

TO WHAT EXTENT CAN SCIENCE REPLACE METAPHYSICS? REFLECTING WITH RALPH WENDELL BURHOE ON THE "LORD OF HISTORY"

by Philip Hefner

In what follows I hope to contribute what I would call a "co-reflection" with Ralph Wendell Burhoe upon the dominant concern he expresses in his article "The Human Prospect and the 'Lord of History.'" I say co-reflection because I wish to affirm the basic vision of that essay while I acknowledge that I am incompetent to bring to bear upon that vision the immense amount of scientific detail that Burhoe marshals. Yet I do believe that my reflections may enhance the vision by putting it in a slightly different perspective from Burhoe's own presentation. The thrust of my comments is that if we look upon Burhoe's work as a metaphysical attempt we can perceive better its significance and subject it to a constructive critique.

Since I shall be arguing that Burhoe's enterprise is unavoidably metaphysical (although by no means only that), it is in order to state briefly what I believe is the essence of his enterprise. There seem to be three basic ideas at the heart of Burhoe's article and, indeed, of his enterprise as a whole: (1) that the religious traditions of humankind possess an urgent and undeniable truth that is available nowhere else and which is necessary for understanding the cosmos and man's life in it; (2) that this recognition of the truth of the religious traditions is demanded by what we have learned from the sciences; and (3) that if the truth of religion is to be effectively available to humankind and if the health of the human body politic is to be maintained, then scientific fact and insight must be given religious valorization. These ideas touch on method; the central substantive idea of his paper is that the core of religious belief asserts that God is a caring governor of the universe, and it is this idea that he translates into the concept of Nature, as elaborated by science.

Burhoe is to be admired for the intellectual hardness of his enter-

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prise. Standing before two irreducible convictions, that religion is true and that science is also true, he has refused to eviscerate either. Rather, he has insisted that religion must be understood scientifically while science must be understood religiously. He has rejected the humanist secular prejudice that religion is dispensable, a feature of the immaturity of man at an earlier stage of development. He also has forsworn a strategy that is all too common among religionists, that of hiding from the hard challenge of the scientific mentality which insists that all statements about reality must be brought into conjunction with what we know empirically about the cosmos and human life. Burhoe's enterprise, then, centers in his effort to valorize scientific understanding in religious terms. This effort entails the meticulous relating of religious belief with scientific theory and the content of scientific discovery. Such an effort finds skeptics among both religionists and scientists—among the former because they believe that a religious significance can be assigned to scientific understanding only at the cost of simplistic reductionism and among the latter because they find the assigning of religious significance unnecessary for their work and because they are often unwilling to admit that their efforts in fact do imply such a larger significance.

THE NATURE OF METAPHYSICS

In my opinion Burhoe's effort gains immeasurably when we understand its metaphysical dimensions. However, since Burhoe himself seems to deny this metaphysical dimension and in fact at points polemicizes against metaphysics very explicitly, we must undertake a more extensive discussion of what metaphysics is and how Burhoe's effort shares in the metaphysical enterprise.

Immanuel Kant speaks in his First Critique of a *metaphysica naturalis*, a disposition to ask large and imponderable questions about the meaning of things, and it was in an effort to clarify this disposition and save it from contradiction that he wrote his celebrated *Critiques*.² G. W. F. Hegel, for all his opposition to Kant, began with the same disposition, which he called the "cravings of the highest and most inward life" of the mind.³ The aim of this craving of the mind is meaning, and not small and proximate meanings only but the knowledge of the structure and aim of all of reality. Metaphysicians have described this craving in several ways.

Hegel puts it thus: "The [empirical] sciences exert upon the mind a stimulus to overcome the form in which their varied contents are presented, and to elevate these contents to the rank of necessary truth."⁴ Commenting on Whitehead, Bernard M. Loomer expresses much the same thought: "Metaphysics is concerned with those struc-

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tures which are universal and which must be present if we are to have any experiences at all. . . . Metaphysics defines the nature of the most general characters that pertain to all experience whatsoever. These most general and pervasive features of experience are 'necessary' in the sense that no experience is possible without them."⁵

Dorothy Emmet speaks of metaphysics as the attempt to take "concepts drawn from some form of experience or some relation within experience and extend them either so as to say something about the nature of 'reality,' or so as to suggest a possible mode of co-ordinating other experiences of different types from that from which the concept was originally derived."⁶ W. W. Walsh provides one of the most useful descriptions of metaphysics as "a set of principles that would tell us how to organize the data of our experience in such a way that we could give a unitary account of them; it would thus help us to make sense of the scheme of things entire. We should then be masters of an overall point of view enabling us to see things synoptically or have a set of ideas which would allow us to differentiate the real nature of the universe from its merely superficial aspects."⁷ Whitehead himself, in a very modest statement, says that his own philosophy seeks to do what many others have tried, to "elaborate the world picture derived from science."⁸

Each of these expressions points to the same phenomenon—the human mind trying to put things together so as to form a total picture of reality—each describing the attempt to satisfy the "cravings of the highest and most inward life" of the mind. It would seem natural to view Burhoe's comprehensive suggestions about science and the religious vision of humankind as one of the ongoing metaphysical attempts "to make sense of the scheme of things entire." I believe that we can best understand his suggestions under this rubric. Burhoe, however, is himself ambivalent about our designating his work as metaphysical in character. Although in some sense he indicates that he is building upon a new "metaphysics" (he generally puts the word within quotation marks except when referring to metaphysical systems of the past) which has emerged from the contemporary discipline of physics, he clearly prefers to think that metaphysics has been superseded and outmoded by science.

The basis for this conviction that metaphysics has been superseded is Burhoe's interpretation of metaphysics as a premodern description of the "realm of the ultimate reality which transcends the ordinary realm that man's mind naturally or readily perceives."⁹ "Metaphysics" is thus akin in Burhoe's own thought to the term "supernatural." He does not want to reject the reality that the term "supernatural" refers to, but on the contrary he makes it the basic thrust of his argument to

demonstrate that this reality is now better discussed by scientific theology. Scientific theology is defined as the synthesis of the scientific picture of reality and the insight of the religious traditions. In his own words, he writes: “. . . now there seem to be dawning in the recent pictures of man and his relation to the ‘ultimate reality’ as portrayed by the sciences a clarification and substantiation of the basic insights of the great religions, but with much more concrete detail and evidence. It is this synthesis to which I give the name ‘scientific theology.’”¹⁰ Metaphysics is superseded because it is obsolete; it is premodern, and consequently it cannot but be supplanted by the pictures of the “total reality system” which modern physics provides. Metaphysics shares with the language of modern physics the achievement of describing the realm that transcends everyday experience, but the marked preferableness of the language of physics lies in its ability to provide such a description which is much more “logically and practically useful and validated by chains of evidence rising from everyday experience.”¹¹

It is not too much to say that Burhoe looks upon metaphysics as a necessary and important exercise in previous eras but one which, if it is maintained into the present time, is an inadequate competitor to what he considers to be the truth, namely, the scientifically informed picture of ultimate reality which gives substance to scientific theology and which provides what he considers to be the only viable conception of God as Lord of History. He asserts that, for the scientifically informed mind of our time, “the most complete and most useful set of entities and dynamics for understanding are those elaborated in the natural sciences to describe cosmic evolution all the way from the most primitive particles to the most complex structures of human mind, behavior, and society.”¹² This “set of entities and dynamics of understanding” is, he suggests, the contemporary counterpart to the older “metaphysics.” It is this contemporary picture of the total reality system which comes from the sciences that is central for Burhoe’s concept of God as “Nature,” and when we understand this point, then we can also understand why he is at best indifferent to metaphysics and why at other times he must wage a direct polemic against metaphysics. How could it be otherwise since his whole enterprise is from this perspective an attempt to translate metaphysics into scientific theology? It was the metaphysicizing of Christian faith which enabled it to meet the requirements of truth in an earlier time, whereas today metaphysics must be transcended by the world pictures that science provides.

There are two reasons why I find myself uncomfortable with what I perceive to be Burhoe’s stance toward metaphysics. First, it seems to me

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to be unnecessarily confusing because it speaks of metaphysics in an unconventional, if not eccentric, manner. Second, and much more important, this eccentric view of metaphysics not only is unnecessary but furthermore makes it more difficult for us to appreciate properly the nature of Burhoe's achievement and the grounds for assessing it.

Our survey of current definitions of metaphysics demonstrates, I believe, the peculiarity of Burhoe's use of the term to refer only to an outmoded enterprise. Metaphysics refers to a perennial process of thought, not to a process of thought in a particular episode of human history. I shall let the statements of philosophers, as I presented them above, stand as evidence for this view. I shall adduce only one more statement, by Walsh, who, I believe, not only speaks admirably about what metaphysics is but also describes Burhoe's own work in a most helpful manner. After surveying a number of metaphysical systems, Walsh concludes:

Each of the systems mentioned could be said to rest on a basic idea or intuition, an idea articulated in a series of concepts taken as definitions of reality and applied, with greater or less success, to the whole range of experience. To appreciate the force of such a system, we need to grasp the basic idea as well as understand the articulated concepts; we have to see the world as the metaphysician in question saw it. The deviser of a metaphysical theory thus becomes a man with a vision of the scheme of things entire. It is important to add, however, that he is not merely a man with a vision, in which case he would be indistinguishable from a philosophical poet. He needs to work his vision out in a theory; he needs to argue his case both by adducing those facts which immediately support it and explaining those which on the face of things do not.¹³

Walsh's observation serves to bring us to our second concern, namely, to clarify why it is useful to lift up a definition of metaphysics more adequate than Burhoe's as a key for understanding his own thought. Burhoe is par excellence the typical metaphysician who fits Walsh's description. He is a man with a vision of the scheme of things entire, and his work is a grand attempt to work out that vision in a theory that is substantiated by a massive range of significant and cogent fact. His vision may be compactly summarized as the idea that the cosmic ecosystem, what science calls "nature," may legitimately be hypostasized as "Nature" and correlated with what the religious tradition calls "God." We shall refer to this vision as the proposal that God = "Nature." The attempt to substantiate this idea into a workable and cogent theory results in what Burhoe calls "scientific theology."

What is to be gained by insisting that Burhoe's scheme of thought is metaphysical? There is no justification for such an insistence unless definite gain is to be derived therefrom. I have said that the gain is a

sense of perspective on Burhoe's achievement and a standpoint from which to assess and criticize it. I shall now elaborate this contention in detail.

WHAT COUNTS TO PROVE OR DISPROVE METAPHYSICS?

When once we begin to speak of Burhoe's system of thought as metaphysics, we are able to discuss more clearly, both for him and for his critics, what it is that counts either for or against his proposal of thought. Burhoe has been criticized for handling scientific and theological statements as if they were univocal and interchangeable, that is to say, as if science could make religious affirmations and as if religious beliefs could be verified in a scientific manner. For his part, Burhoe has seemed at times to argue in a manner that justifies his critics' charges. But when we recognize that his argument is indeed a metaphysical one, then we perceive that both the criticism and the defense against it miss the point at issue because they do not touch squarely the question of what proves or disproves his contentions.

If we accept the premise that metaphysics centers on a "vision of the scheme of things entire" and that it proceeds to develop from that vision a theory that comprehends as much concrete fact as possible, then we recognize that what counts for Burhoe's proposal of thought is its credibility, not any sort of "scientific" verification. We distinguish between these two because by definition a primal vision of things entire cannot be demonstrated or proven empirically beyond doubt. It can, however, be judged to be more or less credible, according to whether or not it organizes a large enough amount of data from experience to render a viable statement about "reality" itself or to serve as a means of coordinating our experience as a whole within its purview. On the one hand, therefore, it does not count for or against Burhoe's proposal that the "God = Nature" vision cannot be scientifically demonstrated since demonstration is not what the proposal aims at. Rather, the proposal is tested by whether or not it does bring coherence to all of the segments of our experience, including those that are comprised of the scientifically demonstrable (e.g., our experience in engineering space vehicles) as well as those that are scarcely so demonstrable (e.g., the spontaneous instincts that often govern our interpersonal relationships). On the other hand, what we have observed about the credibility factor in Burhoe's proposal explains both the legitimacy and the necessity for his continual attempt to relate his vision to the sciences and to adduce the fruits of scientific discovery in behalf of his vision. In this attempt he is not "proving" religious affirmations, but he is showing how religious affirmations

can organize that segment of our experience which is marked by the scientific enterprise.

A word may be in order here in response to the serious critique which Langdon Gilkey has raised concerning the attempts by Teilhard de Chardin and the Star Island group to relate science and religion.¹⁴ His critique is pertinent to Burhoe's thought, and, indeed, Burhoe may be one of the thinkers in the latter group to whom Gilkey addresses his criticism. Gilkey asserts that these attempts are inadequate exercises in establishing religious beliefs by means of scientific inquiry, abortive efforts to "translate scientific theories into analogous religious notions," and unfortunate attempts to "initiate a scientific rescue of theology in a secular age."¹⁵ Gilkey's charges are quite relevant to Burhoe if the latter's thought is considered to be a non-metaphysical, strictly scientific effort. Viewed as metaphysics in the form that Walsh has described, however, Burhoe's thought can be understood as proceeding from the assumption of religious belief or vision. Contrary to what might appear to be the case, Burhoe's mode of argument does not establish the vision by means of science but rather clarifies the vision in terms of scientific inquiry and also organizes the scientific inquiry around the vision. Whatever may be the form of his argument, Burhoe does not derive God or even his hypostasized concept of Nature from scientific inquiry, but on the contrary his assumption of the God or Nature premise enables him to interpret the significance of scientific discovery. The picture of the total reality system which Burhoe contends comes "from science" comes only in the sense that it is a picture which is consistent with scientific inquiry, not in the sense that scientific inquiry itself has constructed explicitly such a picture of reality. In this respect Burhoe exemplifies Whitehead's dictum that descriptive generalization (i.e., the metaphysical vision) precedes our understanding of concrete facts (i.e., the fruits of scientific discovery).

It is true that Burhoe continually speaks of the task of "translating," although he generally speaks of translating religious affirmation into the terms of scientific language, rather than science into religion, as Gilkey suggests. It is not always clear what Burhoe means by this "translation," but my interpretation of his thought suggests that such translation refers to the effort of bringing religious vision into conjunction with scientific inquiry so as to show how the vision organizes that inquiry and points to its ultimate significance, thus rendering the vision credible. There is thus a mutual service performed to science and to the religious vision—the former is given significance and coherence, the latter is rendered more credible. If Burhoe's effort is a metaphysical one, then the facet of his enterprise which may fall

under Gilkey's critique is not a defect but rather the way in which metaphysics must proceed if it is to elaborate its theories satisfactorily. Given this legitimate way of proceeding, there is a sense in which theology is "rescued"—not because it is "proven" scientifically but in that it requires some congruence with scientific inquiry if it is to be credible. Given the conditions of present life and thought, any proposal that claims to be true requires such a congruence and is in the same way either "rescued" or regarded as nonsense. Gilkey, of course, means something different by his use of the term "rescue," but by excluding the legitimacy of relating religious vision and scientific inquiry he makes it impossible for the vision to demonstrate its credibility. Burhoe is not content until he shows in meticulous detail the credibility of his vision in the context of scientific discovery.

I have said, however, that Burhoe himself at times seems to give credence to the legitimacy of such a criticism as Gilkey's. This is manifest when Burhoe seems to argue that the "Nature" which he equates with God is the same as the concept of nature that is the object of the scientist's Inquiry. If Burhoe means by this that the nature which the scientist examines is God, then he does fall under Gilkey's critique. But such an assumption does not really square with what Burhoe has written. His concept of "Nature" requires as much of a leap on the part of the scientist as it does from the theologian. As I have suggested, this concept of "Nature" is not actually "science's picture of reality." This is clear if we attend carefully to Burhoe's description of the "Nature" which he believes is equivalent to the religious reality called "God." I quote two extended references: "In the sciences, 'nature' has come to denote the total reality system, including the laws or ways in which it operates in time, the dynamic history of its sources as far as they can be traced in time and space, and hypothetical entities or constructs that many not be directly observable but on the basis of which what is observable logically follows."¹⁶ This understanding of "Nature" is clearly metaphysical, and it follows directly the definitions of metaphysics that I have cited above because it speaks not only of what is observed in our experience of nature but also of the laws which govern what we observe and of the "hypothetical entities or constructs that may not be directly observable but on the basis of which what is observable logically follows." By introducing these hypothetical constructs into his definition of "Nature," Burhoe comes especially close to Hegel's metaphysical craving to elevate the empirical contents of scientific knowledge to the rank of necessary truth. He also speaks in a manner that echoes Loomer's discussion of metaphysics as defining those "structures which are universal and which must be present if we are to have any experience at all." His

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concept of "Nature" is not scientific inquiry as such, but it is consistent with that inquiry and makes a major contribution by organizing scientific data so as to provide and stimulate larger meanings. In this latter sense it could be loosely termed a "scientific" concept, but it is more properly called metaphysics.

The second reference from Burhoe: "If we understand the 'nature' described by the sciences as the system of laws, according to which events in the history or evolution of the underlying reality system proceed in time, which, together with the given or 'initial conditions' and the 'hidden relations' or 'preferred configurations' of the reality system, explain (as far as man can explain it) the varied history or evolution of the universe and the living systems (including human minds and societies) in it, then we do have a concept akin to the ultimate reality or God of the high religions."¹⁷ This statement makes it very clear that "Nature" for Burhoe includes not only what is observable but also the picture of reality or of the reality system that can be brought into conjunction with observable data to organize and make sense of them. This is unassailably a metaphysical concept. It may be accepted by scientists, but it is not "science" as such. Thus, when he equates "God" with "Nature" and when he calls for a translation of religious affirmations into the scientific picture of reality, he actually is equating God with a metaphysical concept, and he is calling for an interpretation of religious truth within a certain metaphysics. What Burhoe actually has done is to hypostatize a vision of an agency from which the nature which the scientist studies proceeds and by which it is directed, and he has given this vision reification by calling it "Nature." For this reason, when referring to his concept of nature, I capitalize it and place it within quotation marks. His effort to render this hypostatization credible includes the argument that what scientists say about nature requires such an agency, just as what theologians say about God requires some such congruence with what he calls "Nature." Burhoe's effort does not differ essentially from what theologians and metaphysicians have done for centuries, for example, when they have posited the Word or Logos or Wisdom as the source of rationality and order and then reified it through their hypostatization of God as Word, Logos, or Wisdom. "Nature" in such a system of thought as Burhoe's is, however, no more or less scientific than "God" is. I sometimes wonder at Burhoe's unwillingness to recognize this. This unwillingness may be linked with his refusal to acknowledge metaphysics into his enterprise. "God = Nature" is his primal vision, which, although it must be rendered credible, is like all metaphysical visions an assumption, not a conclusion, an a priori, not an a posteriori. Consequently, the immense effort to bring this vision

into conjunction with scientific inquiry is legitimate and necessary, not as a proof but as an effort to render credibility. If, however, such conjunction is not credible, the metaphysical vision would be disproved.

To summarize this part of our discussion, I repeat that when we view Burhoe's proposal as a metaphysical one, then we understand why he is so concerned with scientific inquiry (namely, as part of the process of rendering credibility to his vision), we recognize the legitimacy of this concern, and we perceive that the point on which his proposal stands or falls is its credibility, its success in organizing all the data of our experience, and not its scientific certitude.

A CLUE TO THE FUTURE OF METAPHYSICS

When we view Burhoe's "Lord of History" in its metaphysical aspect, we perceive immediately that he is making a very strong case for how metaphysics should be done. He clearly stands in the line of Whitehead and others who have tried to "elaborate the world picture derived from science." He differs from Whitehead in that he insists that a theological vision is at the heart of reality, but he nevertheless stands in the same line of metaphysics in his insistence that our vision of what reality is about must come to terms unflinchingly with science as the most significant universe of discourse for establishing its credibility. He takes this position because he believes that "science says" is synonymous with "truth."¹⁸

For the theologian, this clue to the future of metaphysics is also relevant. To say that metaphysics must render the credibility of its vision vis-à-vis science is of a piece with the conviction that we are doomed to intellectual and moral chaos unless scientific fact is itself religiously valorized. When Burhoe renders his vision credible by relating it to science, he not simply is performing an operation on religious belief by rendering it in some sense "scientific"; he also is performing an operation on scientific inquiry, clarifying its religious significance. He recognizes that either science must be repudiated or else its "truth" must have religious significance. It is difficult to understand how this assertion can be countered. The Old Testament prophets and historians were caught up continually in the effort to valorize religiously the natural and historical events that were significant for the life of Israel. Likewise, Christian belief and theology continually have attempted the same thing. Theologians have expended enormous efforts in recent times to valorize religiously such events as the emergence of Freudian psychology, the Bolshevik Revolution in Russia, the cultural protest of the 1960s, the Holocaust under Hitler. Not only are such attempts legitimate; they are neces-

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sary. Burhoe and his tribe are saying likewise that the event of scientific inquiry and its consequences also must be interpreted religiously. Such an interpretation will result in a translation of religious affirmations into scientific language, just as the Old Testament encounter with history resulted in the translation of religious affirmation into historical categories and the Christian encounters with Freud and Marx have resulted in the translation of Christian affirmation into the language of those thinkers' conceptualities. Translation goes hand in hand with the attempt to achieve credibility. Translation and credibility are intimately related to the challenge of understanding our experience religiously. The encounter with our scientific experience is no different in this respect from our encounter with any other segment of experience.

Burhoe makes the metaphysical task and the theological task extraordinarily difficult when he calls for a religious valorization of scientific fact. But it is a difficulty that cannot be evaded. It may be easier for the metaphysician and theologian, ordinarily not trained in science, to deal with other segments of experience, but that does not excuse them from dealing with science. It is true that an understanding of scientific discovery is as necessary for the intelligent person today as Latin and Greek were for the person of the Middle Ages. That half of the educated persons today lack such an understanding does not alter the necessity for understanding science. The challenge stands, and it is unfortunately muted when we ignore the metaphysical dimension of Burhoe's thought. If he is to be regarded as a "scientistic" thinker, then his work can be shunted aside as eccentric; but if he is understood as a metaphysician establishing credibility, then he challenges all of us to consider whether our task is all that different from his.

SOME POINTS FOR CRITIQUE

Thus far in our discussion I have suggested that there is real advantage for our understanding of Burhoe's thinking if we consider it as metaphysical. The advantage is that we see its fuller significance, that he is presenting a credible vision for understanding the scheme of things whole and that that credibility must be forged in the context of the scientific picture of reality. There is yet another advantage, however—one which suggests that as metaphysics avenues for criticism and dialogue are opened up.

All criticism and dialogue with Burhoe follow the same basic line of discussion that would be the case with other metaphysicians—does his vision and the elaborated theory which flows from it take into account adequately enough of our experience to render it credible? It is im-

portant for this question to be asked by both scientists and nonscientists. For both, but especially for the scientist, it is essential to keep in mind, however, that the question is not whether scientific inquiry verifies Burhoe's theory but whether his theory coordinates or organizes what scientists have come to know into a coherence which, although ultimately not scientifically verifiable, is nevertheless a viable coherence which therefore renders the proposal a reasonable one.

In the remaining portion of this article I wish to focus on one issue which it seems to me Burhoe does not adequately take into account as he elaborates his vision into theory. This issue has to do with evil, absurdity, and alienation in our experience. A discussion of this issue, I believe, shows the fruitfulness of addressing Burhoe's argument as a metaphysical one because it illumines both the strengths and possibilities of his scheme, as well as areas in which it needs recasting.

Burhoe goes directly to the heart of things when he writes, "Since the rise of modern science, religion has had a difficult time presenting credibly its primary message that men is created by a creator which actively continues to care for, supervise, and lay down and enforce laws for man's behavior, thus providing an objective or real frame for man's purpose and meaning in the scheme of things."¹⁹ Burhoe is certainly correct in focusing on the problem of faith "that the cosmic reality cares for man."²⁰ To elaborate such a faith is one of the major emphases of his system of thought. We may call this the problem of the "friendly universe."

Burhoe's vision that God = "Nature" demands a concept of the friendly universe. Indeed, his vision is another way of asserting that there is a cosmic reality which cares for men. The God = "Nature" vision generally strikes the reader, especially the critic, as an unwarranted leap from a scientific description to a theological affirmation. Even though Burhoe does himself provide fuel for this interpretation (as I discussed earlier), the God = "Nature" proposition is more important for its assertion that the friendly universe is a primal reality. Burhoe attempts to render the friendly universe hypothesis credible by referring to the intrinsic processes of selection, which select out all nonviable forms and preserves the viable. These processes of selection, since they preserve the viable, are considered to be "friendly." In other words, we see here the typical metaphysical attempt at work: A primal vision (God = "Nature") is elaborated into theory by adducing evidence which lends it credibility (the intrinsic processes of selection and order).

We are freed, when we view Burhoe's system as metaphysics and not "science," to accept Burhoe's imagery and the supporting evidence, just as we accept Jeremiah's image of God as the Potter who

shaped his people like a vessel on a wheel. Jeremiah's primal vision in this instance was God = Israel's "History," and he rendered that vision credible by adducing the evidence of Israel's trying experience in a time of devastation by its enemies.

However, if Burhoe's vision of the friendly universe is to be rendered credible, not only must it come to terms with the apparent scientific certainty concerning an intrinsic set of selective processes which are not absurd or fully random; also it must come to terms with the brokenness and evil in the world which alienates us from the cosmic reality that is selecting and which compels us to name it anything but friendly. In his concept of the Lord of History Burhoe does not leave this evil unmentioned. He defines evil 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 whatever it is that is good."²¹ Two concepts take center stage as Burhoe attempts to deal with this problem of evil: the determinism of God's ("Nature" 's) selective processes and the soul. These two concepts go hand in hand with each other. The concept of the soul establishes "the basic notion that the true self is something much more than the present phenotype, whether of the individual body or of the 'city,' the sociocultural system."²² If the true self transcends the present evil, and is thus inseparable from God, then evil can be borne: "In due course all wicked and evil (nonviable) ways will be selected out of the picture by the omnipotent God (nature's requirements for viability or being). The errors of the present phenotype (whether an individual person or a community in a sociocultural system) will be washed out, selected out. . . . 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."²³ "All is well," Burhoe writes, because whatever appears as evil is part of this process of winnowing or selecting out the nonviable so that the true self can flourish forever.

In one important way, this vision of Burhoe's is necessary, and it plays an important role in the attempt to understand evil. His elaboration of "Nature" as the selector who preserves the good and the true presents a concept of the goodness and reliability in the structures of reality without which any resolution of the problem of evil, any theodicy, would be impossible. The problems with Burhoe's handling of evil are not that what he says is either untrue or unnecessary. Rather, the difficulty is that he does not say enough; nor in my opinion does he take evil with enough gravity. This is in part probably due to his tendency to establish the credibility of his vision almost exclusively in the context of the "harder" sciences. These sciences deal primarily

with the continuities and stabilities of nature. J. Bronowski's discussion of the systems theory interpretation of evolution, which is so often referred to in Burhoe's argument, is a good example of this predisposition of the evidences on which Burhoe relies for most of his attempts to establish credibility.

There are two deficiencies with the approach to evil that Burhoe gives us. The one deficiency is existential, whether the phenomena of gross and excruciating evil are adequately acknowledged when they are interpreted as the pain that is involved in the selecting out of nonviable forms. The second is a deficiency in ontological explanation, namely, that Burhoe does not speak of the origin of evil (which can be excused since there is probably no way to speak of its origin) nor, more important, does he assign to evil a role in the scheme of things that is commensurate with its existential prominence.

Evil is not simply an irritation within the cosmic process. Its existential impact is so great that it all but nullifies our belief in a friendly universe. Gilkey has spoken helpfully of this conflict between our experience of evil and the belief in a friendly God when he designates a "synchronic structure" and a "diachronic character" in life. The synchronic structure of life leads to the "claim that temporal finitude has its source in a divine creative ground," whereas the diachronic character of life refers to the alienation and estrangement of our existence which "can and does obscure that divine ground in conflict, meaninglessness, suffering and despair."²⁴ He observes, further, that when one emphasizes either of these elements of life he is predisposed to look upon the other element as "subversive." I suggest that Burhoe has turned so exclusively to the hard sciences as the context for establishing the credibility of his metaphysical vision that he does indeed concentrate almost exclusively on the "synchronic structure" of reality. And he does indeed give the impression that the "diachronic character" of life is subversive of his system. Hence he speaks of evil as a phenomenon of man's consciousness and asserts that evil is an incompleteness and a paradox which "evaporates" when we properly understand the processes of selection "just as does the paradox of the direction of a star from the earth being in the west for one observer but at the same time in the east for another when it is explained that the observers are on opposite sides of the earth."²⁵ I hope it is not considered unfair or sentimental to observe that the evil of the Holocaust or of generations and cultures of oppression are not adequately accounted for as phenomena of the consciousness or as paradoxes that are resolved when one understands the selection processes of nature. To pose the dilemma sharply, what is being selected out in the evil and suffering of the oppressed serf of Latin America?

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The inadequate social and economic system of the oppressors (in which case, the selecting-out process seems remarkably comfortable!)? Or the weakness and lack of revolutionary strength among the serfs? It simply is not adequate to the existential trauma of evil to write as Burhoe does, "Since God is omnipotent and since man's true soul or being is one with God and since God's program of evolution is indeed the ultimate reality, then all is well."²⁶

The demands of evil's existential significance upon ontological description require that evil must be assigned a significant role in the scheme of things, else theodicy becomes trivial and human belief in God becomes masochistic. In my estimation no metaphysician has surpassed Hegel on this question. For Hegel, evil is intrinsic to the process of reality's unfolding within the framework of the dialectic of negation. The dialectic of negation describes both history and nature as a process wherein what is unfolds through a process in which it encounters what it is not. The reality of negation plays then an indispensable role in the emergence of life and of the good. Furthermore, evil and negation are not simply intruders, but they are intrinsic to the creative process. Why this should be so and how it originated are questions that beggar the imagination. But Hegel, in my opinion, has elaborated most credibly a primal vision which can organize the data of experience that pertain to evil.

Burhoe is quite possibly not so far removed from the Hegelian proposal. When he speaks of evil in the selection processes, he tends to speak offhandedly, as if evil were a subversive element that he wants to dismiss as quickly as possible. His image of the selective processes need not, however, speak thus of evil. After all, the selective processes, as he himself asserts time and again, are the processes of creation and creativity. In one place he speaks of "Nature" and its processes as "the system of laws, according to which events in the history or evolution of the underlying reality system proceed in time, which, together with the given or 'initial conditions' and the 'hidden relations' or 'preferred configurations' of the reality system, explain (as far as man can explain it) the varied history or evolution of the universe and the living systems (including human minds and societies) in it, . . ."²⁷ Now if this is what the processes of selection in "Nature" are and if evil is correlated to the necessary selecting out of nonviability within these processes, then it is conceivable that we are dealing with an idea of evil not unlike that of Hegel's. The conclusion to be drawn from Burhoe (which he himself does not draw) is that the evil that accompanies the selecting-out process is part and parcel of the process by which nature and history are brought into being, proceed in time, and move toward the goals which the Lord of History

sets. Evil, then, not only is intrinsic but plays a significant role since selection is the primary characteristic of the process of reality's unfolding.

If we are correct in suggesting both the weaknesses and the possibilities that reside in Burhoe's discussion of evil, then we can move on to a wide-ranging judgment. If Burhoe is to deal adequately with evil, and if he is to render his vision credible within the context of the existential force of evil, then he must lift up the implications of the fact that evil is a necessary ingredient in the selection process and focus on those implications with the same forcefulness that a Hegel does, and he must extend the context within which he establishes his credibility to the "softer" sciences, including history. I hope it is clear that I am not calling into question either the truth of Burhoe's vision (God = "Nature"), which I happen to share, or the legitimacy and power of his effort to establish credibility by adducing evidence from the hard sciences. I am suggesting that the way in which he does metaphysics should be broadened, so that he can meet the criterion of credibility more satisfactorily.

CONCLUSIONS

What may we conclude from this co-reflection with Burhoe? I would point to the following insights, which I trust are evident in my discussion itself. First, Burhoe is a typical representative of a metaphysician, even though the form of his argument and some of his own comments tend to hide this fact. Second, there is much to be gained by surfacing the metaphysical dimension of his thought because then we can observe that he is proposing to us a primal vision that is worthy of careful attention, namely, that God = "Nature," and we can understand his energetic effort to establish its credibility in the context of the harder sciences. Third, this perspective on Burhoe as a metaphysician enables us to see that he is not doing "science" as such, and therefore his assertions do not appear as reductionist or simplistic as critics sometimes charge. Fourth, we are able to amplify and criticize his position constructively by clarifying those areas in which he has failed to establish credibility, one of which is the area comprised by the consideration of evil and alienation in human experience.

NOTES

1. Ralph Wendell Burhoe, "The Human Prospect and the 'Lord of History,'" *Zygon* 10 (1975): 299-375.
2. Immanuel Kant, *Critique of Pure Reason*, trans. Norman Kemp Smith (London: Macmillan Co., 1958), p. 56.
3. G. W. F. Hegel, *The Logic of Hegel*, trans. William Wallace, 2d ed. (Oxford: Oxford University Press, 1892), p. 15.

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4. Ibid., p. 16.
5. Bernard M. Loomer, "Whitehead's Method of Empirical Analysis," in *Process Theology*, ed. Ewert H. Cousins (New York: Newman Press, 1971), pp. 68-69.
6. Dorothy M. Emmet, *The Nature of Metaphysical Thinking* (London: Macmillan Co., 1957), p. 5.
7. W. H. Walsh, "Metaphysics, Nature of," in *The Encyclopedia of Philosophy*, ed. Paul Edwards (New York: Macmillan Publishing Co., 1967), 5:303a.
8. Alfred North Whitehead, *Science and the Modern World* (New York: New American Library, 1958), p. 15.
9. Burhoe, p. 352.
10. Ibid., p. 349.
11. Ibid., p. 353.
12. Ibid., p. 360.
13. Walsh, p. 303b.
14. Langdon Gilkey, *Religion and the Scientific Future* (New York: Harper & Row, 1970), p. 38.
15. Ibid., pp. 38-40.
16. Burhoe, p. 330.
17. Ibid., p. 361.
18. Ibid., p. 353.
19. Ibid., p. 333.
20. Ibid., pp. 333-34.
21. Ibid., p. 363.
22. Ibid.
23. Ibid., p. 364.
24. Langdon Gilkey, "The Dialectic of Christian Belief: Rational, Incredible, Credible" (paper delivered at a Theology/Philosophy Colloquy, Notre Dame University, September 1976).
25. Burhoe, p. 364.
26. Ibid.
27. Ibid., p. 361.