nature; perennial incompleteness; purpose; religion; salvation; scientific theology; sin; soul; suffering; theological anthropology.

Theological anthropology can be defined as that category of theological reflection which seeks to define and interpret the meaning of human existence in relation to God or the realm of ultimacy. Readers familiar with Ralph Wendell Burhoe's proposals for a "scientific theology" know that they do not include a traditional concept of God as a supernatural being that transcends nature. Their aim, however, is nothing less than to interpret and define the meaning and purpose of human existence in relation to an all-determining reality. This article presupposes, therefore, that Burhoe's scientific theology is centrally concerned with what is traditionally called theological anthropology.

For Burhoe, the all-determining reality is "nature," by which he means that total reality system whose character and fundamental

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laws are being studied and revealed by the sciences, and which the sciences are showing to be the sole determiner of the way things are. As both the underlying reality of all that is and the system of laws that determines and explains how what is evolves throughout time, Burhoe says that this total reality system can appropriately be called the "Lord of History" (Burhoe 1975, 361). While the ultimate reality in relation to which Burhoe seeks to define and interpret the meaning of human existence does not transcend nature, it does, nevertheless, radically transcend human existence and knowledge; it is not supernatural but certainly superhuman. Whether we call this total reality system nature or god makes no difference, says Burhoe (1981, 21); what is important is that we seek to define and interpret human existence in relation to it. In this respect, too, Burhoe's scientific theology is certainly an exercise in theological anthropology.

In what follows, Burhoe's theological anthropology will be presented under the headings of the place of humans within the scheme of things, human freedom and responsibility, a revised doctrine of the soul, and the human need for salvation and the nature of human salvation.

THE PLACE OF HUMANS WITHIN THE SCHEME OF THINGS

The Relationship of Humans to God or Nature. For Burhoe, it is imperative that humans understand themselves as absolutely dependent upon nature or god (1981, 126).¹ Although humans have a certain amount of freedom within nature, as will be discussed later, it is nature that has determined what they are and that determines what they will be. As Burhoe says, nature is humanity's creator, lord, lawgiver, judge, and determiner of its destiny. Humanity's salvation is dependent upon its recognition of this fact of its existence, which always has been affirmed by religion and is now being revealed by science. Indeed, Burhoe believes that nature, or the total system of reality, "has ordained the evolving religious systems and their rituals, myths, and theologies to enculturate our deepest reverence for this total system, which contains our ultimate resources and specifies what is required that we may have life" (Burhoe 1975, 318).

Two important consequences follow from humanity's dependence upon nature. The first is that god (or nature) alone determines the ultimate requirements for life and for human survival (or salvation), and to these requirements humans must adapt, both genetically and culturally, or they will cease to be (Burhoe 1981, 116, 126). The second is that any understanding of humanity in which humans are seen as the sole creators or determiners of their own destiny must be

emphatically rejected as false (Burhoe 1981, 123–24). Humans are creatures of nature.

But humans are related to nature not only as to a distant creator and lawgiver. Humans also are one with nature, because they fundamentally belong to nature. As conscious participants in the ongoing process of nature's evolution, they are partners with god in the kingdom of advancing life (Burhoe 1981, 134). Nature is to be understood as "gracious" to humans in that its requirements for life, although unknown to humans, have been incarnated into the genetic, cultural, and religious heritages of humans by the process of natural selection (Burhoe 1981, 127–28). Thus, the genetic, cultural, and religious heritage of humans is a reflection of the complex patterns that nature requires for life, and humans are the image of the god that has created them and that sustains them (Burhoe 1975, 366; 1981, 134). Nature is also gracious toward humans in that it has given them a distinct purpose and place in nature's advancement of the kingdom of life (Burhoe 1981, 134–36, 146).

The Distinctiveness of Humans within Nature: The Purpose of Human Being. From a scientific perspective, the distinctiveness of *Homo sapiens* within nature lies in its advanced capacity to be programmed and guided by cultural as well as genetic information in its ongoing adaptation to nature's requirements for life. Properly speaking, says Burhoe, the name "humanity" refers to a supraorganism or symbiotic community formed by the symbiosis of the genetic programs that reside in the genes of *Homo sapiens* and the "sociocultural organisms," or cultural systems, that live in and through *Homo sapiens'* brains (Burhoe 1981, 172–75, 180–81). Furthermore, although nature has endowed every living system with the capacity to explore and discover new and better ways to continue and increase the order of life through the processes of random variation and natural selection, in the advanced stages of human cultural evolution nature has given humans a unique and unprecedented capacity to participate *consciously* in the search for new ways to adapt to the enduring and ever-changing requirements of nature.

This capacity gives humans a unique—we might say god-given—purpose within the scheme of things. On this point, we quote Burhoe at length:

What we have been selected for by the Lord of History during the past billion years is our adaptability to far wider ranges of habitat and ecological niche than those of any other species. Now that we are becoming conscious that this same program continues in our own cultural evolution as well as in our individual development, the only concern we need to have can be said very

nically in ancient theological language: Seek God's will and enjoy him forever. (Burhoe 1981, 367)

Man, in the scientific picture, is seen as especially endowed with powers to carry on the work of god's program of evolution. . . . Instead of god's power overwhelming man and making no place for man's efforts in the scheme of things, it seems that god's selection of a creature capable of cultural evolution has endowed man with special powers and freedom to discover new levels of hidden preferences in the scheme of things. In this man is the most highly endowed creature on earth for the most rapid further evolutionary development. (Burhoe 1981, 134)²

The purpose of human being is therefore to be agents of god and cocreators with god in the ongoing process of evolution (Burhoe 1975, 362, 366, 368; 1986, 265).

However, humans cannot fulfill this god-given purpose without undertaking a life of risk and suffering.

Man must now adventure beyond the already known and revealed into discovering new patterns of life adapted to future requirements. . . .

Hence, a prime purpose of man is to risk himself and some suffering in serving to build god's future Kingdom of Life. . . .

At this point, if man wishes to continue in the forefront of building god's Kingdom of Life on earth, he must let perish or die the inadequate elements of his prior-existing state and reform or replace them by entering on a further search for states acceptable to god's coming Kingdom or purpose. This is by ordination a path of suffering and confusion (symbolized by the way of the cross) for the body or phenotype and for the associated perceptions of self and world. . . . This is the way our creator has ordained that we evolve to our present stage of life, and there do not appear to be any alternatives but continual struggle with suffering and death of the phenotype forever in the future. (Burhoe 1981, 129-39)

It would be impossible for humans to embark upon such a life of risk and suffering and so fulfill their god-given purpose without some belief in a death-transcending element of human nature that makes risk and suffering worthwhile. This is why Burhoe believes that humans always will require some sort of doctrine of the "soul." Burhoe's own doctrine of the soul will be discussed later in this article.

Burhoe also believes that the inspiration for embarking upon a life of risk and suffering can come from contemplating the laws of natural selection and the direction that evolution has taken in its billions of years. He describes this as a direction toward life or order, and more importantly, toward ever-increasing *levels* of life or stability. These different levels of life, says Burhoe, are in a sense preexistent within nature and are only waiting to be found by the process of random variation and natural selection. Thus, the advances in evolution that came about with the evolution of *Homo sapiens* did not occur solely by

chance but can be said to have been in some sense inevitable, "predestined" by god or the Lord of History (Burhoe 1975, 334-55; 1981, 108, 132-33, 170-71).

The adaptation of humans to the future requirements of nature is also predestined by god and certain to take place. Humans, therefore, can be certain that as a species they will continue to be cocreators with god in the advancement of god's kingdom of life, despite the perennial incompleteness of their evolution and the inevitable failures, suffering, and death involved in the process of evolution (Burhoe 1981, 130-33). In the current stage of human evolution, such advancement will require a revitalization of traditional religions by means of a thoroughly scientific theology. Thus, Burhoe sees his own work, and that of others who are like-minded, as playing a necessary role in the advancement of evolution to the next level of life. But while this is a task to which humans must consciously set themselves, they also can have faith that such a revitalization of religion is guaranteed by the Lord of History (Burhoe 1975, 327-28).

HUMAN FREEDOM AND RESPONSIBILITY

As we have seen, for Burhoe the purpose of humans in the larger scheme of things is that through their capacity for cultural evolution they seek new and better ways to maintain and advance the order of life. But this is also their responsibility, for unless they continue to adapt effectively to nature's requirements for life, they will not survive as a species. But to speak of responsibility raises the question of freedom. To what extent are humans free or not free to fulfill their purpose and responsibility as humans?

Burhoe speaks specifically of two meanings of freedom. "One meaning of freedom is that man is free to, or has the capacity to, pursue and accomplish that goal [which defines his responsibility], even though his immediate environment is pushing him in another direction" (Burhoe 1975, 337). In this respect, all living creatures, as systems of order capable of maintaining themselves in an environment of decreasing order, can be said to be free, that is, free to do what they are designed to do. Such freedom has been programmed into humans' genetic and cultural heritages by natural selection. Genetically, for example, natural selection has given humans the physical capacity to swim upstream; culturally, it has given them the technological know-how to live in a cold climate. That humans are free in this sense has therefore been determined or caused by nature.

"A second meaning of freedom is, when man has not yet found

the way or power to maintain himself in a new environment, he is forced into an open and at least partially random search for it." This too is a freedom determined or caused by nature. For "from the beginning, nature seems to have provided or determined that in the world there should be random variation and that also there should be countless hierarchically arranged niches of partially stable energy-flow patterns to be filled when variation should hit upon them, by chance or otherwise." In humans, such variation is programmed to occur not only at the genetic or individual level, "but also within a culture by the trials of variant cultural patterns, and within the brain of man by his imaginative search for ever more coherent conceptual systems for understanding and living." In other words, while "man has far more of the first kind of freedom . . . than any other creature on earth . . . he has infinities of the second kind of freedom" (Burhoe 1975, 337-39).

Therefore, we can say that nature or god has given humans the freedom to fulfill their responsibility as humans. But this is not a freedom to act independently of or exist apart from god, which would be impossible. Rather, it is the freedom to accomplish the goals or values given to humans by god. Thus, Burhoe concurs with the ancient theologians who said that "to be a slave of the true god is man's greatest freedom" (Burhoe 1975, 339).

A third sort of freedom emerges when humans' outlook on life is determined by a religious vision of a "self" which is larger than the individual and includes one's "brothers and sisters" within the socio-cultural organism. When this happens, they experience the freedom and ability to preserve and advance the life of the community and its members, even when doing so contradicts their own self-interest. Individuals whose lives have been shaped by this vision of a self thus "find altruistic service a responsibility to the self that comes naturally" (Burhoe 1975, 351). This too is a freedom given to humans by nature, the freedom to save one's "soul," as it were, through service to others.

A REVISED DOCTRINE OF THE SOUL

Burhoe recognizes the word *soul* as a symbolic and generic term for the death-transcending character of human nature, however that may be understood (Burhoe 1981, 117, 137-38). Without some credible belief in a soul, he says—that is, without the belief that some element of human nature persists beyond the death of the individual—humans cannot effectively fulfill their responsibility and destiny as humans.

This is so for two reasons. First, we have seen that Burhoe believes evolution has ordained humans to a life of suffering and death. Suffering comes from the inevitable risk and failure involved in searching for new patterns of adaptation, and death is nature's way of making room for further development in the evolutionary process. Having been programmed for death by evolution causes other animals no great anxiety or distress. But because of humans' advanced capacity for culture, and the expanded capacity for consciousness that comes with it, the fact of their inevitable death appears to fly in the face of their genetically programmed desire for life. Therefore, without some credible belief that the "whole self" does not die with the individual, humans experience a tremendous conflict between the information given to them by their genes and by their culture, and they are unable to formulate an understanding of their place in the scheme of things that will give them the proper motivation to fulfill the requirements of life (Burhoe 1981, 130, 140-41; 1975, 347-48, 350).

Second, belief in a death-transcending element of human nature is necessary to motivate self-sacrificial service to the society and its members. To the individual, genetically programmed to preserve his or her own life as long as possible, self-sacrificial service may seem to be an evil rather than a good. Therefore religions have sought to provide individuals with ways of seeing service to the society as desirable. This has been done, says Burhoe, by conceiving of the "true self" of an individual as an element of human nature that transcends the life of the individual, which ends at death. In classical Greek philosophy and classical Christian theology, this death-transcending self was understood to be an immortal soul. Service to God and neighbor, it was said, was more valuable and more desirable than merely preserving one's bodily life, since through such acts a person preserved this true and immortal self (Burhoe 1981, 141-44; 1975, 348-51).

Burhoe believes that modern science reveals that the belief in a larger self that endures beyond individual death is not simply a myth but has a firm basis in reality. What endures, however, is not an individual's consciousness, but rather genetic and cultural information that dwells within the individual phenotype. According to the theory of natural selection, phenotypes, as expressions of ever-changing genotypes and culturetypes, are the means by which bad genotypes and culturetypes are weeded out and good ones selected. Therefore, although the existence of individual phenotypes is essential to the process of natural selection, what is of ultimate value is not the phenotype, which is only the "body" of an individual, but the

genotype and culturetype, which are pockets of information that survive the body and therefore can be said to be the “soul” or “true and immortal self,” not only of the individual, but of the species (Burhoe 1981, 139–43; 1975, 349–50, 363–64). Thus Burhoe writes:

The real core of human nature is not any particular body but an enduring pattern of flow. The flow pattern is generated by the interaction of the energy and boundary conditions set by habitat (or cosmotype), genotype, and culturetype, resulting in unending successions of ever-evolving levels of living forms. . . .

[These patterns of flow] have a long, essentially eternal history relative to the transient stochastic states that constitute them. A man’s soul, like a river, not only is the water molecules now in it, but it is the shape of the bed of the river and the persisting flow patterns of the water. We have to look outside and inside and beyond the elements of our phenotype to our role in the continuing evolution of mankind and life systems if we are to see our soul. (Burhoe 1981, 140, 142–43)

Burhoe believes that the revitalization of belief in a soul along these lines is essential for the future adaptation and survival of human beings. Without such a cultural overlay of the information in our genes, humans will lack the inspiration and motivation to pursue the longer-range and basic values of human society and existence (Burhoe 1981, 142–43; 1975, 351).

THE HUMAN NEED FOR SALVATION AND THE NATURE OF HUMAN SALVATION

Burhoe’s proposals for a scientific theology do not include an explicit doctrine of salvation parallel to his doctrines of god and the soul. However, they do include some clear ideas regarding that from which humans need to be “saved” in order to survive and fulfill their purpose as humans and how both the process of evolution and religion contribute to such salvation.

Salvation from the Perennial Incompleteness of Adaptation to the Requirements of Life. There are two general ways in which Burhoe approaches the question of human salvation. First, because evolution works solely through a process of trial and error, humans, like any living system, are never completely or perfectly adapted to their environment, especially not to the unpredictable future contingencies of their environment. Therefore, to some extent they always carry with them some traits or behaviors that are not adequately adapted to nature’s requirements of life. To this extent, humans are “inherently wrong, bad, and evil” (Burhoe 1981, 65). Thus, humans need to be saved from the perennial incompleteness of their

adaptation to their environment and nature's requirements for life. Burhoe sees here a parallel to the traditional notion of humans needing to be saved from original sin.

Among humans, a special form of this perennial incompleteness is the lack of an adequate coadaptation of the rapidly changing culturetype to the more slowly changing genotype. Humans, therefore, always are in need of and in search of culturetypes that are more adequately adapted both to their genotype and to the requirements of, not only their physical environment, but also their ever-changing social environment. If in any society the degree of ineffective coadaptation of genes and culture is large, there arises an internal disharmony and the society finds it is no longer able to motivate individuals to devote themselves to the longer-range goals and values of the society (Burhoe 1982, 127; 1975, 357). Such a conflict may arise for several reasons, but in particular, it arises when there emerges within the cultural unit a conflict between its sacred and secular values (Burhoe 1986, 443).

In the contemporary situation, Burhoe believes, it is precisely this sort of conflict between sacred and secular values from which humans most need to be saved. While the older religious traditions contain a great deal of "well-winnowed" wisdom regarding what is necessary for "right behavior," most of this wisdom is expressed in terms that conflict with the prevailing secular and scientific interpretation of reality. For this reason, traditional religions have lost their power to inspire and motivate individuals to look beyond their own immediate interests, and there is an urgent need for a revitalization of the ancient religious traditions by means of a scientific theology. This urgency is heightened by the unprecedented instabilities and potential dangers produced by contemporary scientific technology. "In a time when the enculturation of high-minded spiritual and social values is declining, our technological vulnerability requires them to be far higher than they were in the most saintly religious communities of the past" (Burhoe 1975, 324).

Burhoe refers to all nonviable genetic and cultural patterns as "wicked and evil." Given the perennial incompleteness of the process of evolution, the existence of such evil is inevitable. Social evil, which Burhoe understands as socially destructive behavior that results from a brain's failure to have a suitable coadaptation of culturetype and genotype, is a special instance of such evil (Burhoe 1988, 425). Thus, the presence of original sin and evil within individual humans and human societies cannot be totally eradicated. Yet without some sort of salvation from original sin and evil, humans cannot expect to survive or to fulfill their god-given destiny within the process of

evolution. Therefore, some sort of salvation from this perennial incompleteness is necessary for human salvation.

But the evolutionary process, which makes the presence of original sin and evil inevitable and inescapable, also makes certain some degree of salvation. For it is the very nature of the evolutionary process, by means of natural selection, always to be transcending the incompleteness of the present. Although individual persons may not directly participate in the resulting future greater completeness, they can be confident that by their lives of risk, suffering, and death they are contributing to such a future move toward completeness. Moreover, by means of their genotypes and culturetypes, which endure beyond the death of their bodies and which are repeated in future generations—what Burhoe calls their *souls*—their true nature literally does live on and participate in the future advances of evolution (Burhoe 1975, 365; 1976, 24; 1981, 130).

Human salvation in this sense always will require the discovery and transmission of new culturetypes that are more adequately adapted both to the requirements for life encoded in our genes and to our ever-changing physical and social environment. For this reason, Burhoe believes that humans will never outgrow their need for religion, since it is the evolved function of religion to inform individuals and societies of the primary or sacred values of life and to integrate and order all other values, both genetic and cultural, around that central value. More prosaically, the function of religion is to guide humans in the way of salvation, and therefore an adequately developed religion will always be necessary for human salvation (Burhoe 1975, 357).

The results of this sort of salvation will be societies in which social values no longer conflict with individual values, in which individuals freely devote themselves to the needs of the society, and in which all members see themselves as brothers and sisters mutually concerned for one another's welfare. Such harmonization of genetic and cultural information in the brains of individuals by means of religion results in a "new-level body [or phenotype] . . . [which] flourishes and flourishes better than populations of nuclear families informed by genetic information alone" (Burhoe 1975, 341). Burhoe likens this to the new nature or new being spoken of in the Christian tradition and says that to live in this new being, or the kingdom of God, is possible here and now (Burhoe 1975, 349).

Because salvation in this sense is guaranteed by the unchanging character of the process of evolution, this is a salvation which is objective and certain, despite the inevitable failures of humans. It also is a salvation which comes by "grace," insofar as the "Lord of

History” is continually providing humans with the opportunity better to adapt to nature’s requirements for life. Therefore,

man need not worry too much about his fate or his society merely on account of the fallibilities in himself or in his fellowmen or worry too much about the consequent, relatively weak condition of his sociocultural system.

For within the certain advance of evolution

the errors of the present phenotype (whether an individual person or a community in a sociocultural system) will be washed out, selected out. In the kingdom of God all error is cleansed and forgiven and the true and corrected patterns of the true self or soul will forever flourish under the judgment and grace of the sovereign Lord of History. (Burhoe, 1975, 360, 364)

Thus, while Burhoe can sometimes be a prophet of doom, warning us that our demise is certain if we do not more adequately adapt our ancient religious traditions to the new world in which we live, he can also be a prophet of hope, assuring us that new and better ways will be found and that our salvation from doom is certain.

Salvation through a “Higher Perspective” on Reality. The second general way in which Burhoe poses the question of human salvation is in terms of the internal disharmony and anxiety humans experience because of the lack of coadaptation between their culture and their genes and because of their awareness of what is traditionally called the problem of evil.

The sense of inner disharmony arises when individuals become aware of a conflict between their genetically programmed desires and those programmed by the society, or, as Burhoe says, between their “two natures,” genetic and cultural. Burhoe likens this to Saint Paul’s notion of a conflict between our “bodily” and “spiritual” natures (Burhoe 1975, 341; 1981, 22, 219). As did Paul in Romans 7, Burhoe indicates that although humans believe they know what is the right thing to do, they often find themselves unable to do it. Burhoe believes this is because their cultural and genetic programs are not in sync with one another—they find that the society of which they are a part has different expectations for what is good and right than what their genes are telling them (Burhoe 1975, 344). This creates within humans a “hellish tension” and a “torturing conflict” (Burhoe 1981, 219; 1982, 126).

Here, too, Burhoe sees a parallel to the notion of original sin (Burhoe 1975, 345; 1981, 55). Just as in the Genesis myth humans fell into original sin because they ate of the tree of knowledge, so too this “hellish tension” is a result of humans having an increased knowledge of the choices to be made between good and evil and of

the perceived difficulty of knowing how to make the right choices. Unless humans experience some sort of salvation from this tension they are unable to function adequately and to fulfill their god-given purpose in evolution.

But humans experience an inner anxiety and torment not only because of the evil that exists within them, but also because of the perceived presence of “evil”—that which appears to threaten their individual existence—in the world around them. That is, not only do humans perceive a conflict between the values encoded in their cultural and genetic programs; they also perceive a conflict between the values encoded in their genes, which are initially identified with what is “good” for the individual, and realities in their environment that appear to threaten those values. Thus,

“Evil” is the name for what man’s consciousness presents to him as an existing or potential pattern of the life system (self, fellow creatures, environment) that has or will become destructive of what is good. As a first approximation, good is usually identified with what is conducive to life and evil with death. (Burhoe 1975, 363)

Here we meet a different notion of evil than what we previously found in Burhoe’s scientific theology. Here, evil is not so much an objectively existing reality within the process of evolution that needs to be “weeded out” by natural selection; rather, it is a *perception* of reality that exists within human consciousness. But the need for salvation from this sort of evil is just as great. For the perception of evil in this sense creates a torturing anxiety and fear within humans, causing them to question the goodness of the world of which they are a part, as well as the value and meaningfulness of their own lives and actions within the world. Without some sort of salvation from the anxiety caused by this perception of evil, humans are again unable to function adequately and to fulfill their god-given purpose in evolution.

For Burhoe, salvation, both from the hellish tension that results from the conflict between genes and culture, and from the anxiety that results from the perception of evil in the environment, comes through religion, which affords humans a broader, more “divine” perspective on reality. It can do this, however, only if the higher perspective does not conflict with the contemporary understanding of reality. Thus, again, Burhoe reiterates the importance of a scientific theology; in addition to salvation from the incompleteness inherent in the process of evolution, Burhoe believes humans need the salvation that comes from gaining and living in accordance with a new perspective on reality. For example, “Salvation is to perceive the glory of God’s kingdom and to glory in participating in its continual

building” (Burhoe 1976, 24). “The ‘kingdom of heaven’ . . . is a term which connotes a higher perspective on the human prospect and raises man’s vision of himself above the level of the sin, error, and tragedy which is the inevitable perspective of him who has not yet been graced with the good news” (Burhoe 1975, 348).

It is through such a “higher perspective” that humans find relief from the hellish tension between their genes and culture, their “bodily” and “spiritual” natures, as well as the freedom to fulfill their destiny and purpose as humans. For when genotype and culturetype are well coadapted,

the torturing conflict disappears, as in Saint Paul’s interpretation of Christian salvation, and is replaced by a natural joy in giving one’s self in gracious love to the service of one’s fellow humans, confident in the hope that one’s ultimate or long-term rewards, guaranteed by the superhuman Lord of History, will be greater than the temporary sacrifices one now renders for such an outcome. A human being who in his culturally informed brain can regain a culturally unspoiled, pristine, genotypically programmed trust of the essentially good relationship between himself and the ultimate source of his being can keep his sophisticated culture and yet reenter the paradise of primitive animal innocence and trust—and live confidently in this world, being possessed of a sound hope and as free from overweening anxiety or fear of inevitable, natural death and multiple other hazards as are the birds of the air and the lilies of the field. (Burhoe 1981, 219–20)

Burhoe believes that when seen from such a higher perspective, which can be provided today only by a scientific theology, the problem of evil is resolved—indeed, it “evaporates” (Burhoe 1975, 364).

On the one hand, Burhoe uses the term *evil* for those patterns of information that produce nonviable phenotypes, which, he claims, the scientific study of nature assures us will perish, or be selected out, in the history of evolution. The righteous and good will be saved, that is, they will survive. In this respect, we need not fear evil, for god is in control (Burhoe 1975, 364).

On the other hand, the higher perspective Burhoe believes a scientific theology can provide helps us to see that this so-called evil is not really evil at all. Rather, it is a necessary part of the process of evolution. If life is the supreme value, it is clear that in this universe it can be obtained only through this unending program of trial and error, which continues to build up higher and higher systems of order or life. In this wider perspective evil becomes a necessary agent of good, wrong or error the means to the right, and death the source of greater life (Burhoe 1981, 65). Burhoe says that when so-called evil is looked at in this way, the apparent paradox between evil and the ultimate goodness of reality “evaporates” or “dissolves” (Burhoe 1975, 364; 1981, 105). For when nonviable patterns of behavior and belief are “viewed as a necessary part of the program toward the ultimate

triumph of good, the ‘errors’ or variations become necessary, and hence good rather than evil.” Therefore,

The only salvation for man is a cultural transmission of truths that enable him to transcend his limited private views and desires and to adapt a longer-range, more divine perspective, wherein he may recognize his present imperfection and suffering as a necessary element toward the long-range good guaranteed by God. (Burhoe 1981, 104, 105)

For Burhoe, this “more divine perspective” necessarily requires some sort of distinction between body and soul, that is, some notion of a true self that is more than the presently existing phenotypes of either individuals or societies (Burhoe 1975, 363–64). As we have seen, Burhoe believes that the scientific theory of evolution gives us just such a notion by showing us that transitory phenotypes are nature’s way of increasing the order of life through a constant process of trial and error.

The following rather poetic passage from the conclusion of Burhoe’s article “The Human Prospect and the ‘Lord of History’” may serve as a concluding summary of his theological anthropology, provided we understand “phenotypes” as a term for presently existing human beings.

Phenotypes are only the visible, rippling wave crests of increasing complexity, a complexity shaped as the earth rolls around the sun millions of times, to do wondrous things by a continually growing phylogenetic “soul” that shapes successive phenotypic ripples in time, increasingly reflecting nature’s ultimate designs in the true and everlasting but hitherto more hidden, glorious realm of the Lord of History. (Burhoe 1975, 367–68).

QUESTIONS AND ISSUES

There can be no question that Burhoe’s understanding of human existence is deeply religious. While it does not include a traditional understanding of God as a reality that transcends both human existence *and* nature, it is nevertheless deeply motivated by the desire to understand and interpret human existence in terms of and in relation to an “ultimate reality” that in the final analysis determines the way things are. It is a vision that seeks to kindle within the modern human consciousness a sense of awe, reverence, and humility before this ultimate reality, as well as a deep sense of ethical earnestness as they seek to live in harmony and cooperation with this reality. Here, I believe, lies the value of Burhoe’s theological anthropology: that it has the potential to inspire within modern, scientifically informed humans a traditional sense of awe, respect, humility, and ethical earnestness in face of that reality which has made them what they are and determines what they will be.

We must, however, ask of Burhoe’s religious vision the question

he himself asks of any religious system, traditional or otherwise: Is it credible? For to the degree that Burhoe's theological anthropology lacks credibility or persuasiveness it also lacks the potential to fulfill its aim of inspiring within modern humans a truly religious sense of awe, respect, humility, and ethical earnestness. In particular, I have in mind two groups of people for whom the credibility of Burhoe's religious vision may be problematic.

First, those whose outlook on life not only is informed and shaped by science but is also thoroughly secular may find Burhoe's ideas less than persuasive. Burhoe insists that his vision of the meaning and purpose of human existence follows directly from the scientific evidence and requires no additional step of faith beyond a careful consideration of what the sciences tell us. In this respect, he understands his scientific theology as no more than an "applied science" (Burhoe 1981, 37). Although his insistence on this point is no doubt motivated by a desire to make his vision acceptable to modern scientists and secularists who refuse to accept anything that does not proceed directly from science, it seems to me that this is precisely where Burhoe's vision may lack credibility and persuasiveness for many modern scientists and secularists. Although his vision of humanity and its place within the larger scheme of things is certainly *informed by* and *based on* modern science, it is clearly not *demanding by* modern science. Not only does it contain elements that are speculative and not yet generally accepted, such as his view of humanity as a symbiosis of genes and culture and his understanding of evolution as climbing a ladder of ever higher levels of stability, but Burhoe's vision of life and the attitude for which it calls clearly represent more of a moral and religious choice, which scientifically informed persons may or may not make, than an intellectual conclusion forced upon them by the evidence itself.

This need not be a deficit of Burhoe's theological anthropology; indeed, it may be an asset. For it is precisely the claim that Burhoe's religious view of life is demanded by modern science that I imagine would be a stumbling block to many modern secularists and scientists. If, on the other hand, Burhoe were to settle for the weaker claim that his vision of humanity and its place in the larger scheme of things is thoroughly inspired and informed by science, his vision might gain, rather than lose, credibility. Although it could then be freely admitted that the adoption of such a view and attitude toward life is a moral and religious choice, we could still argue that their adoption, given what we know about the world from modern science, is both reasonable and credible and, more important, may have great pragmatic value in contributing to the future survival and well-being of our species. We might then very well argue, with Burhoe, that

without some such vision of life that is both religious in its character and thoroughly scientific in its content our very survival as a species is threatened (cf. Hefner 1977).

If the stumbling block for some is Burhoe's claim that his vision follows directly from science, a second group may object to his rejection of an understanding of God as a reality that transcends both human existence and nature. Personally, I believe that Burhoe and others in the science and religion discussion often underestimate the number of people for whom this more traditional understanding of God remains meaningful, however significantly their understanding of reality may be shaped and informed by modern science. While it is important to construct a scientific theology that will appeal to atheistic secularists, it is just as important that it appeal to people still informed by traditional religious beliefs, if for no other reason than that without such appeal any so-called scientific theology will lack credibility and persuasiveness, and thereby effectiveness, for large numbers of people in contemporary, and especially American, society.

While Burhoe's vision certainly stands as a challenge to the traditional notion of an interventionist, supernatural God, that in itself is nothing new; that notion of God has long been under attack in modern society and theology. The question for those whose outlook on life is informed by both traditional religious beliefs and modern science is, rather, can Burhoe's proposals for a scientific theology serve as an inspiration and a resource for *revising* our understanding of God in a way that is consistent with both our religious traditions and the knowledge of reality gained from the sciences? Although I have not worked out such a revised understanding of God myself, I believe that Burhoe's scientific theology could be an inspiration and a resource in this regard.

Certainly it is an inspiration in that, like the traditional monotheistic religions, it encourages us to look upon ourselves as creatures of a reality that far transcends our own personal and social existence, and upon which we are absolutely dependent both for who we are and what we will be. And certainly Burhoe is correct in demonstrating how our relation to nature, as a total reality system, is a relation with just this sort of reality. In this respect, Burhoe's "nature" bears some resemblance to Schleiermacher's "Whence" of the feeling of absolute dependence (Schleiermacher [1830] 1928, §4).

However, for Schleiermacher there appears to be a distinction between our existence within a "system of nature" (*Naturzusammenhang*) and our relationship to the "Whence" of the feeling of absolute dependence, or what Schleiermacher calls "absolute causality"

(Schleiermacher [1830], 1928, §34, 46–49, 51). While our existence within a system of nature, or temporal causality, is the way in which we are related to absolute causality, the system of nature of which we are a part is not itself to be identified with absolute causality. In other words, we might say that Schleiermacher's "absolute causality" is that causality which is above, beyond, and behind all temporal or natural causality; that all temporal causality receives its character and being from its participation in this absolute causality; and that therefore the system of nature of which we are a part is, *as a whole*, the temporal expression or manifestation of such absolute causality.³

If such an understanding of God and the world were adopted, we could still say with Burhoe that our relationship to "nature" *is* our relationship to "God," but without saying that God and nature are the same. This might be analogous to saying one's relationship to a religious community, say ancient Israel or the church, is equivalent to one's relationship to God, while still saying that God is more than the church or more than Israel.

We turn now to some specific issues and questions of theological anthropology. First, Burhoe's revised doctrine of the soul raises the question, What is of ultimate importance and value within human existence? Traditional Christian theology has said that in the sight of God, every individual human has worth and importance. Sometimes it is said that this is the basis for the belief in the persistence of an individual's personality after death; that is, because of the great value God allegedly places on each individual life, it would be inconsistent to believe that God allows the life of the individual person to perish with the death of his or her body. This belief in the value of the individual also has been the basis for the ethical and political belief that it is our duty to affirm, protect, and preserve the rights of each individual human being.

In Burhoe's doctrine of the soul, it appears that it is not the individual *as an individual* that is of the greatest importance and value, but rather the well-adapted and viable genetic and cultural information that she or he passes on to future generations. This seems to be in tension with the traditional Christian understanding of the worth of the individual. Nevertheless, Burhoe's religious vision contains a clear motivation for seeking the welfare of all individuals. For if a religion functions effectively, the members of a sociocultural organism are led to view one another as brothers and sisters and to seek one another's welfare even at the cost of their own lives or well-being. Burhoe's belief that the value of an individual's life ultimately lies in the contribution she or he makes to a future reality

also is echoed to some degree by traditional Christian anthropology, insofar as it too claims that there is more to this life than what we presently see, that our ultimate hope lies not in what is seen but what is unseen, not in what is but in what is yet to be.

But the question remains: Of what value is the transient phenotype, or individual human being, in the larger scheme of things? For Burhoe, its value appears to derive from its being a necessary part of the ongoing process and advance of evolution; in the “eyes of God” each individual has worth and importance because he or she plays an important and valuable part in the never-ending saga of evolution. This is different from saying that the individual, as an individual person, has ultimate value in the eyes of God. So there appears to be a tension here between Burhoe’s theological anthropology and traditional Christian anthropology. And, at least for this writer, it is not obvious that the so-called scientific evidence Burhoe marshals for his view justifies abandoning the “well-winnowed wisdom” of the long-established and cherished Christian view. Yet each view contributes to our understanding of the importance and value of the individual—the individual is important as an individual, but also as one who carries with him or her patterns of adaptation that can benefit future generations, and as one who, in service to future generations, risks his or her life in testing those patterns of adaptation. Perhaps, then, there may be some way of synthesizing the two views such that each complements the other.

Second, Burhoe’s account of and response to the problem of evil leaves much to be desired. For Burhoe, both “natural” and “social” evil ultimately have no reality, since in a broad and enlightened understanding of the world what was once perceived as evil is now seen to be a means to the good. In this way the problem of evil allegedly “dissolves” or “evaporates.” This seems like far too easy a response; while it may solve the *intellectual* problem of evil, it by no means “dissolves” or even diminishes the *existential* problem of evil, that is, the real suffering and pain that humans experience. Simply adopting a “higher perspective” will not wipe this away. Nor does such a perspective provide us with sufficient motivation to combat the evil that exists in the world. At most it can help us understand why evil and suffering exist; but by itself it cannot provide us with the inspiration and courage to diminish—rather than simply accept—the amount of evil and suffering that is present in the world.

This is especially the case with regard to the problem of social evil. It would be cold and inhuman to say to those who suffer from poverty, hunger, and oppression because of the evils of their society, that their suffering is a necessary part of the process of evolution and

is their God-ordained task in life. Such a response to the problem of evil is also extremely dangerous in the hands of the powerful, who can and have used such ideas to justify and perpetuate their oppression of the weak.

This, in my opinion, is a prime example of how evil does not simply dissolve when viewed from a higher perspective. It also raises a question about the adequacy of Burhoe's understanding of sin. Given that human and social evil often derive from a deep-seated desire to dominate and have power over others, we must ask, does Burhoe's understanding of sin as perennial incompleteness, or as a lack of effective coadaptation of genes and culture, do justice to the reality of sin as humans experience it, both as agents and as victims? Does it truly account for the often inexplicable desire of individuals and societies to harm and destroy one another? An adequate theological anthropology would need to answer the question of where such evil comes from and how it can be overcome, if at all. If it is a vestige of our evolutionary past, perhaps what is needed is not just an effective adaptation of culture to genes, but a restraining of genes through culture.

Burhoe's view of salvation through an effective coadaptation of genes and culture also seems at times overly intellectual and idealistic. For example, he refers to the culture of the High Middle Ages as one in which religion and the science of the day were adequately coadapted, and lifts this up as an ideal to be repeated in the present. But the High Middle Ages also were a time of torture, inquisition, political and ecclesiastical corruption, and the massing of power and wealth in the hands of a few at the expense of the many. While this culture may have demonstrated a great intellectual synthesis between theology and philosophy, which may have been well coadapted to the genetic needs of the rich and the powerful, it was not always so for the weak and the oppressed. Perhaps then, since greed and sin seem able to function in any adaptation of culture to genes, we should say that cultures can be *selectively* coadapted, serving the survival needs of some but working against those of others. And if this is true, then the problem of human sinfulness goes deeper than a lack of effective coadaptation of genes and culture, and there is more to human salvation than finding a more adequately coadapted culturetype.

The point of these criticisms is not to suggest that Burhoe's theological anthropology is thereby discredited, but rather to point to issues that demand further consideration and development. These criticisms also suggest that, in spite of the great insights the natural sciences have to offer, more may be required of theology than

dialogue with the natural sciences. Theologians also need the insights of other observers of human nature and, more important, of those who suffer the most from human sinfulness and social evil.

Finally, although it was not Burhoe's intention to develop an explicitly Christian theological anthropology, those who make this their aim also would need to address the significance of Jesus and the Christ-event in answering questions about the meaning, purpose, and destiny of human beings. Such an enterprise would need to take into account science's insights into the nature of human existence and reality, and would need to define Jesus' significance for humans in the context of these insights. Here too Burhoe's theological anthropology could no doubt be both a resource and an inspiration.

NOTES

1. In what follows, the terms "nature" and "god" will be used interchangeably, since for Burhoe they are functionally equivalent and refer to the same total system of reality. To make it clear that we are using the word *god* in a special sense, we will most often spell it with a lower case *g*, as Burhoe himself sometimes does. But since Burhoe himself is not consistent in this usage, the upper case *G* will be retained in quoted material wherever it was used in the original.

2. Burhoe generally used the term *man* to refer to humanity in general. In the interest of historical accuracy and convenience, it will be retained in all quoted material.

3. Wolfhart Pannenberg expresses similar ideas when he speaks of creation, or all of space-time, as the self-actualization in time of the eternal reality and character of God (1991, 386-90, 421). However, Pannenberg makes clear that the process of God's self-actualization in time will be complete only at the "end of time," when the process of nature is "complete."

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