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Evangelical Perspectives on Science and the Christian Faith

In this issue . . .

"The fear of the Lord is the beginning of Wisdom." Psalm 111:10

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Putting Things In Perspective

I applied my mind to acquire wisdom and to observe the business which goes on upon earth, when man never closes an eye in sleep day or night; and always I perceived that God has so ordered it that man should not be able to discover what is happening under the sun. However hard a man may try, he will not find out; the wise man may think he knows, but he will be unable to find the truth of it.

Ecclesiastes 8:16,17 (NEB)

In the first paper of this issue Professor Thomas Torrance discusses the inter-relationships of science and theology in the light of the changing views regarding reason, objectivity, and "the inherent force of ultimate beliefs." Professor Torrance would appear to be in agreement with the author of Ecclesiastes when he appraises twentieth century science: "It is thus to a humbler and more objective view of scientific method that science is now returning, not least as it becomes increasingly apparent that reductivist, analytical explanations do not succeed in making the world more meaningful for mankind." Furthermore, even though many people today still assume that theories are objectively formulated from fact, Dr. Torrance emphasizes the importance of ultimate beliefs in discerning and interpreting facts. For the Christian these ultimate beliefs should have "an implicit conceptual content imparted to them by the Word of God."

One area of inter-relationship between science and theology that has been with us for a long time is creation and/or evolution. And that controversy has not gone away. In this issue we have two divergent views presented. Fred Van Dyke gives us a theological critique of theistic evolution, while George Murphy provides a theological argument for evolution. Both George and Fred will be responding to each other in the June issue. Furthermore, their views are not the only ones on this subject. We will be reading additional, alternative views in the future. All will be held by people with a strong commitment to Jesus Christ and to the Bible as the authoritative word of God. We hope to present these views in a scholarly and conciliatory manner even though there will still be points of disagreement. God has given us minds to search out His wisdom and there are many areas for which our finite minds have not and probably never will be able to arrive at THE final and complete truth. However, we should still enjoy the excitement of searching out His truths in the natural and spiritual worlds.

Crowded prisons, which are more and more looked on as schools for the training of criminals, have led to considerable discussion of our penal system. Sociologist Jerry Bergman, on the basis of his reading and his personal experiences, examines various theories of the role of prisons in combatting crime and reforming criminals. He also summarizes the rather dismal results of the application of these theories.

The author of Ecclesiastes also lamented that "Of making many books there is no end." I sometimes wonder what he would think were he to join us in the twentieth century! This issue has a considerable number of book reviews, a recognition that we need to play "catch-up" with some of the backlog of reviews that have accumulated. The Book Review section of our *Journal* seems to be appreciated by many of our readers and is an important means of being kept informed about who is writing about what. There's more to come!

WLB

†Theological and Scientific Inquiry

Conjoint Research between Theology and Science at Points of Their Deepest Convergence

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This paper is predicated upon the conviction that knowledge of God and knowledge of the universe have a common source and ground beyond themselves in God's own Being and Rationality. That is, theological and scientific inquiry are considered in light of the assumption that all truth is essentially one, for all truth comes from God. In order to provide an exposition of this unity, it is deemed necessary to uncover the basic points of interconnection between theological and scientific knowledge, where knowledge of God and knowledge of the universe affect each other. Primary attention must be given to the conception of reality implicit in the scientific mind, the hidden premises which have guided and controlled scientific inquiry for nearly three hundred years. Research of this radical kind cuts deeply into longstanding presuppositions which are universally accepted, sifting and testing our ultimate beliefs, and bringing to light the undefined commitments undergirding all our rational thought and scientific investigation. Accordingly, this paper reflects upon the nature of scientific inquiry as it has been pursued hitherto in science and theology, and then proceeds to investigate other modes of inquiry prescribed by the comprehensive nature of underlying reality.

Experimental Science and "Creation out of Nothing"

Scientific inquiry as we have come to think of it in the modern world is bound up with the rise of experimental science in the sixteenth and seventeenth centuries, when a radical change in the human approach to natural knowledge took place. This involved a rejection of the view that in seeking to understand the world the human mind operates with an antecedent set of ideas and concepts that owe nothing to experience, and an adoption of the view that the human mind can understand the world only through ideas and concepts that it derives from the world itself through empirical contact with it. It is thus the task of scientific inquiry to devise experiments in which appropriate questions may be put to nature in order to encourage the disclosure of its coherent patterns of behaviour which could not otherwise be known, and then in the light of what is discovered in this way to formulate explanatory theories.

This change in the concept of natural science and scientific inquiry was made possible by a powerful reemergence during the Reformation of the Christian doctrine of the creation of the universe out of nothing, a universe continuously depending or contingent upon God for its reality and its order.[2] This view of the contingence of the universe and its intrinsic intelligibility carried with it a very different view of nature from that which had prevailed since classical times. Nature was no longer regarded as the embodiment of eternal rational forms and final causes through which it could be interpreted and explained in logico-deductive ways. The fact that the world had been created out of nothing, endowed with a creaturely reality and rational order of its own in utter differentiation from God, meant that it must be investigated out of itself alone, on

†*Address given at the Opening of the Center of Theological Inquiry and the Dedication of the Henry Robinson Luce Hall, Princeton, New Jersey, October 9, 1984.*[1]

its own contingent ground, and understood in the light of its own autonomous structures or natural laws. It also meant, correspondingly, that the sciences of nature, in fidelity to the contingent nature of the universe, had to develop their own autonomous methods of inquiry and explanation. This was a conception of natural science detached from the control of all external authorities, and disconnected from any systems of thought, philosophical or theological, gained on other grounds, that might prejudice the results of independent investigation. Rather, this science functioned under the control of the objective reality of the created universe, so that the nature of the universe was regarded as the ultimate judge of the truth or falsity of scientific concepts and explanations.

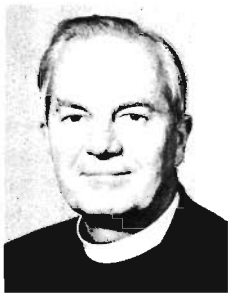
Turning-Points in the Advance of Science

It was inevitable that modern scientific inquiry, once it was launched into the stream of thought, should undergo modification and change, due not only to the immense successes of physics and mechanics, but to new ideas and ways of thought in philosophy which also had their measure of impact on the conception of science. As I understand it, there are four significant turning-points in the development of scientific inquiry.

1. Dualistic Science—A Closed Conception of the Universe and the Autonomous Reason

While scientific inquiry was held to start from experience and end with it, under the aegis of Newton it was believed that the basic concepts and theories of science could be logically derived from experience, without having recourse to invented "hypotheses." It was the business of scientific inquiry to gather experimental data and then to offer a theoretical construction for them. Since it was the assumption of the new science that only what is measurable, or can be made measurable, qualifies for scientific investigation and explanation, it was understandable that mathematics should become the rational instrument employed in the analysis of natural phenomena, in the deduction of concepts and in the organization of them into explanatory theories. The effect of this was in fact to give human reason a legislative role in reducing the understanding of the world of nature to a coherent mechanical system, as we see in Newton's *System of the World.* The rational explanation of natural phenomena was achieved by clamping down upon them a frame of "absolute mathematical time and space," that is, a set of rigid concepts that were in fact *not* derived from or even affected by experience! It is not surprising, then, that at the same time there should have developed the notion of the *autonomous reason* as a parallel to the notion of autonomous structures in nature. This was not just a notion of the reason as it correlated to the autonomous behaviour of nature, but a notion of the reason turned in on itself and regarded as constituting the stance from which rational judgments and scientific explanations are offered and appreciated. Thus a thoroughly empiricist conception of the natural science and scientific method was put forward during the so-called "Age of Reason" with the claim that rational man would now be able to shed light upon the real nature of things in the universe by subjecting them everywhere to reductive analysis and mechanistic explanation.

The effect of this marriage between modern science and rationalism in the eighteenth century, and of the strictly deterministic conception of the world which it promoted, was not only to import a grave split into human culture, but to build a deep tension into the development of science itself which has taken nearly two centuries to discern and overcome. Empirical science started with the dependence of the human reason on objective structures in nature as they became progressively revealed to scientific inquiry. Then the autonomous reason was given a unique active status within nature in virtue of which it imposed its own rational structures upon the world, thereby reducing all its multivariable phenomena to mathematico-mechanical order. In the combination of these two approaches the emphasis in scientific inquiry was shifted away



Thomas F. Torrance, the son of missionaries to China, received his M.A. (1934) in Classical Languages and Philosophy and B.D. in Divinity from the University of Edinburgh. He received his Doctorate in Theology from the University of Basel, and is the recipient of five other honorary doctorates. Dr. Torrance served as Professor and Head of the Department of Christian Dogmatics at the University of Edinburgh until his retirement in 1979. Winner of the 1978 Templeton Prize, he has authored a number of works on theology and edited the Scottish Journal of Theology. His most recent book, published in 1985, is entitled Reality and Scientific Theology.

from the objectivity of empirical reality to the autonomous self-legislative reason. Thus there arose the view that the laws of nature are not read out of nature but are in fact read into nature, along with the claim that we human beings understand and accept as real only what we have fashioned by our reason for ourselves. When we consider this "constructivist rationalism" together with the position adopted by natural science at its very outset with Galileo, that is, a dogmatic exclusion of all that transcends the limits of the mathematical reason, we are in a position to appreciate the serious damage which such a narrow view of scientific inquiry would do, not only to human culture, but eventually to the nature of science and scientific inquiry as such.

Sooner or later the demand had to be made that we transcend the self-set limits of modern classical science in its closed mechanistic conception of nature. This is what happened in the latter half of the nineteenth century when it was found that Newtonian mechanics could not offer any adequate scientific explanation of the behaviour of electromagnetism and light, and consequently the axiomatic structure and self-evident assumptions of scientific orthodoxy came under fire. A radical questioning of hitherto accepted ideas began and a change in the foundations of knowledge was initiated.

2. The Demise of Dualism—An Open Universe Characterised by Unity of the Empirical and the Theoretical

With the twentieth century, under the aegis of Einstein, a considerable shift in the foundations of science occurred along the line pioneered by James Clerk Maxwell in his conception of the dynamical field as an independent reality within which matter, force and field were indivisibly integrated. To understand this integration an "embodied mathematics" was needed. It was only with the general relativity theory, however, that the nature and extent of the change involved really became apparent, in the closing of the gap between experience and mathematics in the logical structure of classical physics. With the realisation that time and space are inherent features of the empirical universe, the old Newtonian idea of infinite time and space independent of the empirical universe, with all the rigid absolutes it had built into the foundation of science, fell away, and a more open and dynamic yet more objective understanding of the universe prevailed. The ontological and epistemological implications of this new relativistic physics were immense for the definition of the fundamental conception of the world and not least for the operation and limitation of scientific inquiry.

The universe was now held to be finite yet unbounded, limited and not completely self-explanatory, contrary to what had been claimed by Laplace. This had the effect of making room again for an understanding of the contingent nature of the universe and its rational order, which the regular method of formalizing natural laws through mathematical generalisation had inevitably driven underground. With the recognition of the finite range and the contingent nature of its order, science began to accept limits to its explanations, and to withdraw the claim of the eighteenth and nineteenth centuries that natural scientific explanations could be extended effectively to the whole range of human experience. We recall that Newton had already insisted that the kind of order discovered within the universe cannot be extrapolated to account for the origin of that order; even David Hume had pointed out that there can be no explanation of reason by reason; and Clerk Maxwell had warned of the serious errors that arise from partial explanation. Today the recognition that the inherence of theoretical and empirical factors in each other limits scientific explanation has been greatly reinforced by the stubborn problems of measurement encountered in quantum mechanics. It is thus to a humbler and more objective view of scientific method that science has been returning, not least as it becomes increasingly apparent that reductivist, analytical explanations do not succeed in making the world more meaningful for mankind.

The effect of this marriage between modern science and rationalism in the eighteenth century, . . . was not only to import a grave split into human culture, but to build a deep tension into the development of science itself which has taken nearly two centuries to discern and overcome.

The Sciences and the Humanities—Unified But Distinctive Fields of Inquiry

The fusion of physics and geometry that lies at the heart of general relativity theory has an importance far beyond physics itself. It has destroyed the radical dualism built into the Newtonian system of the world, which had affected the whole range of human culture—the humanities, the arts and theology, as well as the natural sciences; and has replaced it with a profound integration of ontology and epistemology in the

framework of time and space within which all human knowledge arises and takes shape. This constituted an event of the greatest significance for rational inquiry in every field, for it clarified the foundations of knowledge, and altered their rational structure. In physics itself the change had already been initiated by Clerk Maxwell in his criticism of the idealized connections beloved by professional mathematicians. However, his demand for an "embodied mathematics," which would be true to what he called "real connections in nature," an approach of *scientific realism*, had to wait for Einstein in order to be appreciated.[3] It is only now, that the far-reaching implications of the Clerk-Maxwellian revolution are becoming understood.

Here, then, we have a decided shift away from an abstractive conception of science to that in which science is regarded rather as an extension and refinement of our natural ways of knowing. Thus there developed a form of scientific inquiry which is more rigorous in that it is governed throughout by the demands of its object and yet for that reason more flexible in that it is equally applicable in every field of human experience. A scientistic imposition upon one field of experience of forms and connections of thought, which has been abstracted from another, is ruled out; for every field of experience is to be understood strictly out of its own natural organization, and explained only through empirico-theoretic structures developed in the course of scientific inquiry under the constraint of the particular reality under investigation and in accordance with its distinctive nature. Rigorous scientific inquiry of this kind applies to theological and biblical studies no less than it does to the operations of any natural science.

Intuitive Recognition of the Intelligibility of Objective Reality

Thus the conception of scientific inquiry prevailing throughout the Newtonian era, that experimental science first establishes the facts and then theoretical science explains them, was replaced by another governed by the realization that empirical and theoretical elements are fused together inseparably in nature itself, at all levels, and must be handled as such in all processes of discovery and verification. All so-called facts are aboriginally charged with intelligible components, which means that they can be seen properly only with the mind, and all true theories are rooted in and conditioned by the inherent structure of empirical facts, which means that they are derived through processes, not of logical deduction, but of intuitive recognition arising out of a sympathetic understanding of experience. Hence in scientific inquiry understanding and explanation proceed in such a way as to encourage or allow objective reality to reveal and interpret itself out of its own intrinsic intelligibility, and scientists operate, not by forcing nature to conform to independent, preconceived conceptual systems, such as Euclidean geometry, but by allowing their minds to tune into and yield to the compelling claims of reality independent of themselves, so that theories, coherent conceptual systems, and natural laws are formulated only according to the dictates of the rational order found immanent in the universe.

Now, in the scientific inquiry of this kind, the fact that empirical and theoretical elements interpenetrate one another means that "fundamental ideas," to use Clerk Maxwell's expression, actually play a considerable and indeed an essential part in scientific investigation and verification. Hence the more rigorous the scientific inquiry, the more care is required to examine and test these fundamental ideas, if only because they determine the kind of questions we ask and the kind of answers we receive. Many people, admittedly, find this very disturbing, for fundamental ideas when taken seriously, as Einstein was constantly aware, cannot but force us to bring into the open our deepest convictions concerning the nature of reality.

It is thus to a humbler and more objective view of scientific method that science has been returning, not least as it becomes increasingly apparent that reductivist, analytical explanations do not succeed in making the world more meaningful for mankind.

3. Science: "Faith in Search of Understanding"

Here we reach another decisive turning-point in the development of scientific inquiry, in the directing of attention specifically to our ultimate beliefs about the nature of things. This became forcefully evident in Einstein's many intriguing references to "God" at decisive points in his argumentation, when he made it clear that what was at stake was his intuitive grasp of the structure of reality from which he refused to be moved. It was Michael Polanyi, however, more than any other who showed that ultimate beliefs play an essential and major part in all explicit rational and scientific activity, whether we are aware of them or not. While these beliefs cannot be made fully explicit, they belong to the premises without which no scientific inquiry can take place. Proper beliefs of this kind are

rational and not irrational, although they are not subject to direct testing for their truth or falsity, since they have to be assumed in any attempt at rational proof or disproof. Nevertheless, they should not be held blindly, but require to be examined to see whether they really are *ultimate* beliefs generated in our minds by the unalterable nature of things, and for which, therefore, there can be no alternatives.[4] What is now demanded of us, however, is not just a critical but a positive reconsideration of the place and importance of ultimate beliefs and of the nature and function of explanation in relation to their normative role in scientific inquiry.

Two Kinds of Demonstration

Let me focus the issue by referring to an ancient Greek distinction between two kinds of demonstration reflected in St. Paul's First Epistle to the Corinthians, and taken up and developed by the Greek Fathers in the second, third and fourth centuries. They frequently adduced this distinction in the elucidation of Isaiah's words in Isaiah 7:9(LXX): "Unless you believe, you will not understand," a distinction which was later to influence St. Augustine so much. The distinction is that between the discursive mode of demonstration found in geometry and kindred sciences, when we argue necessarily from fixed premises or axioms to certain conclusions, and the ontological mode of demonstration that arises when something utterly new becomes disclosed and our minds cannot but yield conceptual assent to its self-evident reality. Such an act of assent was also spoken of as the response of *faith*, made in recognition and acknowledgement of a truth that seizes the mind and will not let it go. Genuine faith in God, for example, was held to involve a conceptual assent of this kind, as the human mind is allowed to respond in faith to God's self-evidencing revelation. Both forms of demonstration were considered in Greek theology to be necessary for genuine inquiry into the truth, for while access to reality independent of ourselves is given only to the latter (ontological), it is with the aid of the former (discursive) that conceptual assent may respond more accurately and consistently to the nature of the reality apprehended. In classical geometry, however, long considered the model for scientific demonstration, form and being were held apart, so that the force of the demonstration lay in its purely formal connections and logical compulsion. On the other hand, when form and being are found not to be separate but rather indivisibly united, the real force of the demonstration lies in its ontological compulsion. It is only through such an ontological grasp of things in their intrinsic intelligibility and truth that genuine advances in knowledge are made.

That was precisely the nub of the position adopted by Einstein when he accorded primacy in all scientific inquiry to his intuitive beliefs in the fundamental nature of things, although he recognised the necessity for logical or geometrical reasoning in reaching a consistent formalization of new knowledge. And that was the reason why Polanyi set out to reinstate the place and function of ultimate belief in the regulative framework of scientific knowledge, thereby restoring the balance of our cognitive powers disrupted through critical rationalism and scientism, and healing the breach between faith and reason brought about by the Enlightenment. Faith is thus recognized again as the very mode of rationality adopted by the reason in its fidelity to what it seeks to understand, and as such it constitutes the most basic form of knowledge from which all subsequent inquiry proceeds. Ultimate beliefs above all are to be appreciated as the indemonstrable but ontologically derived insights of the human mind in its commitment to the compelling claims of reality, which all rational knowledge presupposes, and on which scientific inquiry relies in every authentic drive toward the truth and without which it is finally blind and impotent.

4. Meaning at the Frontiers of Knowledge

It is not my purpose now to discuss further the rational status of these ultimate beliefs but to draw attention to the nature of their inherent *force* and the *mode* in which they are apprehended. It is in these respects, I believe, that theological inquiry has a significant contribution to make at a fourth turning-point, of particular significance for us today, in the function of scientific inquiry.

The inherent force of ultimate beliefs is due not simply to the fact that reality is what it is and not something else, but to the fact that it thrusts a compelling requirement or obligation upon us emanating from the ultimate ground of all order which we cannot rationally or in good conscience resist. Such a conviction seems to lie behind the dissatisfaction Einstein felt about the traditional view of physics when he insisted that it is no longer sufficient for physics to be concerned merely with determining the way things are and uncovering the laws of nature that govern that state of affairs. Rather it must go on to ask *why* things are what they are and why they cannot be anything else.[5] That is to say, we must open scientific inquiry to the deeper dimensions of the intelligibility of the universe that press for understanding in our minds, and probe into the ultimate reasons for the kind of order found in the universe, if we are actually to "grasp reality in its depth," as Einstein demanded. In this event, are we not feeling out after a transcendent system of order in the light of which we may not only offer a more unified view of the universe, but also come to understand something of how things in the universe *ought* to relate to that transcendent realm of order?

John A. Wheeler's Demand for "Meaning Physics"

A similar point seems to be that raised by John Wheeler in his search for "meaning" at the frontiers of knowledge where we have to reckon with the initial conditions of nature. Thus, when, in quantum theory, physics penetrates to the very boundary of being with non-being or with its creation-out-of-nothing, where physical laws become critical, it cannot cross that boundary through an extension of normal scientific conceptualization or analytical explanation, for there it meets with an elusive dynamic state of nature which appears quite disorderly or lawless. Nevertheless, in recognition of an unconditional indebtedness to the ultimate intelligibility of reality, scientific inquiry refuses to abdicate in face of the apparent arbitrariness of nature, but presses on in the conviction that there must be some "law apart from law," some "regulating principle," that gives order and law to what would otherwise be disorderly and lawless. In this event, does not physics require a comprehensive semantic framework within which its laws, while fully objective, are recognized to be finally incomplete, referring indefinitely beyond themselves to a self-sufficient transcendent ground of rationality which gives them their consistency and authority?

Why is it that although physical laws are formalized in terms of probability equations, nevertheless all major physical laws are found to be utterly improbable? *There must be a reason for this which cannot be excogitated through natural scientific operations!*

Again and again today, the scientist is baffled and tempted to speculate when the intelligible connections in the universe, which he seeks to grasp and describe, just break off owing to their contingent nature and point mutely beyond themselves. He raises fundamental questions which he knows he is not in a position to answer directly, or even properly to ask within the conceptual frame of his science, and yet upon which the meaningfulness and intelligibility of the whole scientific enterprise depend. As I understand it, this seems to be the issue behind Wheeler's demand for "meaning physics," and his interest in the so-called "anthropic principle" regarding the unique place of man on earth within the expanding universe. Why is it that although physical laws are formalized in terms of probability equations, nevertheless all major physical laws are found to be utterly *improbable*? There must be a reason for this which cannot be excogitated through natural scientific operations! At an impasse like this on the frontiers of knowledge the scientist can only suspend judgment and listen for a *word of meaning* from beyond, from a higher level. Thus it would seem admissable for him to consider another approach to the impasse by coming at it from another angle, that of the ultimate ground of order in which his controlling beliefs are anchored. Theologically speaking, this would be an approach from within the perspective of divine revelation, starting from the *Word of God* on which the whole universe is contingent for its existence and order. Thus the scientist may learn to believe with Henry Robinson Luce that "meaning was built into life, in the beginning, by the Creator."

Physicists like W. Heitler and W. G. Pollard have argued convincingly that there are significant points in our scientific comprehension of the universe where the transcendent "shines through," or where there are "rumors of transcendence," without the mediation of any positive truth. They agree, however, that it is the human mind or spirit which constitutes the significant "boundary condition" within the natural order of things where that order becomes intelligibly open to the Creator, and where intra-mundane experience and understanding may be coordinated with a higher level of experience and understanding, giving them meaning which they could not have otherwise. It is surely at such a point where the rationality of man and the rationality of the world together come under the impact of the Word of God, making them articulate beyond what they are capable of in themselves, that we may be given some insight into the inner justification of nature's laws, and into the regulating principle required at the boundaries of contingent being and the frontiers of scientific knowledge. In this event the *mode* in which knowledge of the universe is gained in scientific inquiry, not least the mode in which its controlling beliefs arise, would need to be coordinated with the mode in which knowledge of God arises in theological inquiry, through listening to his Word. A fruitful correlation between scientific and theological inquiries could then take place, in which relevant material from one, considered from the perspective of the other, might well throw light upon problems inherent in the latter, in addition to raising some quite new questions, and even pointing toward quite unexpected answers or solutions.

Open Contingent Order and the Word of God

Now from the theological perspective the laws of nature are held to be permanent features of the world stamped upon it by the Creator through his Word. As

such they are open contingent forms of order which derive their constancy from the Word of God and may ultimately be understood only through coordination with their source and ground in that Word. The ordered universe is to be regarded, then, as unceasingly contingent on God in such a way that he not only upholds and sustains it in its created reality but makes its coherent arrangement serve his supreme purpose of love in the communion of the creation with the Creator. Hence the natural order is to be recognized not simply as the actual order in which things happen to be arranged, but rather as the kind of order in which things *ought* to be arranged under the Wisdom and Righteousness of God. From the theological perspective this means that the idea of chance or accident yields to the Christian concept of contingent providential event, and that the natural order and the moral order are ontologically linked together as different forms of the one rational order impressed upon the created universe by the commanding Voice of God.[6]

The Primacy of Auditive Apprehension in All Knowing

This brings us back to the consideration of the distinctive *mode* in which our convictions about the essential nature of the universe are acquired. They are certainly imprinted in our minds by the pressure of objective reality, but they are yet predicated upon something more than that. Like the fundamental religious beliefs to which they are akin, ultimate scientific beliefs arise in us as we *listen* to what is said from a source beyond ourselves. In the process of the emergence of these ultimate beliefs there is a subliminal "hearing" of a form of "speech" embedded in reality, which precedes, accompanies and shapes specific acts of scientific understanding. Clerk Maxwell, Einstein and Polanyi often referred to their *intuitive* contact with objective reality or their *scientific intuition* of the hidden intelligibility of the universe. I would want to add that intuitive apprehension of this kind is *auditive* rather than perceptive in nature, akin to the mode of hearing rather than to that of seeing or observing; and that the result of such apprehension is an intuitive correlate of the creative address of God.

This auditive mode of knowing is important for at least two reasons. In the first place, in the act of seeing or observing the natural emphasis is on the observer himself, or the subjective pole of the knowing relation; but in the act of hearing or listening, conversely, the emphasis is on what is heard, or the objective pole of the knowing relation. In the second place, in the act of seeing the observer is thrown back upon himself in order to authenticate and give meaning to what he sees, especially if the object of his observation is a thing or an inanimate body. This gives rise to the problem that observer-conditioned knowing provokes in quantum theory, when an objective description of nature tends to be impaired or even to be replaced by an account of the experimental interaction between the observer and nature. On the other hand, in the act of listening to nature or giving ear to what it has to say, the hearer is summoned to respond to a word or communication from what Walter Thorson has called "the objective other."[7] The distinctive feature of this auditive mode of knowing is more marked in the communication between persons when the objective other is not just an object but a subject. In these speaking/hearing relations, the speaker and the hearer are on the same ontological and rational level, although one may be a person to whom the other looks up in respect.

Auditive Intuition and Belief

However, in the kind of speaking/hearing relation that obtains between human beings and God, the unqualified weight of the emphasis is upon God. When he addresses us we are not left at the mercy of our own questions and answers, but find ourselves questioned by an authoritative Word which penetrates into our self-centeredness and tells us what we are utterly incapable of learning by ourselves or telling ourselves. When our ultimate beliefs are considered in this way, we find that their *epistemological modality* and their *inherent force* are due to the commanding Voice or Word of God.

It is in such a way that the ultimate beliefs generated in us are informed with an implicit conceptual content imparted to them by the Word of God. This is not information that we can derive for ourselves by tracing back rational connections in the universe to their end in the created order, for in themselves they are empty and inarticulate. They may be filled and become articulate only through correlation with the commanding Word of God, when they are made to echo with meaning and are characterized by an authority beyond that which they would be capable of in themselves. If this is the case then we must be ready on all the frontiers of knowledge, where our inquiries have now brought us, to listen again to the Word of God—in the hope of learning why nature is ordered in the way it is, and of penetrating into the inner justification of nature's laws.

The Goodness of the Created Order: Integration of Moral and Scientific Understanding

If theological inquiry and scientific inquiry are allowed to overlap and interrelate at this deep level, the scientist will be encouraged to give more attention to the obligatory force of his ultimate convictions in his search for a more satisfying and meaningful order. The mysterious imperative which is brought to bear upon

him from the necessarily fundamental nature of things in the universe, of which he is implicitly aware in his desire to understand *why* things are what they actually are and in what way they *ought* to be what they are or will become, will resonate with the creative *purpose* of God disclosed through His Word. This will occur in such a way that an ultimate belief in the *goodness of the created order* will take its place in the controlling framework of his inquiries beside other ultimate beliefs in the reality, contingency, rationality, stability, constancy and simplicity of the universe.

This would mean that the moral imperative, the "ought" that was banished from the realm of science during the Age of Reason, would have to be restored to the conceptual structure of science, not as some external parameter, like Newtonian geometrical time, but as an *internal* parameter in the framework of scientific inquiry and formalization. Just as it is now necessary for the ingredient *time* to be built into the fundamental structure of physical law as an essential ingredient—which also raises the question "why"—so it becomes necessary to include the moral "ought" within the structure of physical law as an essential ingredient. This recovery of the ethical imperative as an *internal factor of control* imports a further significant step in the advance of scientific inquiry, for such inquiry is then understood to function in an obligatory relation to the *good* as well as the orderly, thus making for a more profound, more meaningful science within a reunified human culture.

The Love and Word of God as the Ground of Order

Insofar as the contribution of theological inquiry is concerned, such a change calls for a far-reaching *theology of nature* which would transform the concept of nature by reintegrating it with the basic Christian ideas which gave rise to empirical science in the first place. This is best done today through conjoint inquiry between theological science and natural science, as the astonishing patterns of order with which God has endowed the world are steadily brought to light. However, I believe that such a theology of nature may be sustained only with a recovery of the full Christian framework of knowledge, for it is through the incarnation of the Word of God among us in Jesus Christ that the ultimate secret of the whole created order is disclosed in *the comprehensive purpose of God's love for the universe*. This implies that all the laws of nature, and all patterns of order in the universe, are finally and satisfyingly intelligible only insofar as they are ontologically linked to the Love of God, the supreme power of order. Is that not what ultimately lies behind the fact that the order immanent in the universe, which presses through all our inquiries for understanding, lays upon us an inescapable obligation to think rightly and behave rightly? This is not to argue that explicit theological concepts should be introduced into the rational structure of scientific knowledge, but rather that through an intersection of the symmetries of theological and scientific understanding of the universe the inherent moral force of the ultimate beliefs regulating scientific inquiry may be openly acknowledged. An articulate belief in the goodness and purpose of the created order, as it assumes its place among the ultimate convictions which implicitly control all our human inquiry, will go far toward bringing about the healing and integration of human culture.

Bridging the Gap between Natural and Moral Science

We cannot forget that scientific and theological inquiries are pursued only within the medium of society, and only with the continuous support of society's community structures and institutions. On the other hand, we have to reckon with the fact that all our human structures and institutions are now in a critical state, having serious problems that may be traced back to the application to society of mechanistic analyses and explanations deriving from the eighteenth and nineteenth centuries, and to the damaging splits in human life and culture resulting from the imposition upon them of alien and inappropriate patterns of behavior. That is to say, scientific inquiry today, whether in natural or theological science, must struggle with a strange anachronistic perpetuation in contemporary society and its general framework of knowledge derived from the very mistakes which it had to leave behind in the course of its development. But if scientific and theological inquiries are to consolidate the kind of advance we have been discussing, they must be ready to help other sciences overcome the radical dualisms built into their structure, and recover regulative convictions ontologically anchored in objective reality. I think here particularly of the backward state of the moral, legal and social sciences today owing to their lack of proper ontological foundations. What they require is a fundamental reconstruction of their scientific base, through a fusion of ontology and epistemology within the space-time field in which we live, similar to that which obtains in general relativity. It is just here that the advance in scientific inquiry which we have been discussing has a great deal to contribute to them, and not least through the restoration of an ontologically grounded moral imperative as an internal factor of control in the process of rigorous inquiry and formulation. That is surely an issue of supreme importance in which all sciences—natural, theological, or social—must cooperate, and thereby contribute together to the development of a deeper, more coherent, and meaningful order of human faith, life and thought.

NOTES

1. This dedication address and that of Henry Luce III, "The Faith of Henry R. Luce," are available in *Reports from the Center*, Number 2. A copy of this report, which also describes the Center's purpose and mission, may be obtained by writing The Center of Theological Inquiry, 50 Stockton Street, Princeton, New Jersey 08540.

2. For the elusive concept of *contingence* and its implications for empirical science see *Divine and Contingent Order*, Oxford University Press, 1981.

3. See especially Einstein's Lecture before the Prussian Academy of Sciences in 1921, on "Geometry and Experience," in which he echoed Clerk Maxwell's contrast between "true" and "certain" mathematical propositions.

4. See my Maxwell Cummings Lecture of 1978, "Ultimate Beliefs and the Scientific Revolution," reprinted in *Transformation and Convergence in the Frame of Knowledge*, Grand Rapids, 1984, pp. 191–214.

5. See Einstein's contribution to the Stodola Festschrift, Zürich, 1929: "Ueber den gegenwaertigen Stand der Feld-Theorie," p. 126f.

6. See *The Christian Frame of Mind*, Edinburgh, 1985, Ch. 1: "The Greek Christian Mind;" Ch. 2, "The Concept of Order;" and *Divine and Contingent Order*, Oxford, 1981, Ch. 4: "Contingence and Disorder."

7. Walter R. Thorson, "Scientific Objectivity and the Word of God," *Journal of the American Scientific Affiliation*, Vol. 36, No. 2, June 1984, p. 95.

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The Center of Theological Inquiry is dedicated to advanced theological and scientific research into the foundations of theology and science. It has been conceived as a center where fundamental thinking of the most advanced kind can take place, and human understanding of God in response to His Truth may be renewed and reexpressed in the context of advances in knowledge of the created universe and of the knowledge of knowledge itself. The founders are intent upon closing the gap created in the age of Enlightenment between faith and reason, the humanities and the sciences, and upon healing the rift between knowledge of God and knowledge of the created universe itself. More particularly, the special objective of the Center is to promote the basic research needed to transform the foundations of all human thought and science, thus continuing in our modern world the reconstruction brought about by early Christian theology within the classical tradition of philosophy, science, and culture. Although such research has strayed constantly from that initial Christian reorientation, the development of human civilization remains deeply indebted to it. Our specific task here is to renew the foundations of our human understanding of the living God, within the objective space-time structures of the created universe where He makes Himself known to us through His Word. This would be accomplished through "theological inquiry" working in as rigorous a fashion as possible together with natural scientific inquiry, not least at the points of their deepest convergence. Since theological inquiry has to do with the ontological and intelligible relationship between the created universe and God, in which all human sciences are ultimately rooted, it is our hope that through this institution steady engagement in fundamental inquiry will promote the unification of human knowledge and serve the comprehensive purpose of God's love for His creation.

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Theological Problems of Theistic Evolution

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A critical examination of the scientific nature of evolutionary mechanisms, specifically differential mortality and resource scarcity, lead to significant anomalies in current interpretations of theistic evolution. Theistic evolution necessitates that mortality and resource scarcity are the creative agents of God. The Bible consistently identifies them as being 1) a consequence of human sin, 2) a curse on the human species, 3) a tangible manifestation of sin's operation, 4) opposed and abhorred by Jesus Christ in His earthly ministry, and 5) destined to be abolished in the kingdom of God. Theological, philosophical, and scientific research on evolutionary mechanisms aggravates rather than ameliorates these anomalies, and generates others. Theistic evolution fails on a broad spectrum of issues to offer an integrative paradigm of evolution and biblical revelation. Until such anomalies are resolved, theistic evolution cannot be viewed as an adequate response to the question of origins.

The controversies generated by the relationship of evolutionary theory to biblical revelation regarding origins have been with us for some time (Moore 1979) and are likely to continue (Aulie 1975). The debate is many centuries old, but has intensified particularly since 1859 with Darwin's publication of *Origin of Species*.

Evolution, in its most restrictive and technical sense, may be defined as change in average population gene frequencies over time. This has been referred to as the "special" theory of evolution (Kerkut 1960, Jones 1978). In this precise sense, evolution is not a theory, but an empirically demonstrable process. This may be contrasted with a broader definition of evolution, sometimes referred to as the "general" theory of evolution (Kerkut 1960, Jones 1978). In this sense, evolution refers to the process by which living organisms have descended from ancestors unlike themselves through the gradual acquisition of heritable traits, and that all organisms can be traced to a common ancestry which was itself derived from nonliving material.

Theistic evolution may be broadly defined as the belief that God brought about the present diversity of life through the process of (general) evolution. Many see this as an intelligent manner of reconciling science and Christian faith on the question of origins. For example, Aulie (1975) sees evolutionary theory as being derived from a Judeo-Christian world view. "The idea of progress—necessary for the theory of evolution—was strengthened by the secularization of an attitude toward nature that was drawn initially from the Judeo-Christian tradition" (Wagar 1967, cited in Aulie 1975). Aulie sees the reconciliation as essentially complete. "Contemporary Protestantism has long since made its peace with Darwin" (Aulie 1975).

Evolution has a long lineage as both theory and philosophy. Its roots can be traced to Thales and Democritus several centuries before Christ. Evolution began to take on a more scientific nature, especially in biology, in the seventeenth century. It gained supremacy in that field through Darwin's theory of natural selection (Moore 1979). Though changes in evolutionary theory since Darwin have been significant enough to warrant the label "Neo-Darwinism" (e.g., Moorhead and Kaplan 1967), the fundamental theorem of evolution, natural selection, has survived essentially intact.

The theory of natural selection states that the traits of organisms which reproduce more offspring increase in frequency over those which produce less offspring in any given population. Despite recent criticisms (e.g., Thompson 1981) of the tautology inherent in this logic, natural selection's influence on scientific thinking in biology has not noticeably lessened. Conditions necessary for natural selection to occur within a population include competition, differential survivorship, and differential reproduction. Competition may be said to occur when two or more individuals attempt to appropriate a necessary, but limited, resource, with the result that 1) at least one individual is excluded from the use of the resource and 2) such exclusion has a measurable effect on the individual's survivorship and reproduction. Simple mathematical effects of competition's effects on organisms are familiar to biologists as the Lotka-Voltera equations (Colinvaux 1973:330ff.) and, conceptually, as the Competitive Exclusion Principle (Krebs 1972:231). Competition demands resource scarcity.

Problems with integrating natural selection through resource competition with a biblical world view begin at this point. The biblical account of creation provides no principle that scarcity should be a necessary condition of life. Instead, the antithesis of scarcity is described. The newly created world is portrayed as one of abundance.

> Behold, I have given you every plant yielding seed which is on the surface of the earth, and every tree which has fruit yielding seed; it shall be food for you, and to every beast of the earth and to every bird of the sky and to everything that moves on the earth which has life, I have given every green plant for food. (Gen. 1:29,30; NASB)

God's command to all creatures to "be fruitful and multiply" assumes a condition of abundance, not scarcity, on the earth. The theme of material abundance as the normal and desired condition for creatures and creation does not disappear in the books following Genesis. After the fall, the theme is persistent in Old and New Testament writings as a condition to which God intends to restore the creation. The concept is physically presented to Israel as the land of Canaan, "a land flowing with milk and honey" (Ex. 3:17). Abundance is repeatedly represented to Israel in prophecies of the ideal kingdom as "every man under his vine and fig tree" (Zech. 3:10; NASB). "They will not hunger or thirst" (Is. 49:10; NASB). The biblical view of "abundance," God's unrestrained meeting of every form of need, recurs consistently in all descriptions of the kingdom of God.

> Ho! Everyone who thirsts, come to the waters; and you who have no money, come, buy and eat. Come, buy wine and milk without money and without cost. . . . Listen carefully to me and eat what is good, and delight yourself in abundance. (Is. 55:1,2; NASB)

Biblical writers do not skirt the realities of scarce resources in the real world. But they consistently attribute conditions of scarcity, competition, and want, which limited resources create, to the consequences of human sin, not to the creative activity of God.

"Cursed be the ground because of you," God says to Adam. "In toil you shall eat of it all the days of your life. Both thorns and thistles it shall grow for you, and you shall eat the plants of the field. By the sweat of your face you shall eat bread" (Gen. 3:17–19; NASB). Rebuking the returning exiles of Israel for their neglect of God's temple, and, with it, their neglect of worship and godly living, God says through Haggai:

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> You look for much, but behold, it comes to little; when you bring it home, I blow it away. Why? declares the Lord of hosts. Because of my house which lies desolate, while each of you runs to his own house. Therefore, because of you the sky has withheld its dew, and the earth has withheld its produce. And I called for a drought on the land, on the new wine, on the oil, on what the ground produces, on man, on cattle, and on all the labor of your hands. (Haggai 1:9–11; NASB)

More important to the success of the evolutionary mechanisms than even the competition for limited resources is the certainty that, in such struggle, some individuals *must* perish. This "perishing" can occur either directly as the organism succumbs from insufficient resources (i.e., lack of food or exposure due to lack of shelter) or indirectly through predation, to which a weakened or transient animal is more susceptible (cf. Errington 1946, Curio 1976). Indeed, the biological concept of density dependence assumes that, through one means or another, some animals perish as a result of resource scarcity (Lack 1954). The same is true of the "threshold of security" concept (Errington 1945). According to this model, predation losses are minimal for an animal population up to a certain density ("threshold"). Above this threshold density predation becomes a major mortality factor.

The biblical account of creation provides no principle that scarcity should be a necessary condition of life. Instead, the antithesis of scarcity is described.

Putting it bluntly and briefly, then, we are fully justified in stating that natural selection, and, therefore, evolution, cannot operate without death. Such death must be differential and selective, removing less fit organisms before they have the opportunity to reproduce. The identification of evolution as the activity of God (theistic evolution) necessitates that such death is an act of God and an agent of His creative activity. Supposedly, man himself, destined to carry the image of God, was created by this process.

Biblical Views of Death

Internal biblical evidence offers little support for this position. Paul, almost as though he were addressing this idea directly, states to the Roman Christians, "Death entered into the world through sin" (Rom. 5:12; NASB). Using only this passage, it could be argued that Paul is here referring only to "spiritual death," to the eternal separation of man from God that constitutes hell. However, other passages would not seem to support this interpretation. At the death of Lazarus, Jesus tells Lazarus' sister, Martha, "I know that he will rise again in the resurrection on the last day." Far from approving this response, Jesus confronts it with a direct challenge: "I am the resurrection and the life. He who believes in me shall have life even if he dies." He then proceeds to go and physically raise Lazarus from the tomb (John 11:20–44; NASB). The verbs employed in the passage describing the Lord's emotional reaction to the situation ("deeply moved within" "troubled") suggest, in the Greek, not only sorrow but anger. Apparently there was something in death which God found unnatural and repulsive. Christ's other confrontations with death such as that of Jairus' daughter (Mark 5:22ff), and the widow's son (Luke 7:12ff), and His reaction to the prospect of His own death (e.g. Luke 22:41ff), all indicate that He viewed death as unnatural and abhorrent. With regard to His own death, Hendricksen (1978:982) is certainly correct in noting that His horror arose not merely from abhorrence of death itself, but that in His death He would experience separation from God, His Father.

The New Testament writers, especially Paul, also consistently stress that Christ, in allowing Himself to enter into death, also allowed sin to be imputed to Him. To use the Pauline phrase, He "became sin" for us (II Cor. 5:21), those whom He came to save. In the biblical view, "death" (both physical and spiritual) and sin are inseparably linked, with the former being the explicit, ultimate manifestation of the latter (cf. Rom. 6:23). Prophetic writers in both the Old and New Testaments emphatically rule out death in the future kingdom of God. John, in Revelation, refers only to humans (Rev. 21:4), but Isaiah is more comprehensive, including not only people, but all created things.

> And the wolf will dwell with the lamb, and the leopard will lie down with the kid, and the calf and the young lion and the fatling together. And a little boy will lead them. Also the cow and the bear will graze; their young will lie down together. And the lion will eat straw like the ox. And the nursing child will lay by the hole of the cobra, and the weaned child will put his head in the viper's den. ***They will not hurt or destroy in all my holy mountain.*** (Is. 11:6–9; NASB; emphasis mine)

Such passages have been the subject of intense theological scholarship, but the fruits of that labor do not bring us closer to reconciliation with evolution, but further from it. J. G. Simpson writes:

> Death, as we know it, is spoken of in scripture as the kingdom of the devil. It is a result of sin and has no part of the divine order. (Morris 1955:7)

Wolff (1974:8) states the specific implications of this conclusion:

> Prior to the Fall Adam's body was not subject to death, but this condition was subject to change. His condition was mutable and relative; the potential immortality of his body might be lost. The possibility became an actuality through disobedience.

C. S. Lewis restates this thought in *Miracles*:

> Where the spirit's power over the organism was complete and unresisting, death would never occur. . . . But, when God created man He gave him such a constitution that, if the highest part of it rebelled against Himself, it would be bound to lose control over its lower parts; i.e., in the long run to suffer death. (Lewis 1948:152,156)

Other scholars could be cited. Suffice it to say that such divergent individuals as James Denny (1909), Charles Hodge (1906), Irenaeus (Niebuhr 1964:176), Thomas Aquinas (*ibid*), Martin Luther (*ibid*), and Francis Schaeffer (1972), to name a few, have all come to essentially the same conclusion about death: that it is a satanic intrusion into God's created order, not an active, creative agent of God.

> . . . we are reminded over and over again that we live in an abnormal world; since man has revolted things are not the way God made them originally. (Schaeffer 1972:121)

Ethics and Evolution

If this were the extent of all problems with theistic evolution, perhaps the whole issue could be set aside and the paradigm saved. Unfortunately, this brief discussion reveals only the tip of the iceberg. Not merely death itself, but death imposed selectively in the competition for limited resources, is the creative hand of evolution (i.e., natural selection). This has led to the continual, but still unsuccessful, attempt to build ethical principles from biological events, the most recent and comprehensive being E. O. Wilson's *Sociobiology* (1975). These and similar efforts have been labeled as failures by the philosophical community, for the ethics derived are certainly not biblical. Upon close inspection they prove to be not even very ethical.

> . . . . the term "natural selection" is misleading, for selection implies choice or purpose. Such a phrase contributed to the ready acceptance of "natural selection" as a surrogate for divine providence. . . . The danger here is of misleading people to overlook the fact that natural selection is blind and irrational. The dominant view . . . of current philosophy is that evolution offers no assurance either of continued ethical progress or of any certain ethical guidance. (McCampbell 1983:171)

Evolutionary ethics also lead to logical incoherency.

> The naturalistic fallacy is involved when anyone says that the total meaning of "good" can be replaced by a natural term such as pleasure, happiness, or even love . . . if we say "good means pleasure," what do we mean when we say "pleasure is good?" Surely we do not mean "pleasure is pleasure." (McCampbell 1983:170)

T. H. Huxley was prophetic in his own conclusions about evolutionary ethics. He realized that natural selection is the very antithesis of ethics. In 1889, near the end of his life, Huxley wrote,

> I know of no study which is so utterly saddening as that of the evolution of humanity. Man emerges with the marks of his lowly origin strong upon him. He is a brute, only more intelligent than other brutes, a blind prey to impulses which as often as not lead him to destruction, a victim to endless illusions which make his mental existence a terror and a burden, and fill his physical life with barren toil and battle. (cited in Landau 1984:265)

The Bible portrays a God whose ethics embrace the fall of a sparrow (Matt. 10:29) and the needs of the grass (Matt. 6:30). Natural selection leads us to ethics that are at best nonsensical and at worst bestial. C. S. Lewis captured the pathos of theistic evolution in his *Evolutionary Hymn*:

> Ask not if it's god or devil,
> Brethren, lest your words imply
> Static norms of good and evil
> (As in Plato) throned on high;
> Such scholastic, inelastic,
> Abstract yardsticks we deny.
>
> Far too long have sages vainly
> Glossed great Nature's simple text;
> He who runs can read it plainly,
> 'Goodness = what comes next.'
> By evolving, Life is solving
> All the questions we perplexed.
>
> Oh then! Value means survival-
> Value. If our progeny
> Spreads and spawns and licks each rival,
> That will prove its deity
> (Far from pleasant, by our present
> Standards, though it may well be.)
>
> (cited in Livingstone 1983:120)

Creativity and Evolution

Theistic evolution requires that creativity be demonstrated in the process of natural selection itself. Some perceive this, and offer it as evidence of a Creator and of biblical support for selection as the creative mechanism. Secular scientists, too, see natural selection as creative. Dobzhansky claimed that "selection is a fully creative agency, just like the composition of a poem or symphony." But this, too, is logically invalid. Selection is merely opportunistic, and explains only the survival of what survives. It cannot simultaneously be creative in the sense that humans use the word, of moving towards a goal in any sense of the way an artist's creativity lies behind a great work of art. In developing this argument, Livingstone (1983) concluded

> Now, if you see evidences of purpose, creativity, or indeed progress in nature, I have no objection to your identifying them there. . . . It would be very odd if traces of a Creator's handiwork were totally absent from His creation. But in this instance, purpose is predicated on a specific cosmological religious belief, and is not dependent upon mystifying, even deifying, a natural mechanism by imbuing it with creative capacity.

The conditions necessary for evolution to occur, competition and death, exist in the present. They also apparently existed in the times of biblical writers, for they are frankly acknowledged. However, whereas theistic evolution necessitates that such conditions represent the activity of God, biblical perspectives identify them as the consequences of human sin. Their absence before the Fall and their removal in the kingdom of God is consistently and repeatedly assumed. Death, shortage, and competition cannot represent, at one and the same time, both the activity of God and the consequences of human sin. Our problem is not now one of simply rejecting six 24-hour day "creation weeks" and immutable "kinds" of organisms. It is the problem of trying to identify death and scarcity as creative agents of a God who steadfastly expresses that such conditions are 1) a consequence of human sin, 2) a curse on the human species, 3) a tangible manifestation of sin's operation, 4) opposed and abhorred by Jesus Christ in His earthly ministry, and 5) destined to be abolished in the kingdom of God. Biblical scholarship and exegesis of these passages confirms the depth of our problem. Logic alone reveals others. The process of natural selection is in itself neither inherently ethical, progressive, nor creative, yet the Bible identifies God the Creator as being all of these things to a superlative degree, and much more.

In light of these anomalies, the "reconciliation" of science and faith which theistic evolution purports to achieve becomes suspect. Basic and distinctive Christian views of sin and death, and of the scripture's ability to communicate the attitudes and attributes of God, are so compromised that the resulting synthesis is, at best, questionably Christian. Theistic evolution fails us as a satisfactory integration of science and faith when evolutionary mechanisms are considered in detail. At this point we find ourselves in remarkable agreement with Darwin; as D. Gareth Jones put it, "Darwin . . . sought and found solace in secondary forces as the direct cause of evil seen in the world" (Jones 1983:75).

Competition and Evolution

In light of these theological and philosophical anomalies, the recent debate on the ecological role of competition (Strong et al. 1984) is significant. Recent experimental tests of competition, in addition to rigorous reanalysis of classical studies of competition as a selective force, have led some investigators to conclude that competition is not a major organizing force in natural communities and that past investigations of competition have led ecologists "to waste a monumental amount of time" (Lewin 1983:636). For example, in a study of the effect of interspecific competition on red-tailed hawk (*Buteo jamaicensis*) nesting success, Janes (1984:866) noted "Despite the loss of territory to Swainson's hawks (*Buteo swainsoni*)—which often possessed high prey densities, no significant differences in reproductive success was found between red-tailed hawk pairs contending with Swainson's hawks and those that did not." In a study of competitive interactions in an Arizona lizard community, Tinkle (1982:62) could document no significant change in perch height,

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body size, physical condition, population density, or survivorship of the eastern fence lizard (*Sceloporous undulatus*) after complete removal of its two primary lizard "competitors" from the study plots. Tinkle concluded, "The results of this study suggest that habitat occupied by *S. undulatus* on my study area is not a result of current competitive interactions with the two species removed from the experimental area." In a summary of long-term studies of bird communities, Wiens (1983a:34) concluded, " . . . birds that breed in America's shrub steppe and grasslands exhibit little regard for the predictions of ecological theory. Variations in the population size of one species in an area are largely independent both of the presence or absence of other species and of variations in habitat features. . . . We find little evidence that they are currently much concerned about competition with one another or that competition in the past has led to an orderly community structure," and "We now think that direct, on-going competition is infrequent in these systems and that it may have relatively little to do with the organization of bird communities . . . " (Wiens 1983a:30). In a dialogue between Wiens and Schoener featured in *American Scientist*, Wiens (1983b) stated that competition is a failed Kuhnian paradigm. "It can no longer be regarded as the single dominating conceptual framework for ecological research" (Wiens 1983b:234). Schoener, who had argued earlier in the same journal (Schoener 1982) that competition was not

a failed paradigm, made a defensible (albeit embarassing) retreat in the face of Wiens' arguments by replying that "Competition is not now a failed Kuhnian paradigm, I would argue, because it was never a paradigm in the first place" (reply to Wiens 1983, *Amer. Scientist* 71:235).

Death, shortage, and competition cannot represent, at one and the same time, both the activity of God and the consequences of human sin.

Schoener's sophistries aside, current research and debate on the role of competition cannot be viewed as helpful to the position of theistic evolution. This paper is not primarily concerned with scientific evidence against that theory, but the significance of current conclusions in mainstream scientific literature should not be missed. It is the glory of science to progress, and new studies may change our thinking radically again. For the moment, however, natural selection through resource scarcity (competition) seems to leave the Creator with an impossibly weak mechanism for achieving biological world order.

Rethinking Traditional Categories

Objections raised so far apply not only to theistic evolution, but to the gap theory and progressive creationism as well. This does not undermine the argument, but rather demonstrates how robust such objections are, and how desperate the need to rethink traditional and cherished categories of thinking about origins. A genuine determination to express a biblical view of the creation challenges the most deeply held beliefs of most biologists, Christian and non-Christian alike. It is the personal observation of this biologist that most biologists deeply want to believe, in their heart of hearts, that creation is not *really* flawed. We still long for visions of perfection in our studies of nature. We want to believe that sin is manifested in creation only in humanity's misuse, exploitation, and pollution of it. We are reluctant to consider the possibility that the fundamental cycles of birth and death in nature may carry the scars of sin. Some have argued that God could not have created a world without death and scarcity, that the r-strategists like flies, locusts, and bacteria would have filled the earth, consumed all resources, and destroyed all life. This line of thinking makes that which is the measure of that which was, and the imperfect the measure of the perfect. Just as man is not the measure of his Maker, so a fallen world is not the measure of an unfallen creation. Even under current conditions, predation, consumption, and limitation are not nearly so "necessary," even in an ecological sense, as some would naively insist. In actual studies, predators typically occupy less than one percent of the total numbers, energy, and biomass of any system (e.g., Odum 1971:80). Their activities are significant, but the overwhelming majority of creation's individuals, energy, and biomass is, at any one time, fixed in non-predatory components. Is it, then, really so incredible to suggest that predation may be a post-fall evolutionary product? God does not condemn predators for being what they are (Ps. 104:21). Neither does He appear content to leave them be (Is. 11:7). God can give death as well as life (Ps. 104:29), but the clear message of scripture is that God's creative, caring activity toward His creation is found in the giving of life (Ps. 104:30). Likewise, the "futility" to which creation is subjected (Rom. 8:19ff) cannot be referring only to human exploitation and pollution of creation. The society of that writer's day was no match for its modern counterpart in these activities. At that time major portions of the planet were still largely unaffected by *any* significant human exploitation. Yet the "whole creation" groans in its longing for redemption. The futility and corruption to which creation is now enslaved is something which, though originating in man, now exists independent of human activities. One scriptural passage does mention death in the kingdom of God, Isaiah 65:20. In this verse, however, death has no creative function. It is spoken of as an event forestalled, neither creative nor selective. Ironically, this passage also ends by promising that predation will be abolished in the kingdom (Is. 65:25).

Such concepts are pervasive in both the Old and New Testaments, the law and the prophets, gospel and epistle. The problem is not literalistic in nature, for it is concerned with world view (i.e., what is the role of death), rather than fixed detail. Neither is it simplistic. I am not arguing here, like the Church against Galileo, that the earth cannot orbit the sun because "the earth cannot be moved." There, a clear alternative interpretation was possible, and provided a sound solution. Here it is the alternative itself which creates the problem, and which would necessitate changes in basic concepts of the nature and character of God.

A Viable Creationist Paradigm

Some claim that belief in an *ex nihilo* creation of fully formed organisms is unsatisfactory for science and places the scientist in a position of ignorance. But all people, and scientists in particular, need to be reminded that the ultimate goal of science is not "satisfaction," in the Kuhnian "puzzle-solving" sense, but rather the understanding and elucidation of events which actually occurred. The effects of a supernova can be scientifically studied, though the event itself, the

supernova, may occur suddenly and be but poorly understood. We do not call astronomers who study supernovas unscientific. Neither do we label such individuals as non-scientists. The mechanism of the creation event may have occurred suddenly and be but poorly understood, but its effects can be scientifically studied. A belief in the creation event does not necessitate ignorance, but does redefine the focus of investigation. Biblical revelation implies that conditions necessary for evolution to occur, namely resource scarcity, competition, differential survival, and differential reproduction, did not exist prior to the Fall, nor will they exist in the kingdom of God. However, biblical testimony and empirical evidence confirm that such conditions do exist in the present, and the former suggests that they have existed since the Fall as a consequence of human sin. Therefore, the sum of biological processes of adaptation that we refer to as evolution could have been at least potentially operative since the Fall. Originally created forms could have evolved into other, different forms. Indeed, parasitism and predation, as well as adaptation to avoid predation like mimicry and cryptic coloration, would have no apparent reason to exist in the pre-Fall world.

It is the personal observation of this biologist that most biologists deeply want to believe, in their heart of hearts, that creation is not really *flawed. We still long for visions of perfection in our studies of nature.*

This view is not original. David Willis, for example, has stated that

> Major forms of life were indeed brought into existence by some unique and non-repeatable mechanism (creation?). Thereafter, natural selection or other natural factors led to diversification within broad limits. *Determination of the range of these limits is a subject for scientific investigation and . . . must remain an open question for the present.* This approach actually fits the general data of paleontology as well as the general theory of evolution does. In addition, it serves to explain the evident absence of transitional forms between major groups of organisms *and the lack of evidence for phyletic evolutionary origins.* (Willis 1977:10, emphasis mine)

The most staunch creationists admit that the variability observed in a dozen species of *Canis* (Gish 1979:36), all fourteen of the Galapagos finches (Gish 1979:36), and even those well-traveled veterans of evolutionary controversy, the horses (*Hyracotherium, Mesohippus, Merychippus, Equus,* and others; Moore and Slusher 1974:420) is, at least potentially, the product of natural selection.

The only weakness with such positions is that 1) they have not been pursued to their logical conclusions and 2) their power as a scientific theorem has not been recognized. The premise that existing species represent variations of a created type provides specific guidance and direction to the actual investigation of phylogenetic relationships, i.e., a Kuhnian paradigm. Ultimately, the creationist paradigm must move beyond the critique of existing evolutionary theory. If a new paradigm fails to direct and produce good science for existing problems in its field, it *must* ultimately be rejected (Kuhn 1970). I am dismayed by creationist writings which attempt to discredit the process of natural selection itself, especially since it is so easy to demonstrate that selection actually occurs in natural populations. The real questions which consistently separate the evolutionist from the creationist are not whether selection occurs, but 1) did the Genesis creation event actually take place and 2) is natural selection capable of producing the diversity of present and past life forms from one common source? The evolutionist will answer no and yes, whereas the creationist will answer, respectively, yes and no.

Stephen Jay Gould recently penned a valuable rule of scholarly investigation. "Don't only weigh what you have;" he wrote, "ask why you don't see what you ought to find. Negative evidence is important—especially when the record is sufficiently complete to indicate that an absence may be genuine" (Gould 1985:25). Gould was referring to absences in the fossil record, but the rule is appropriate for other records as well. Why *don't* we find compelling philosophical or scientific arguments that would make natural selection a process which should naturally lead to progress, creativity, and ethics? More disturbing yet, why don't we find in the biblical record evidence which would link the processes of selective death and resource scarcity with the creative work of God, and, if this is

Biblical revelation implies that conditions necessary for evolution to occur, namely resource scarcity, competition, differential survival, and differential reproduction, did not exist prior to the Fall, nor will they exist in the kingdom of God.

still the correct interpretation, why do we find so much that seems to speak against it? Mechanisms of evolution other than natural selection have been proposed. These may offer potentially more hope for a biblically sound view of theistic evolution. At present, however, no proposed evolutionary mechanism known to this author will operate effectively without selective mortality.

Perhaps theistic evolution can ultimately be a viable integrative paradigm for the Christian's understanding of origins. Presently, however, it can lay no claim to that title. Unless theistic evolution can deal comprehensively with the tremendous theological, philosophical, and scientific issues it raises, it cannot continue to be viewed by religious intellectuals as a Christian panacea to the origins debate. Those issues will demand more original thinking than they have currently received. On the other hand, some type of creationist model, the premise that observed organism variability is the product of natural selection operating on previously created life forms, is a viable scientific paradigm and can provide positive new directions in origins research. However, unless creationists follow this lead and direct their emphasis away from indiscriminant attacks of evolutionary theory, their ideas will ultimately be rejected in favor of the established evolutionary model.

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The Ten Commandments of Scientific Writing

1. Each pronoun should agree with their antecedent.
2. Just between you and I, case is important.
3. A preposition is a poor word to end a sentence with.
4. Verbs has to agree with their subjects.
5. Don't use no double negatives.
6. A writer mustn't shift your point of view.
7. When dangling, don't use participles.
8. Join clauses good, like a conjunction should.
9. Don't write a run-on sentence because it is difficult when you got to punctuate it so it makes sense when the reader reads what you wrote.
10. About sentence fragments.

R. A. Day, in Canadian Journal of Medical Technology 38:B100–104, 1976

A Theological Argument For Evolution

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After a brief look at theological responses to biological evolution, some fundamental themes of Christian theology are reviewed. On this basis it is argued that evolution is to be preferred to creationism from the theological standpoint. Furthermore, it is argued that a Darwinian understanding of evolution is in better accord with the Biblical view of God's creative activity than is the Lamarckian one. A preliminary look is also taken at the related problems of evil, sin and death in the evolutionary context.

I. Introduction

The debate between biological evolution and creationism is perhaps *the* major conflict brought about by the interaction between modern science and Christian theology. (By "creationism" I mean here the theory of separate divine creation of each biological "kind," with no subsequent development from one "kind" to another. Creationism rejects "macroevolution.") The debate has gone on for well over a century. Moore's book[1] considers the early phase of post-Darwinian discussions. The total *volume* of theological response has, of course, been quite large, and would be impossible to survey here. But it will be of some value to have an idea of the *variety* of responses before proceeding to the body of this paper.

As already mentioned, *creationism* rejects evolution. Much recent creationist literature is not explicitly theological, for it is assumed there that creationism is theologically superior to evolution, and the concentration is upon scientific aspects of the question. A very brief statement of this theological position is Maatman's contribution to the dialogue (with Bube) "Inerrancy, Revelation and Evolution" in this journal.[2]

Theistic evolution is a rather general term. Often it is used for relatively conservative theories in which evolution is seen as God's way of creating, and considerable attention may be given to problems of reconciling the early chapters of Genesis with evolutionary theory. Bube's part of the previously cited dialogue[3] and the books of Ramm[4] and Messenger[5] may be consulted in this connection. Recent articles by Hyers in this journal[6] deal with the biblical creation texts.

The *liberal theology* of the nineteenth century found evolution itself quite harmonious with liberalism's belief in progress, but had trouble with the "natural selection" aspect of Darwin's theory. Abbott's book[7] provides a good example of this genre.

Process theology is a theological approach which is attuned to evolution from the start. Birch's book[8] gives a good introduction to this way of considering evolution. The work of Teilhard de Chardin, upon which I will comment later, has some similarities to this approach. Process theology certainly does justice to evolution, but it is not so clear that it can do justice to the Christian theological tradition.

There are many other works which might be cited. Benz's very helpful *Evolution and Christian Hope*[9] and the recent collection of essays edited by Frye[10] are two which may be mentioned in bringing this brief survey to a close.

It is the assumption of the present paper that evolution is to be dealt with both conservatively and positively. Christian theology based on scripture is to guide the discussion. Evolution is not merely to be "reconciled" with Christian faith, as if it could only maintain an uneasy truce with theology.[11] I shall argue, from fundamental Christian ideas, that evolution provides a more correct view of God's creative work than does creationism. I shall also argue that a Darwinian understanding of the evolutionary process is closer to the biblical picture of God's activity than is the understanding of Lamarck.

II. Basic Theological Themes

In order to set the stage for our discussion, some fundamental theological principles need to be set out. I make no suggestion that anything like a complete survey of Christian doctrine is given here.

(1) God's activity toward the world displays a unity. Creation, redemption and sanctification are not three separate and unrelated works, but are all aspects of the one work of the One Triune God, in which all three persons participate. The "external" works of the Trinity are undivided.[12]

In particular, the Redeemer is the Creator. This finds clear expression in the Gospel of John, in which the One through whom all things were made (Jn. 1:3) is the One who draws all people to himself (Jn. 12:32). Athanasius states the point clearly near the beginning of *On the Incarnation of the Word of God*:[13]

> It is, then, proper for us to begin the treatment of this subject by speaking of the creation of the universe, and of God its Artificer, so that it may be duly perceived that the renewal of creation has been the work of the self-same Word that made it at the beginning. For it will appear not inconsonant for the Father to have wrought its salvation in Him by Whose means He made it.

This unity of Redeemer and Creator is necessary, for otherwise we would be called to place our trust in a savior separate from God, and there would be a fundamental violation of the First Commandment. (Cf. also, e.g., Is. 43.)

(2) God's characteristic "external" activity is creation out of nothing, what I have called "The Trademark of God."[14] God creates *ex nihilo*, in spite of the lack of any human possibility.[15] When there is no natural possibility of existence or life, God brings things into being and calls forth life. Creation "in the beginning," the Exodus and return from Babylonian exile, the Resurrection of Christ and the justification of the ungodly are the chief examples of this work. The linkage is shown nicely in Romans 4, where the God "who justifies the ungodly" (Rom. 4:5) is also the God "who gives life to the dead and calls into existence the things that do not exist" (Rom. 4:17). Belief in God as the One who does what is impossible from the human standpoint is a fundamental element of prophetic faith.[16]

For our purposes, it is most important to note the unity of God's actions in the creation of the universe and in the Resurrection of Jesus Christ. This has been expressed beautifully by Dietrich Bonhoeffer:[17]

> But the God of the creation and of the real beginning is, at the same time, the God of the resurrection. From the beginning the world is placed in the sign of the resurrection of Christ from the dead. Indeed it is because we know of the resurrection that we know of God's creation in the beginning, of God's creation out of nothing. The dead Jesus Christ of Good Friday—and the resurrected Κύριος (Lord) of Easter Sunday: that is creation out of nothing, creation from the beginning. The fact that Christ was dead did not mean the possibility of the resurrection, but its impossibility; it was the void itself, it was the *nihil negativum*.

(3) In view of the fundamental unity of Creator and Redeemer, it is not surprising that the object of God's redemptive work is the entire creation. This is expressed very clearly in, for example, Romans 8:18–25

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and Colossians 1:17–20. God's final salvation is not a matter of snatching a few human souls out of an otherwise doomed world, a view reminiscent of gnostic redeemer myths. God's work is to culminate in a new heaven and new earth (Rev. 21:1,5).

The idea of cosmic redemption is not to be confused with a simple-minded universalism. It is possible for human beings to turn away from God for eternity, and the biblical witness is very hard to reconcile with any teaching that every human being will escape such an end, though Christ has died for all. However, cosmic redemption does mean that all created natures, and not only the human, will share in the new creation. Somehow sabre-toothed tigers and dogs and oak trees participate together with men and women. It may be hard to picture how that is going to work, and we need not exercise ourselves unduly in trying to imagine "Dog Heaven." C. S. Lewis's chapter on "Animal Pain" provides some useful thoughts on the matter.[18]

(4) God's redemptive work is accomplished entirely through the Incarnation of the Word. The christological controversies of the early centuries established not only the full divinity of Christ ("The Redeemer is the Creator"), but also Christ's full humanity. There is no proper aspect of humanity, body, soul or mind, which is "left out" of the Incarnation. The classic statement of this, which can be regarded simply as a paraphrase of Hebrews 2:17, is "That which is not taken is not healed."[19] The salvation of any aspect of humanity occurs through its being taken up into personal union with the Word of God in the total action that includes the conception, birth, life, passion, death, resurrection and ascension of Jesus of Nazareth.

The classical development of the doctrine of the Incarnation stated that far more was involved than the union of the Word with a single human being. God and humanity are united in Jesus. In classical terminology, Christ exists in two *natures*, divine and human, united in one *person*, the divine Second Person of the Trinity.[20] There is no separate *human* person in Christ, since the human nature which the Word took on never exists apart from God (God did not "adopt" a human Jesus at some stage of his life). It is in the divine Son of God that the assumed humanity has its personal "centering."[21] Newman's way of putting this, with the generic use of the word "man," makes it clear: "Though Man, He is not, strictly speaking, *a* Man."[22] (We may say that un-personal human nature is en-personed [enhypostasized] in the person of the Word. However, to say that the assumed human nature was "un-personal" in the technical sense of classical theology does not mean that Jesus lacked human "personality" in the modern sense of the word.)

The idea of a general human nature seems odd to modern westerners, accustomed to nominalism and individualism. It is not so strange within the biblical world view. The Hebrew idea of "corporate personality," in which each Israelite is united with all his/her contemporaries and with those of past and future, gives an Old Testament background for such a concept.[23] St. Paul's picture of Christians as members of the Body of Christ is also significant here.

For our purposes, it is most important to note the unity of God's actions in the creation of the universe and in the Resurrection of Jesus Christ.

The related theme of *recapitulation*, an interesting biblical undercurrent, was used by Irenaeus near the end of the second century.[24] Christ recapitulates or "sums up" the previous history of Israel and humanity, doing over again—but correctly this time—the things in which humanity had failed before. We get a fresh start in Christ. Matthew 4:1–11, for example, can be understood as Jesus' successful passage of the wilderness testing in which Israel had failed.[25]

Irenaeus also thought that Christ recapitulated the different stages of life of an individual human being. He said that Christ passed through all those stages from infancy through death and resurrection, "that in all things He might have the pre-eminence" (Col 1:18).[26] Through the Word's personal experiencing of infancy, infancy was sanctified, and similarly for other stages.

(5) Scripture is to be understood christologically: "All of Scripture everywhere deals only with Christ," said Luther.[27] We have not fully understood a part of scripture if we have not seen its relationship with the person and work of Christ (e.g., Lk. 24:44). This does not mean that we are to torture Old Testament passages to find prophecies of Christ. It does mean, however, that Genesis 1 and 2, for instance, are misused if treated primarily as a scientist's notebook recording details of the creation process, with no christological content. The passage from Bonhoeffer quoted earlier is an example of an appropriate christological approach to these chapters.

Von Rad has pointed out that, within the Old Testament itself, the tradition of the saving event of the Exodus precedes reflection on the creation of the universe.[28] Experience of salvation comes before construction of cosmogonies.

III. Creationism or Evolution?

We now move to our central topic of creation and its relationship with evolution. The evolutionary view can take seriously the biblical picture of humanity being formed from the dust of the earth (Gen. 2:7), in common with other living creatures (Ps. 104:20–30). It is their relationship with God which distinguishes human beings from other animals (Ps. 8). According to evolutionary theory, we bear in our bodies the history of our organic relationship with the rest of the biosphere. Evidence for this is supplied by embryology, by the commonality of the genetic code, the similarity of protein structures and the homological features of gross anatomy. From the standpoint of history and physical constitution, there is no sharp distinction between human beings and other animals.

With this in mind, we proceed to the argument for the theological superiority of evolution over creationism. Of course we must realize that arguments and proofs are always contingent upon certain presuppositions, so that it is important to make these as explicit as possible. The following form of the argument will be helpful:

(A) The whole creation is to be redeemed. (See II(3) above.)

(B) What has not been assumed (i.e., taken up by God in the Incarnation) has not been redeemed. (See II(4) above.)

(C) Because of (B), the whole creation cannot be redeemed unless it has been assumed. But (A) states that it is to be redeemed. Therefore the whole creation has been assumed in the Incarnation.

Creationism appears to allow no way for our conclusion to be satisfied. In that theory, humans are of a nature totally different and isolated from the natures of other creatures, so that the Incarnation "can't touch" non-humans. Evolution, however, says that humans are related to other creatures, sharing not only the same chemical elements and related structures, but also a common history. Thus evolution appears to provide the theologically superior understanding of creation.

In other words, only evolution fulfills the joint requirements that Christ be the Redeemer of the *world* (as the litany says[29]) and that salvation come *via* the Incarnation. It is not easy to see how one could maintain creationism without compromising the cosmic scope of the Incarnation, and thus of salvation.

It is helpful to think of this argument in terms of the idea of recapitulation. This biblical theme emphasized by Irenaeus has also been a significant evolutionary theme. It has been recognized for some time that relationships between embryos and adults of different species may reveal evolutionary connections. (This was stressed especially by Haeckel, a very vocal opponent of Christianity.[30] I wonder if he was ever aware that he was pursuing an ancient theme of Christian theology.) We know now that the rather simple-minded view of this relationship, according to which "ontogeny recapitulates phylogeny" or "the embryo climbs its family tree" is inaccurate. It would be closer to the truth to say that the embryo recapitulates the evolutionary history of its ancestral embryos.[31] The basic point remains, that the early developmental stages of humans manifest a "participation" by our pre-human ancestors.

(I need to emphasize that this apparent agreement between theological and biological ideas of recapitulation is only one expression of the fundamental idea of the participation of non-humans in humanity. While this one piece of evidence is striking, the main argument does not stand or fall with it. The other evidence mentioned at the end of the first paragraph of this section is equally significant.)

. . . Genesis 1 and 2, for instance, are misused if treated primarily as a scientist's notebook recording details of the creation process, with no christological content.

If what is said here is true of humans in general, it is true of Christ. From the first instant of conception in the womb of Mary, the child that the Virgin bore was God Incarnate. The Word thus assumed, in a vividly real sense, our ancestral history. C. S. Lewis saw this as showing the depth to which God descends into creation to save and remake it:[32]

> He comes down; down from the heights of absolute being into time and space, down into humanity; down further still, if embryologists are right, to recapitulate in the womb ancient and pre-human phases of life; down to the very roots and sea-bed of the Nature He had created.

The argument in this section may be offensive to some Christians. It is precisely the idea that humans are descended from sub-human animals that motivates much of the emotional and intellectual opposition to evolution, and the idea that Jesus would share such a relationship makes the idea even more difficult to accept. We may note two examples of such opposition from creationists of yesterday and today.

> A good answer to the evolutionistic view of creation was given by a Decatur, Ill., Baptist minister, whose little girl one day came home from school and said. [*sic*]
>
> "Do you know, folks used to live up in trees like monkeys."
>
> "Not your folks," the minister answered. "*Your* folks came down from God, not up from slime."[33]

> Theistic evolution . . . makes man a half-evolved, half-created being who is a remodeled ape, so to speak. It also makes the Lord Jesus Christ into a very specially made-over ape. But the Bible says that He is the Creator of the universe . . .[34]

Now a Christian should avoid giving unnecessary offense, but we must be clear about what is involved here. The Bible states clearly that humanity did come "up from slime."[35] And the idea that Jesus was a "specially made-over ape," far from contradicting the doctrine of the Incarnation, is a magnificent expression of it. The scandal that is involved here *cannot* be avoided, for it is the very scandal of the cross (I Cor. 1:18–31). God Incarnate as a "made-over ape" is of a piece with the "folly" of God Incarnate born in a stable and dying the death of a slave on a cross.

IV. What Kind of Evolution?

So it is evolution, and not creationism, with which Christian theology should deal. But what type of evolution? Is there any sound theological guide to help us make the decision between the two choices (to oversimplify somewhat) of Lamarckian or Darwinian evolution? The former type of theory would argue that evolutionary progress occurs because acquired characters are transmitted, so that "striving for improvement" (whether or not this is pictured in terms of any kind of consciousness) on the part of a species is rewarded. Darwin's view, on the other hand, is that some organisms are better suited to survive in a given environment than are others, and that they are more likely to leave viable offspring. Species will change because of the transmission of variations which aid in survival. It is misleading to talk about "improvement" in any absolute sense with this view. In this type of theory, competition and extinction play major roles in evolution.

A glance back at our theological themes, especially II(2), will convince us that, theologically, Darwin is more likely to be right than Lamarck. For the biblical picture is precisely that God brings life out of death, being out of chaos, and hope in hopeless situations. This is resurrection faith, faith in the God who justifies the ungodly. The idea that life arises and develops through competition and extinction is part of the same picture. This is not to say that competition and extinction are good or have some potential for good, any more than bondage in Egypt or the murder of Jesus were, in themselves, good. But God, in defiance of humanly reckoned possibilities, brings good out of evil. God creates out of nothing.

Most human philosophy and theology is more congenial with the Lamarckian view. The liberal theology of the nineteenth century had no great problem with evolution itself, but tended to gag on its specifically Darwinian aspects which did not fit in with the somewhat naive idea of progress entertained by liberalism.[36] Lamarck's approach also fits comfortably into the Marxist understanding of human development, and has done considerable damage to Soviet biology.[37]

In this connection it may be helpful to comment on the contributions of Teilhard de Chardin to our theological understanding of evolution. Much of Teilhard's thought is of value. For him christology was central to understanding evolution, and he developed the concept of the "super-personalization" of the Body of Christ as the current stage of human evolution.[38] The communal character of Christianity is emphasized, as speculations about individual superhumans are done away with in favor of the Pauline picture of the organic church. And Teilhard's work is the more attractive because he brings science into contact with a mature Christian spirituality.[39]

But there are also problems with Teilhard's approach to evolution. He is not very comfortable with Darwinian natural selection, and it is fairly clear that he would prefer the Lamarckian concept if that were feasible.[40] The reasons for this are not far to seek. The period during which Teilhard received his scientific training was one in which the idea of transmission of acquired characteristics was scientifically respectable. But it is just as significant that the Lamarckian theory fits in well with a classical Roman Catholic "grace perfects nature" theology.

Teilhard makes a good point, that *cultural* evolution depends on education, which has the nature of a Lamarckian mechanism.[41] But even this seems too similar to the liberal trust in the transforming power of education. And when he says, for instance, that "there can be no place for the poor in spirit,"[42] he is definitely off the biblical trajectory. Teilhard's work requires correction through more emphasis on the biblical picture of God's creative activity.

Many people would prefer a God who either maintains the status quo or rewards effort with progress. The idea that God might let species become extinct—might even work *through* extinction—was difficult for humanity to accept: Eiseley tells the story in his essay "How Death Became Natural."[43] Such acceptance was a necessary prelude to serious scientific thinking about evolution. Now we see it also as a key to understanding evolution theologically, a key provided by the prophetic faith which Sanders describes:[44]

> For the prophets were true monotheists, and nothing they said so stressed their monotheism as the idea that God was free enough of his chosen people to transform them in the crucible of destitution into a community whose members could themselves be free of every institution which in his providence he might give them. Their real hope, according to these prophets, lay in the God who had given them their existence in the first place, in his giving it to them again. Normal folk, in their right minds, know that hope is in having things turn out the way they think they should—by maintaining their view of life without let, threat, or hindrance. And normal folk believe in a god who will simply make things turn out that way. For them it is not a question of what God ought to do, that is clear: he will do what we know is right for him to do, if we simply trust and obey. Nobody in his right mind could possibly believe that God would want us to die in order to give us life again, or to take away the old institutions he first gave us in order to give us new ones.

V. Notes on Genesis

Our discussion to this point has been based on biblical themes, but we have not looked with any care at the creation accounts of Genesis. Detailed exegesis is not in order here, but it will be helpful to note a few points.

(1) In Genesis 1:1–2:4a, creation is through God's Word. In the context of the whole Bible, and especially with John 1:1–18 in mind, we can see this as creation through Christ. "The Redeemer is the Creator."

(2) At three points in this first creation account, 1:11–12, 1:20 and 1:24, *mediated* creation is clearly taught. God says, "Let the earth bring forth . . . " and "Let the waters bring forth . . . ." These verses are certainly concerned with divine *creation*. For example, verse twenty, in which the waters are told to bring forth life, is followed by a statement of the carrying out of this command using the verb *br'*, which expresses the divine prerogative of creation.

Thus the "literal interpretation" of Genesis 1 is that the creation of plants and animals is mediated, the elements having been given the power to "bring forth" these creatures when God so commands. Messenger has shown in his very useful book that this was the general understanding of Christian theologians up to the thirteenth century.[45] The opinion that God created each "kind" in an act of direct and unmediated creation is unbiblical.

It is important for us to be aware of the direction of thought of the theologians of the early church, and to see that there is a good deal of difficulty in reconciling some patristic thought with creationism. Especially interesting are the ideas of Gregory of Nyssa, one of the fourth century theologians who gave definitive form to the classical doctrine of the Trinity. He saw that Genesis 1 teaches mediated creation, matter from the first instant of its creation having the potential to develop in accordance with God's will. In his treatise "On the Making of Man,"[46] Gregory argues that vegetative souls had to come first, then animal souls, and finally the rational soul and full humanity. A careful study of his writings suggests that this means that humanity passed through these preliminary stages before becoming fully human.[47] If Gregory does not unambiguously teach human evolution, he is not far from it.

(3) God says, "Let us make humanity [*'adham*] in our image, after our likeness; and let them have dominion . . . " (Gen. 1:26). One cannot press the plurals "us" and "our" here to find a teaching of the Trinity. But as Moltmann[48] has pointed out, there is—again, in the context of all of scripture—profound significance in the fact that humanity is created in the image of the triune God. For the Trinity is a community, and this is reflected in the image of God. It is the whole human community which is, *as* a community, created in the divine image and likeness.

(4) We have noted the importance of the fact that, in the second creation account (Gen. 2:4b–25), God makes the first human "of dust from the ground" (Gen. 2:7). This expresses strongly the truth that the human race shares in the physical substance of the rest of the universe. It is this sharing which makes possible the taking up by God of physical reality in the Incarnation. To some extent, Genesis 2:7 corresponds to the statements of mediated creation of other creatures in the first creation account.

VI. Evil, Sin, and Death

I do not want to suggest that evolution presents no theological difficulties. The interlocked problems of the origins of evil, sin and death in particular, require hard thinking if we are to take evolution seriously in a Christian context. In traditional western theology these matters have been dealt with in terms of a historical Fall of humanity, but how is a Fall to be understood if humanity appeared through evolution in the middle of cosmic history? I do not claim any definitive treatment in this section, but only survey approaches to the issue and make some suggestions.

A straightforward procedure is to say that when humanity emerged from the pre-human and was able to respond to God's Word, the first man and woman chose to disobey God. While it leaves much of traditional theology intact, this approach by itself displays no causal connection between the first Sin and the suffering and death that took place in the world before there were human beings.

The views of original sin in Eastern Christianity seem more amenable to an evolutionary understanding.[49] For example, the picture sketched by Athanasius seems

to be one of humanity at first on the road to perfection with God but not yet having such perfection.[50] Sin was then a turning away from God more than a fall. Humanity took the wrong road, a road to death; for in turning from the Word, it turned from being.[51] While this is open to an evolutionary understanding, it again does not deal with pre-human suffering and death.

The idea of the seduction of humanity by fallen angelic powers can help to convey some sense of the cosmic scope of the problem of evil. But it must be used with care, lest it foster a feeling of lack of human responsibility for sin. ("The devil made me do it.")

For some theologians, evil is present from the first instant of creation, apart from any choice on the part of creatures. It is, as Teilhard puts it, the "shadow" of creation.[52] We have to guard against any kind of absolute dualism in the doctrine of creation, and it would perhaps be well to look for a solution to the problem of evil that is theologically more conservative.

A major difficulty is the existence of suffering and death for many millions of years before there were human beings. The Christian tradition, supported by, for instance, Romans 5:12, has generally considered suffering and death to be consequences of human disobedience to God. Can these ideas be reconciled? Perhaps not, if we insist upon common-sense ideas of causality, but we need not do that. Even in classical physics there can be "advanced potentials" which depend on *future* values of a charge and current distribution, and Feynman's "backward in time" idea for anti-matter may be used in particle theory.[53]

When we deal with the *meanings* of phenomena, the idea that events can affect things before they happen seems even more plausible. To illustrate from American history, one can argue that the Civil War is the most important thing that has happened in the United States. Its effects since 1865 have been immense, and are still with us. But phenomena *before* 1861—e.g., the slave trade or Missouri Compromise—also can be understood fully only in light of the Civil War. It did not *cause* previous events, but helps to give them meaning.

Similar ideas have been used in theology by Cullmann and Pannenberg.[54] Cullmann argues that Christ, at the *center* of history, gives meaning to all of history. Old Testament passages that refer to Christ do so *because* of Christ rather than because of an intrinsic predictive power which they possess.

What about the effects of sin? Physical pain and death were in the world before humanity but there was no sin, no willful turning from God (Rom. 1:18–32). That changed when the first humans chose to disobey God. The introduction of sin into the creation put a new and terrible meaning on the death that had gone before. It was no longer a purely physical process, the stopping of bodily machinery, but part of the dissolution consequent upon creation's turning from its Creator. The effects of the sin of the first humans radiated forward and backward in time.

It is interesting to compare this picture with that of Athanasius. He allowed that the first human, even on the right road and in a state of innocence, might have been subject to physical death. But he understood the penalty for eating of the forbidden tree in Genesis 2:17 to be more than this kind of death. The Hebrew *moth tamuth* is emphatic—"Thou shalt surely die" (KJV). But Athanasius, working with a Greek translation, saw here a two-fold death: "But by 'dying ye shall die,' what else could be meant than not dying merely, but also abiding ever in the corruption of death?"[55]

Finally, it may help to make two general comments about original sin. First, whatever else original sin is, it is an empirical and existential fact. Romans 1 and 7 need to be read in addition to Romans 5. Lack of a satisfactory explanation for the origin or transmission of original sin does not mean that the reality of it can be ignored.

Second, we should remember that, besides the Pelagian heresy which does not take original sin seriously, there is the heresy of Flacius which can be said to take it too seriously.[56] Flacius, wanting to insist as strongly as possible on the total depravity of unredeemed humanity, asserted that original sin is the substance of unredeemed humanity. This would mean that fallen humanity is really no longer God's creation, introducing a Manichaean dualism. The Formula of Concord rejected the positions of both Pelagius and Flacius.[57] As with most theological issues, one must stay in the middle of the road. There are "Out of Bounds" signs on *both* sides.

VII. Conclusions

Acceptance of evolution by theologians does not mean that all questions of creation, anthropology, redemption, or other issues involved in creation-evolution discussions are easily resolved. (Acceptance of biological evolution does not, of course, mean acceptance of anti-Christian conclusions that have sometimes been incorrectly drawn from evolution. The whole argument of this paper is that evolution and Christianity are profoundly compatible.) But it can keep us from wasting our time on non-problems, and allows us to focus energy on serious theological concerns. I believe that what is presented here, centering on Section III, is a strong theological argument for accepting evolution.

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"The first to present his case seems right,
'till another comes forward and questions him."

Proverbs 18:17

A Brief History of the Failure of American Corrections

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Until the middle 1800's, most theories of corrections were based on the Judeo-Christian ethic which stressed that, unless culturally modified, people were inclined toward short-term gain, hedonistic goals and avoidance of work, pain, and most all other non-pleasurable activities. For this reason Western society was less concerned with rehabilitation than with the rule of just retribution, *"an eye for an eye and a tooth for a tooth." This rule was given to limit excess punishment, a situation common in the ancient world.*

Since that time, numerous types of reform systems have been tried, including the replacement of corporal punishment by imprisonment, and, later, as a supplement to prison confinement, the addition of work programs, psychotherapy, education, vocational training and other efforts at rehabilitation. The current conclusion in corrections is that, so far, rehabilitation has been an elusive goal with, at best, extremely limited success. From a theological perspective, as long as sin exists, crime will curse us in spite of the best efforts of human social engineers.

A major perennial concern of all theistic religions has been with "sin," defined as the act of falling short of the law of God and just human laws (McHugh, 1978). In America, concern with crime began shortly after the colonists landed. Evil (of which crime is one manifestation) was believed by them to have been inherent in humankind since the sin of Adam, a view which heavily reflected their Judeo-Christian heritage (Scott, 1979). Behavior such as sexual misconduct, disrespect for parents, blasphemy, *et cetera*, was taken as evidence that "the offender was destined to be a public menace and a damn sinner" (Rothman, 1971:15–16). The early colonists, having a Calvinistic background, believed not only that the tendency to sin is inherent but that people cannot easily be shaped into desirable types. They would thus disagree with the saying, "Give me a child from birth to six, and I will make him anything you want him to be—beggar, saint, priest, thief, pauper, or rich man." Training can *temper* the temptations of the flesh, they felt, but evil impulses can never be totally eliminated, only controlled. Therefore, as Empy noted (1982:55):

> Thus the colonists were not bothered by a strong impulse to rehabilitate sinners once they had sinned. Rather their transgressions demanded retribution. If offenders were allowed to escape, others would be implicated in their crimes, and God would be displeased.

The punishment the colonists gave convicted offenders varied widely. It included public ridicule, the stock

and pillory, banishment from the community, fines, permanent physical branding (such as "T" for thief, "B" for blasphemy, or "A" for adultery), and even death. The offenses that could be punished by the death penalty ranged from sodomy to horse stealing and arson. Since reform was seen as an elusive goal, the concern was mostly for both justice and the protection of the community from the offender. Thus, the colonists were not shy about practicing capital punishment. Until the early 1800's, confinement was used primarily to constrain offenders until the trial date (only a short time then), and was not necessarily viewed as punishment (Johnston, 1973). Not until the Jacksonian era did institutionalization become "the preferred solution to the problems of poverty, crime, delinquency and insanity" (Goldfarb, 1976:10). This was the state of corrections in the first century of America.

The Enlightenment

The so-called enlightenment changed all this. The previously held views were seen increasingly as backward, inhuman and pessimistic. The enlightenment stressed the possibility of virtually unlimited human progress, actually to "unimagined heights;" at the least, it was confidently felt that a major level of improvement was fully possible. The cornerstone of this era was an optimism which appeared to be not only more scientific, but also a reflection of the spirit of humanistic movements then thriving in Europe and elsewhere. This new view, many argued, was also more in harmony with the Scriptures. Many Bible passages were reinterpreted or "discovered" to support this new view. Some advocates of positivism also stressed that the reformation of at least some criminals was not only possible, but a Christian goal (McHugh, 1978). In addition, many stressed that America's destiny (and remarkable success) was itself of divine origin (Walton, 1975).

An early reformer, Cesare Beccaria (1738–1794), an Italian criminologist inspired by both Voltaire's and Montesquieu's ideas, proposed a series of reforms designed to make the treatment of law violaters, "more equitable, more rational, and more humane" (Monachesi, 1960). Other reformers elaborated on these ideas. The result was that, in the 19th century, criminal codes were rewritten, and due process was given greater importance. As new explanations for deviant behavior emerged, Americans also began to reject the older colonial notions that crime and sin were synonymous, and that law breaking was the result of inborn tendencies and the success of the devil's temptations (Empy, 1982:58).

The reformers were now most concerned with the external forces that shape the personality—especially the family and the child's early experiences. Later, Freud and other researchers contributed to this sentiment and, as a result, "such theological conceptions of innate sin were losing their currency. In their stead, the belief grew that deviancy could be traced back to experiences in early childhood" (Empy, 1982:58–59). Community corruption was seen more and more as an important factor (Ryan, 1971). The criminal was not acting out his own uncontrolled evil desires, but was a victim of evil communities, doing only what he was "taught" or had learned from his culture. Cities were often lambasted as the culprit in the crime waves America experienced (Shaw and McKay, 1942). Numerous volumes supporting this thesis were published, such as *Evils of the Cities* (1905) by the famous preacher T. DeWitt Talmadge, D.D. Criminal behavior, it was now felt, could be effectively rooted out. Young children in danger of becoming criminals could be successfully steered away from "the wrong path." As the Scriptures stress, "Raise up a boy according to the way of righteousness, and when he grows old he will not depart from it" (Proverbs 22:6).

Although much good could be achieved by raising children in the proper way, there was still the problem of what to do with those who were already hardened adult criminals. Cutting off hands, execution, and other

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techniques used in Asia and elsewhere were seen as inappropriate in America, especially since the criminal was viewed increasingly more as a "victim of an evil world" than as a person who is innately bad and acting mostly on selfish inclinations. Primarily because of Quaker influence, the concern shifted from "punishing offenders" to "reforming errant misguided souls." This concern prompted many cities to build appropriately named "reform schools" which stressed change and growth in the spiritual, mental, and skill areas. For adults, "penitentiaries" were constructed for the purpose of criminals doing "penance" or "meditating on their errors" in order to achieve, through Scripture study and prayer, a mending of one's evil ways. They concluded that the process of reform required primarily spiritual growth. The first penitentiary began in about 1790 when the old Walnut Street Jail was converted by the Quakers into a long-term place of confinement (McKelvey, 1968). They felt the most humanitarian way of reformation was segregation of offenders from all corruptive influences, including other inmates. Isolation would also help them recognize their errant life, repent, and embark on a new course (Empy, 1982). To better achieve this end, in 1816 a prison was built in Auburn, New York, with individual cells.

This striking design with its individual cells dominated prison construction for nearly a century. Its purpose was not revenge, but deterrence and rehabilitation (actually habilitation in that most of the offenders had never been adjusted in the first place, thus they could not be *re*habilitated or readjusted to society). The inmates were kept busy, both in mind and body, with study, meditation, reading and physical labor. Organized discipline and high moral values were stressed. Many prisons required silence during meals, marched prisoners from cell to cell in single rows, and demanded strict obedience to the many rigid rules which regulated even minor details of conduct. The solution to crime was believed to be intervention and long-term institutional confinement, a conclusion based on the "scientific theories" of the time (Empy, 1982:168).

It soon became apparent that such institutions did not achieve the success expected. By the late 1800's it was obvious that the serious criticisms of the system which often surfaced were partially valid. Prisons were increasingly branded as failures. The former panacea was now labeled "schools of crime" and "breeding houses of vice;" it has been attacked almost non-stop for the last century (Triston, 1938). These institutions, many claimed, were causing those in their care to become "more criminal than ever" (Bremner, 1970:I:696–697).

The movement to "deinstitutionalize," starting with children and later extending to adults, was the next panacea. A good example was that, after about 1850, thousands of children were sent from large city reform schools to live and work with selected "Christian" farm families to insure proper moral instruction and work/habit training (Scull, 1977).

The reassessment of the failures of the prison system and reformation ideology prompted a variety of solutions. These were based on rationales ranging from that of those who concluded that lawbreakers were born, not made (and were thus irreformable) to churchmen who felt that crime was solely the result of willful desires to commit sin. Most, though, felt that the failure of the reformation was a result of poor execution of the ideal, rather than of fallacies in the reformers' concepts. Thus they favored using the same philosophy, but trying new and more extensive techniques.

In 1870 the Cincinnati Prison Congress met to draft reforms of the earlier reforms. These included implementing programs which were less punitive, less degrading (the degradation, they felt, destroyed positive, constructive impulses and aspirations, crushing the weak and irritating the strong), and which motivated by means of effective rewards. Cultivating one's self-respect, providing inmates with honorable labor, and teaching them self-control in a positive sense, they felt, should govern institutional life (Henderson, 1910:39–63). The penal philosophy was basically valid, the Congress concluded; it had failed only because its actual implementation and various nuances had been wrong.

Juvenile Reform

The system was altered even more for juveniles. The state was now more concerned with protecting the nurturance rights of all children—delinquent, dependent, or neglected—and with habilitating all who needed help or treatment, not just those defined as delinquent (Empy, 1982:67). The goal was to help the child ameliorate whatever problem was of concern, and not to determine whether the child was guilty or innocent of any specific offense. The new course was to intervene, not as a harsh and punitive monitor of evil conduct, but as a thoughtful, kind, "super-parent" ideal. The positivist school, which held that solutions to behavioral problems could be developed by utilizing the scientific method to delineate the causes of (and thus the remedy for) misbehavior, was still influential. Although disappointment with this approach was minimal at first, it grew steadily until by the 1970's there was an almost total abandonment of any hope of the goal of widespread general habilitation even though dozens of innovative modifications of the system had been tried.

Biological Theories

Many biological theories were also explored, and

some of these still have supporters. Lombroso (1911) was one of the first modern criminologists to propose that criminals are biologically-predisposed atavistic throwbacks, degenerates genetically more similar to a primitive stage of human evolutionary development. They behave like animals because that is what they are. They leap backwards twenty thousand or more years in a single generation to a previous stage of evolutionary development. This theory was found to be false and racist; it was finally laid to rest by Goring (1913).

Another theory was that criminals were mentally defective. A number of early criminologists even proposed using I.Q. tests to evaluate children in public schools to identify "potential criminals." In 1911 Goddard (1970:564) predicted that this method could largely solve the problem of delinquency.

The eugenics movement likewise advocated its theories of criminal causality. This "science" was concerned with improving the quality of the human race by controlling breeding. Hooton (1939:309), a Harvard biologist, wrote that "it follows that the elimination of crime can be affected only by extirpation of the physically and morally unfit; or by their complete segregation in a socially aseptic environment." Instead of permitting evolution to operate in a hit-or-miss fashion, scientists could intelligently guide it to breed a "superior race" of morally upright persons totally void of criminal impulses. As many eugenicists concluded, if criminality were genetically controlled, one would simply have to prevent known criminals from reproducing. One could thereby eventually breed out criminal tendencies much as one breeds out certain traits in sheep or cows.

In harmony with these objectives, between 1907 and 1937, 31 states passed laws permitting the sterilization of a variety of physical and mental "defectives" (McCaghy, 1976:20). An estimated 70,000 or more Americans were sterilized as a result of the eugenics movement (McCaghy, 1976:21). It was most fully embraced and practiced in Nazi Germany, and the results were so catastrophic that today any mention of eugenics as a serious solution to crime is anathema. Eugenics was actually a major, *if not the major*, driving force behind the Nazi war machine and the holocaust (Tenenbaum, 1956).

Later, Sheldon (1954) developed an elaborate system of somatotypes, even concluding that one could predict criminal tendencies by evaluating body types. The muscular or mesomorphic type, he concluded, was the most likely to become criminal.

Biological theories, such as sociobiology, are still being proposed; and, although mixed evidence to support them exists, it is hard for them to get a wide hearing (Wilson, 1978). This is partly because of the past tragic consequences of the biological theories.

Psychological Theories

The psychologists too, developed theories about the causes of crime. Freud believed that every child possessed a set of anti-social criminal instincts, "the savage and evil impulses of mankind," which he called the *id*. This id was controlled by the superego, the conscious mind which was a product of socialization. Criminals were simply people who did not develop a sufficiently powerful, controlling superego. The solution was to habilitate them by using psychotherapy, both to deal with traumatic past experiences and to reconstruct a superego sufficient to control the id's unsocialized impulses. Other Freudians concluded that criminal behavior is often a manifestation of a neurotic need for punishment from guilt over some unconscious socially unacceptable drive, such as an unresolved Oedipus complex. The solution the criminal opts for is to commit a criminal act, to get caught, and then be punished; the punishment helps to expiate the person's immense sense of guilt. Society's solution is psychotherapy, which helps to bring the guilt from the unconscious to the conscious where it can be effectively dealt with, negating the person's need to respond to problems via criminality.

As Empy (1982:75) stressed, this theory allowed that "Judges should not sentence [criminals]. . . according to the crime they committed but according to the diagnosis of their ills by psychological experts." Criminals, in other words, were not wicked but sick. The anti-social acts that they committed were only the symptoms of the disease. The disease must be cured, requiring professional counseling, psychotherapy and medical care. A growing professionalism among those who worked with criminals resulted. Social work rehabilitative programs proliferated. Prison, probation and parole were seen more as psychotherapy agents than a means of punishment. And Empy notes (1982:176) that "the treatment model suggested by psychodynamic theory has remained the standard to which most courts and correctional agencies have aspired until very recently." Psychotherapy is a common court order for convicted offenders, especially for those involved in certain violent, aggressive, sexual, or drug offenses. Under this model, those who committed property offenses were viewed as more "normal" than virtually all other offenders, including those who used alcohol, murdered, maimed, or wrote bad checks.

Ironically, even though the empirical evidence of the effect of psychotherapy in dealing with criminals indicates that it is largely ineffective, it has produced more

studies with positive results than almost any other correctional intervention program (Martinson, 1974, 1976). The successes, though, are so few that psychotherapy is viewed more as a luxury to help ease the strain of prison life than as a habilitative tool.

Personality Theory

Personality theory has also joined the foray of etiological hypotheses concerning criminality. Criminals, in this view, were seen mostly as asocial persons having personality problems. The terms "criminal personality," "psychopath," "sociopath," *et cetera*, were used as if they represented definable diseases or psychological conditions with a clear etiology. Surveys of the predictability of personality theories, first by Schuessler and Cressey (1950) and then later by many others (Waldo and Dinitz, 1967; Tennenbaum, 1977; etc.) found that, with the possible exception of certain sex crimes and homicide, there is little or no relationship between specific personality traits and criminal tendencies. Empy (1982:177) concluded, "there is little evidence that [personality abnormality] is related . . . to law violation in general." There are clearly more personality differences within a group of criminals than between criminals and noncriminals. Thus Empy held (1982:180) that the "tendency to equate personality abnormality with [criminal] behavior has not been confirmed by empirical evidence." Lacking empirical evidence, this theory, like most others before it, has largely been abandoned.

Newer Sociological Theories

Another popular sociological theory was that of *cultural deviance*, which concluded that deviance was the result of behaving in accordance with the values and norms of one's particular group. One learns to be a criminal because one's friends, significant others, relatives, *et cetera*, are criminals. In other words, criminals are not psychologically abnormal or sociopaths, but simply normal people who, by associating with criminals, learn to be criminals the same way that an apprentice learns how to be a carpenter or a German child learns to speak German (Sutherland, 1939).

Sociologists traditionally have rejected the position that delinquents were either biologically or psychologically maladjusted or abnormal in any way at all. They have gloated over the fact that the weight of empirical evidence seems to be on their side. Research by Shaw and McKay (1942) found that delinquency consistently tended to be concentrated in particular areas of the city, seemingly supporting the sociological position. Unfortunately for learning theorists, when the residents moved out, crime levels did not tend to move with them! The new residents seemed to "take over" the high level of delinquency which remained a rather permanent feature of the neighborhood. These areas were often adjacent to the central business district and located around the railroads and stockyards, typically the least desirable part of the city, often the slums. This finding seemed to indicate that delinquents were not only not psychologically maladjusted or biologically deformed, nor did they learn to become "criminals" in a permanent sense, but simply reflected the existing social environment that surrounded them. They concluded that certain clear-cut social conditions caused high levels of crime, namely physical deterioration, poverty, racial and ethnic segregation and a high level of all social problems, including social disorder, truancy, infant mortality, and mental disease. Those who successfully dealt with these problems often moved to other "better" areas of the city. Thus, since crime is largely a result of social ills, the solution is to solve social problems. One reduces crime less by dealing with criminals than with the *causes* of crime.

They further found that criminality was transmitted from one generation to the next; i.e., the older boys taught the younger ones how to steal, and then, when they became "professionals," they in turn instructed the next generation in the ways of crime. The neophytes bragged about their criminality, admired the "big shot criminals," such as bank robbers and the like, and looked forward to becoming like them. Demoralized and disorganized neighborhoods filled with poverty caused children to seek success where they believed they could find it. They learned that they could find it in criminality, and continued to find it there as they grew older. The legitimate doors to success were closed to them, so they attempted to achieve in their society by the only means they knew, by crime. This theory was developed by Merton (1938), and became one of the most often quoted and discussed sociological theories ever (McCaghy, 1976). Accordingly, criminals are normal people who are socialized in a different way than noncriminals, thus reflecting their social environment. The solution is to change the environment, producing resocialization by introducing the norms and values of straight society and devaluing the values of criminal society. Habilitation is achieved primarily by learning the new values and skills which enable one to make an honest, rewarding living.

Contra-Culture Theories

Various aspects of the Shaw and McKay theory were repeatedly criticized and largely replaced by the contra-culture theory of crime (Miller, 1958). Further investigation revealed that the high crime areas were not so much disorganized as organized differently than the suburbs. Nor were most persons in these areas criminals; only a small number were. Criminal groups

are subcultures, highly organized worlds that are very similar to the dominant culture except that they advocate different values in select areas of conduct (Yinger, 1977). These differences are only partially a response to poverty, discrimination, and their social world. Family life is dominated by the female, and males and females lead relatively separate lives. Thus criminals are not average Americans in a social sense; they are socialized into a culture different from the dominant one, a culture which responds to their specific social conditions. The focal concerns of the middle class are athletic, academic, and social successes, but those of the lower class are smartness, toughness, trouble, fate and autonomy. The values of each class tend to attract the most capable males in each community.

The solution to crime, according to this theory, is to educate, resocialize, and reculturalize the members of this contra-culture with the middle class values. Habilitation thus consists of convincing them that their contra-culture values are not the key to success, i.e., do not work for most persons and in the long run are suicidal for society. Aside from those relatively few who did grow out of crime, most were found to be hard to convince, in spite of the best efforts of reformers. They were thus called "hardened criminals," a term which includes most adult felony offenders.

Later research, though, found that this so-called "contra-culture" existed more in sociology books than in society; i.e., even lower class boys who committed criminal acts often knew that they were doing wrong—as did their parents and friends. A major finding that challenged this theory, as with the Shaw and McKay theory, was that crime was far higher in the non-contra-culture class than previously realized, and that most persons actually living in the contra-culture milieu did *not* commit major crime (Quinney, 1970). Thus, as time went on, these sociological theories had to undergo more and more modification, until there was little left of them as comprehensive theories of crime causality.

Environmental Theories

The theory that "bad associations spoil moral habits" dates back to pre-Biblical writings. It has long been observed that delinquents were raised from backgrounds of social and economic deprivation—yet most youths in this background do not become hard-core delinquents. Furthermore, research confirmed the view that far more delinquency existed in the middle and upper middle classes than previously imagined (Vaz, 1967). The difference was not so much in the amount of delinquency as in the type and in the community response to lower versus middle class delinquency (Chambliss, 1973). Much of middle class delinquency was hidden, and often arrests were dismissed by the court or deals made between the parents, police, judges, and so forth (Vaz, 1967). Middle class delinquents were also less likely to be arrested, even after being caught in a criminal act. Empy (1982:11) quoted numerous studies which consistently found that "at least nine out of ten illegal acts go undetected or unacted upon by anyone in authority."

A very small percent of the young persons who involve themselves in juvenile delinquency become adult criminals. Most young persons engage in some illegal acts (drinking, vandalism, etc.), but few involve themselves in a high level of criminal behavior as adults. These are the groups that we need to be concerned with and understand. They are far more difficult to explain in terms of childhood environment factors. Why do most youths socialized in a criminal environment "grow out" of crime? Arrest records peak at age 16 and then decline at 17 for whites and slightly later for blacks. By age 19, when most people are working or in college full time, it is fairly low. This prodigal son phenomenon can be understood in terms of both psychological and social factors.

Further, as Empy (1982:84) notes, juveniles are "among the most criminal segments of the population . . . more likely to be arrested for serious property crimes, although a small group of chronic offenders may be accounting for a highly disproportionate portion of all arrests." This criminality of the young "runs counter to the assumption that [modern] enlightened methods of child raising and the invention of the juvenile court protect children from involvement in the debaucheries, misdeeds, and crimes of adults." In view of this fact, most child rearing fads have questionable efficiency. In spite of the fact that it is difficult to find a clear relationship between specific environments and child rearing techniques, most persons assume that a strong relationship exists.

Other Attempts at Criminal Reformation

During the last century, other schools of criminology also came and went, and most in time abandoned the idea of retribution. The classical school stressed that lawbreaking is due to a free rational decision to violate the law in pursuit of personal satisfaction. The solution, said this school of thought, was simply to make the penalties so stiff that crime was not worth it. The purpose of the penalties was not punishment or retribution, but solely deterrence. The problem with this position is that much crime is not rational.

This position was also contradicted by many positivistic environmentalist criminologists—a leading school for over a century and a half which stressed that human

behavior is learned. A criminal learns to be such, but not consciously as a result of a rational decision. The solution, therefore, is reeducation, or learning not to be a criminal. Punishment, therefore, is at best irrelevant but possibly harmful. Further, what one learns is only what one's environment teaches one. As the physician Henry Maudsley (quoted in Empy, 1982:43) stated, "Criminals go criminal, as the insane go mad, because they cannot help it." Poor socialization, poverty, ignorance, discrimination, social disorganization, and emotional conflicts were all believed to cause criminal behavior. The only hope for controlling anti-social behavior was to discover and treat its *cause*, the same solution as for physical or mental sickness. This philosophy is called the medical model for this reason.

Another school, control theory, emphasizes that people conform because they develop various attachments to society and do not want to do anything that may jeopardize their social affiliations. A man who has a good job and a loving wife and children will not jeopardize losing or alienating their affections by robbing banks or engaging in petty criminal acts. One wishes to please those to whom one is attached, including one's parents, relatives, teachers, and one's nation itself. One would obviously not do something that may, if discovered, displease any of these significant others. People become delinquent because they have no one to worry about displeasing, thus there are no brakes on their violent or criminal behavior.

Lack of learned self-control as a cause of criminality is also examined in this school. Inability to exercise control over one's criminal drives is a result either of being inherently less capable of doing so or, more likely, because one was not trained to do so.

The Failure of the Move from Punishment to Science

As Empy (1982:149) summarizes, the modern history of corrections is basically a "gradual awakening of western civilization from the stagnation of the middle ages [which finds] strong parallels . . . between the invention and growth of the juvenile court and the invention and growth of modern science." The result, which began in the 1800's and continued to the 1960's, is called rehabilitation. Criminals, like a broken refrigerator, merely need to be repaired. Kicking the refrigerator is not an appropriate response to its malfunction. Likewise, punishing the child is an inappropriate response to misbehavior. Punishment, therefore, became less and less important in the correctional system. The only punishment, if it can be considered that, is "confinement" within the prison walls. Prisons are miniature cities which are often not much more punishing than military schools or other total institutions that are not designed to punish. Yet, the United States experience of over 200 years in trying to "repair the child" has produced almost total failure. We now suffer from one of the highest crime rates in the world, and have one of the highest percentages of citizens in prison of any nation (Sherman and Hawkins, 1981). As Doleschal (1977:52) notes, "No other country in the world imprisons as great a proportion of their [population] as we do."

The failed prison reform of the 1960's, as well as the high recidivist rate—often as high as 70% in long term follow-up studies—has again caused widespread calls for more radical reform. In 1966, the New York State Governor's Special Committee on Criminal Offenders organized a research project to thoroughly evaluate all empirical studies in corrections. By 1970 the completed project had examined all research in the English language published from 1945 to 1967. Studies which had flawed research methodology or did not meet acceptable scientific criteria were not reviewed. The overall conclusions, "with few and isolated exceptions," were that rehabilitative efforts thus reported so far "have had no appreciable effect on recidivism" (Martinson, 1974:25). After examining hundreds of programs, it was found "none of them . . . made any difference in recidivism rates (1974:25). Of course, Martinson (1974:49) admitted "it is just possible that some of our treatment programs are working to some extent, but that our research is so bad that it is incapable of telling." And every program that supporters claimed to "work" produced only small differences compared to control groups, hardly making a dent in crime. The follow-up report (Martinson *et al.*, 1976:25) concluded that "studies that have been done since our surveys were completed do not present any major grounds for altering [the] . . . original conclusion."

This study and several others put the last nail in the habilitation coffin. The new word was "nothing works." Theologically speaking the root of the problem is sin, and thus social programs, while they can solve some problems, are limited in effect (Lipton, 1975).

A Return to Retribution

Essentially, prior to the 19th century, societies' efforts to control crime were dominated by the retribution philosophy; i.e., punishment was justified solely to "pay back to society" what was taken. In the first part of the 19th century, the retributive philosophy was gradually replaced by the philosophy of restraint, i.e., prison confinement according to the seriousness of the criminal acts, which would obviously prevent the offender from committing further criminal acts and also have both a primary and secondary deterrence effect. Others would learn from the example and would

likewise be dissuaded from criminal behavior. This element was not only considered valid in the days of retributive restraint, but was, to some degree, operative throughout the history of the prison system.

As we saw, the 19th century brought with it the philosophy of positivism which concluded that social problems could be solved through application of science. As Empy (1982:386) concludes, though, "each new revolutionary epoch has begun in a flurry of great optimism and ended in an outpouring of criticism and dismay." The current state is likewise "an outpouring of criticism and dismay." In Empy's words (1982:386) "... in recent years, it has been increasingly unfashionable to think in such hopeful terms. Indeed, research on the effectiveness of correctional treatment has been interpreted as suggesting that the concept of rehabilitation is dead and should be buried."

What then should be done? Suggestions range from whenever possible doing nothing (and this has seriously been proposed by many criminologists such as Schur, 1973) to severely punishing offenders for their acts without regard to their motivations for committing the act, the contingency factors involved, or concerns about habilitative affects. This theory, the "just desserts" perspective, now very influential in correctional circles (partly in academic but more so in public policy) has brought us back to the original primary response of society to crime—punishment given only because "the offender deserves it" (Von Hirsch, 1976:45–54). One purchasing consumer products must pay the price; one committing criminal acts must likewise pay the cost. It is now felt that the state is obliged to observe parsimony in endeavoring to "habilitate" but is justified only in meting out "just punishment," which means uniform sentencing policies.

Since, as Fox (1979:31) notes, "there is virtually no proof that, short of killing [the offender]... anyone knows how to stop another person from committing crimes," the habilitative programs in most states today, ranging from education and activity therapy to prison employment and psychotherapy, are optional. Conclusions of the just desserts philosophy are as follows:

1. Citizens deserve to be protected from the capriciousness of the system. If a certain standard of proof is met, the individual is always to experience a fixed sentence.

2. Restitution to the victim is now a major concern because of the current focus on his/her rights and loss. The circumstances of the crime are largely irrelevant, or relevant only as per the bureaucratic standards or as part of restitution. Robbery without a gun may be fifteen years, for example, and robbery with a gun twenty years, regardless of the circumstances of the offense or the offender. Judicial discretion should, as far as possible, be removed for the reason that judges are capricious. A system with a great deal of judicial discretion does not result in just, fair, equal punishment.

Corrections and Christianity

Some today still argue that the failure of correctional habilitation attempts, especially community corrections, was not due to incorrect theory, but to improper application or insufficient testing (Bergman, 1979). Although criminologists now generally concede that for some, if not many, persons, reformation appears impossible or extremely remote, they had experimented with numerous approaches before this view was reluctantly accepted. This position is in fact a reflection of the centuries-old theological view that God will judge all persons as either good or wicked, and that the fate of the wicked is everlasting punishment, but that of the good is everlasting life under paradisical conditions (Job 21:30; I Cor. 3:13; Psalm 37:22, 29). If reform for all persons were possible, adverse judgment would be only for purgatory duration.

Yet reform of humans has always been a major goal of Christianity, and for this reason religious leaders have led most early correctional innovations oriented toward habilitation (McHugh, 1978). Did not the conversion experience—part of the theological literature of most churches and sects—stress reformation, turning around and now living a clean life? Paul stated that "know ye not that the unrighteous shall not enter the kingdom of God? Be not deceived, neither ... thieves, ... nor drunkards ... nor extortioners shall inherit the kingdom ... *and such were* (note the past tense verb) *some of you* ... but ye are justified in the name of the Lord" (I Cor. 6:9–12). Reform for some, even major life changes, therefore, is certainly possible, and those who work in the prison system can testify that genuine reform does take place but that, in this setting at least, it is rare.

The writer has worked with offenders who were vicious criminals, some convicted of multiple murders, who became model Christians. Many lived an exemplary life for decades afterwards, testifying to the sincerity and permanency of their conversion (Edwards, 1972; Atkins, 1977). A common prison problem, though, is the profession of religious conversion in an effort to please the parole board. This, of course, confounds research on the effect of religious conversion on recidivism. Nonetheless, the fact that many religious converts upon release do not recidivate but live an exemplary life in their community for years demonstrates that sincere conversions do occur. The notorious

criminal Ed Edwards (1972) is a good example. The fact that reform occurs for both converts and non-converts suggests that it is at least a possibility for many persons.

The writer's own observations in various correctional institutions, including Jackson State Prison (Michigan), and his extensive conversations with inmates support the conclusion that habilitation has failed. Why then do some people, even if only a few, abandon a life of crime? The major reasons, which refer to what I call the individual school—because these reasons are highly individualistic and somewhat independent of the above schools of thought—are essentially as follows:

1. ***Maturity***. Many offenders simply "grow out of" a desire to involve themselves in criminal behavior. The majority of adolescents reach this state upon graduation from high school or before, but many of the inmates the writer worked with did not reach this stage until their 30's or later. One 45-year-old inmate exclaimed to the author that, in reassessing his past, he concluded that at this point in his life robbing stores and netting a couple hundred dollars or so (and then every few years enduring a three or four year stint in prison) was no longer fulfilling. He realized that if he was going to achieve what he now valued as a worthwhile life, his behavior had to change. In a followup after his release, it seemed apparent that he was living up to his new goals.

2. ***Insight***. Many offenders realize that the rewards and fruits of criminal activity, even while on the outside, are limited. A goalless and basically purposeless life loses its value, and growth helps one develop the desire to achieve goals, such as middle class respectability and stability. Other offenders simply realize that a life of crime is more difficult after one reaches middle age. Previous injuries, the effects of age, slower reflexes, *et cetera*, make criminal success more difficult.

3. ***Rising Up the Crime Hierarchy***. Some find that a life of petty crime, while glamorous at first, loses its appeal. They still wish to be involved in criminal pursuits, but realize that to do so successfully they are going to have to take up organized crime, prostitution, the importation of drugs, or other more lucrative criminal activities. They realize that, to do this, a great deal of knowledge and education is necessary. To this end, they educate themselves, both by learning from other inmates (thus prisons are called schools of crime) and extensive reading. They thus avoid petty criminal activities for which apprehension is likely and instead involve themselves in more sophisticated organized activities for which apprehension is far less probable and the rewards are greater. These offenders often do not become recidivists, but are certainly not reformed. They become part of the massive criminal underworld in which the likelihood of getting caught, apprehended, or convicted is very low. They "graduate," and become high status criminal professionals.

4. ***Life Value Change***. Some, typically through religious conversion, change their entire set of life goals. The writer has worked with many offenders who had a religious experience and who resolved to drastically change their lives. Many of these display an immense dedication while still in prison, involving themselves in Biblical and religious study, and evangelizing other inmates. They typically live a strict, disciplined life, abstaining from tobacco, alcohol, obscene language, immorality, and drugs, all of which are common in the prison. Some even become vegetarians or fast weekly. These highly moral, disciplined, friendly, gregarious, talkative persons often stand out from the typical inmate. They resolve to live their Christianity in the prison by doing good works. Many become involved in various self-help activities, in chapel service or various mail ministries. Their whole life philosophy changes from one which is hedonistic and self-centered to one which is highly disciplined and other-centered. Material possessions, instead of being an end, become a means to what they consider a higher end. An example of organizations that work in this direction is Prison Fellowship.

5. ***Bonding***. Many inmates develop a relationship with a person of the opposite sex, and through this person change their values and life orientation. Their attachment to this other person is such that they scrupulously avoid criminal activity in order to maintain a relationship which is valuable to them, and which they realize is not worth jeopardizing.

6. ***Goal Multiplication***. Other inmates utilize their experiences in crime as a means of gaining status by becoming, after their release, counselors in juvenile delinquent training programs or similar occupations. Part of the reason for this may be the discovery of a rewarding role which they do not want to jeopardize. On the other hand, some of these individuals clandestinely engage in crime while still maintaining their role in the community as a reformed offender helping other young persons avoid a life of crime (Cressey, 1961).

7. ***Stagnation***. Many offenders, especially those with minimal social skills, emotional or personality problems, or limited intelligence, continue to involve themselves in crime and spend most of their lives in

and out of prison. After the accumulation of three or four felony convictions, they eventually end up with a long prison sentence and are paroled only when they are seventy or more and involvement in crime is exceedingly difficult.

8. ***Continuation***. Many end up murdered, especially those with interpersonal problems (and there are many of these persons in prison). They cause problems not only on the outside, but have constant run-ins and conflicts, in the prison. Unable to adequately deal with people, they antagonize the staff and other inmates alike and are not uncommonly murdered sooner or later within the walls of the institution. In many prisons an average of one homicide a week is not uncommon. Typically, there is not a great deal of concern from either the other inmates or the administration relative to these homicides. Many people get themselves into trouble because of their incredibly short temper and emotional flareups that are out of all proportion to the situation. These persons in time often find themselves in prison, and then continue the same behavior. They also may spend a great deal of their time "in the hole."

9. ***Positive Growth***. Although few inmates are affected much by either psychological counseling, vocational training, or educational advancement, some individual inmates, depending upon the person and the circumstances, can gain from these programs. Once one has marketable skills or has achieved a college degree, one's attitude toward life may (but not necessarily) drastically change. The writer is aware of several success stories in which educational programs have been very influential. As a whole, though, educational programs in and of themselves do not work and largely produce only better educated criminals (Roberts, 1973). For a limited number of individuals, though, involvement in some programs can be effective. Persons who take up painting or achieve prominence in some area, such as the famous "bird man" of Alcatraz, illustrate this phenomenon. Thus, what works for an individual depends highly upon many circumstances, and especially upon personality and situational factors.

Conclusions

Each new theory in corrections seems to sound plausible to some and many have some validity. No one theory explains all crime, but each may explain a type of deviance or supply one of the factors that contribute to crime. The problem is that their application has failed to ameliorate most crime, and that each theory was faced with serious theoretical problems and numerous exceptions.

Modern-day criminologists are increasingly conceding that reformation and habilitation seem to be largely impossible (Schur, 1973; Quinney, 1970; Lipton, 1975; Martinson, 1974, 1976). Once a personality and life habits are formed, change is extremely difficult, even if the person desperately wants to change. The most one can do is simply to force an offender to pay back to society its just due.

All programs aimed toward habilitation have achieved individual examples of success, but looked at across the board each type has clearly failed. Habilitation involves a highly individual response and decision. The majority of adult offenders will not be habilitated, but will continue the life of crime until they die of natural causes or are murdered by other inmates, the police or others on the outside. Modern correctional policy has, for this reason, formally abandoned the habilitative ideal.

Fixed sentences are now stressed by many reformers, and, once served, the offender is to be released—regardless of whether the probability of recidivism is high or low. One took from society and thus one must return, i.e., receive one's "just desserts." The just desserts philosophy presently in vogue essentially requires the offender to "pay back" to society a measure of suffering, which is to be "fair," consistently applied, and in rough proportion to the harm he or she has caused society or some part of it. The "eye for an eye and tooth for a tooth" philosophy has today virtually replaced habilitation which, if available at all, is at best optional. Thus, within the last 200 years, we have completed a circle. The ancient Biblical injunction has been resurrected, and is now viewed by many as the most realistic response to the tragedy and problem of criminal behavior.

In the future, as our understanding of human behavior increases, the cycle will likely repeat itself, and correctional philosophy will likely move toward experimentation with more benign methods of intervention and habilitation. Possibly the major thrust will be in the area of prevention and long-term intensive habilitation. Possibly too, the success of religious conversion will influence future correctional programs.

Implications for Christianity

There is a tendency for Christians to believe that if a criminal offender persists in his or her ways, that the person is morally irredeemable, especially if the person is not aware of the difficulty of changing adult criminal behavior. However, Christianity requires concern to be expressed not only towards one's friends, but also those who would be regarded as one's enemies, and criminals are generally seen as enemies of society. Such concern is

not to be superficial; loving concern is an integral teaching of Christianity and a theme that is constantly elucidated in the Scriptures.

Although the state has a right to punish violators of its laws (Romans 13:1–7), the individual Christian is commanded not to seek vengeance. Forgiveness is to be the pattern of response (up to 77 times according to Matthew 18:21). Compassion towards offenders, although at times difficult, is imperative. While a Christian certainly has the right to protect him or herself and his or her family, both Christian tradition and legal statute in most countries prohibit overreacting. The problem of what to do with criminals and how to deal with unlawful behavior has always been vexing for Christians. It requires a careful balance of justice, love, mercy and wisdom. Some encouraging results have been achieved by Chuck Colson in his prison ministry. While it is too early to judge the efficacy of this program, we need more understanding of the conversion process, the type of offenders that are attracted to this approach, and of the approaches which are effective in attracting offenders to a Christian commitment (Colson, 1979). The general lack of success of secular approaches has forced some persons to look at the Christian approach, realizing that the response to God differs from that to the state or an individual.

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Communications

THE BIBLE AS GENETIC CODE— A HELPFUL ANALOGY

What does the Bible do in the church? This novel question is given one of its possible answers in this communication by using the notion of genetic coding. Genetic codes, whose unravelling has lately raised both hopes and fears of biological possibilities, are codes in a special sense;[1] that is, the sequences of amino acids in the famous double helix of DNA are codes in the sense of Morse code. It might be simpler to speak of the genetic alphabet, whose sequences "spell out" the differences among genes, an analogy offered in the 1970 edition of *The Encyclopedia of the Biological Sciences* (art. Genetics). The term code, however, seems rapidly to have become fixed in biological use. In order to exploit this notion in looking at the Bible, it is vital to examine a biological analogy that is part of the Bible itself. In terms of this analogy between the Church and a biological population, the genetic role of the Bible will be introduced. My exploitation of this notion will be limited to reflections on how this view relates to the study of the Bible and how genetic mutations can be interpreted in the analogy. Finally, one of the limitations of the analogy will be mentioned. A second Biblical biological analogy, to which some of the same reflections are relevant, is noted in an appendix.

The primary Biblical biological analogy is the notion of a people with a common ancestor, which is used of the Jews throughout the Old Testament and, less naturally, of Christians in the New. Paul is stating no more than the truth when he writes (Rom. 9:8) "that it is not physical descent that decides who are the children of God; it is only the children of the promise who will count as the true descendants." Conversely one could *become* a Jew. The "people" of the Jews were only analogous to a people with a common ancestor. The Gospel of Matthew contains the clear suggestion that the people of Israel are not indispensable to the purposes of God (Matt. 8:11 and 21:43). And other texts indicate either that Christians have been grafted onto the old Israel (Acts 15:14–18, quoting LXX Amos 9:11–12, and Eph. 2:19) or have replaced the old Israel (Rom. 9:25, quoting Hos. 2:25; Col. 3:12; Gal. 3:7 and 29; and pre-eminently 1 Pet. 2:9) though it is not completely clear in every case which of the two relations to the old Israel is meant. In this notion there is much that is organic and much that is being lost by the use of "people" for "persons." The idea of Christians as a people, with all of its Old Testament overtones of Israel as the descendants of Israel (Jacob), has been made use of not so much by the New Testament writers as by Christian readers of the Old Testament. Nevertheless, it is well established as a standard, Biblically based, view of the Church.

Thinking then of the Church as the spiritual descendants of Abraham, Isaac, and Jacob (Israel), we can treat the question, what does the Bible do in the Church? As I have just said we, as Christians, are descendants in an extraordinary way, "born not of blood, nor of the will of the flesh, nor of the will of man, but of God" (John 1:13). New birth in baptism is not the only way in which each one's incorporation into the people of God differs from the development of an individual in a family tree. A substantial part of what a person is like is determined by a genetic code that is itself physically embodied in a fundamental part—if not *the* fundamental part—of one's two original cells. The people of God need genetic material too, and I suggest that the genetic code of the Church is physically embodied in the Bible. Christians are incorporated into the people of God, and they live their life in that people. It is essential that each of us *belongs* to the people and not be just visiting aliens. This characteristic is not provided in a natural physical way. The Bible, as a genetic code, is what keeps us true-to-type. If we did not have the Bible, but merely tried to be Christians by imitating our predecessors, the making of Christians, not only by adult conversion but even by upbringing, would be comparable in fidelity to passing on a rumor.

This way of looking at the Bible says something about the study of it. If we remove the genetic material from a cell, then we have a number of chemicals that can be and are studied using standard chemical techniques. This gives us information that we would otherwise not have, with its own unique value. On the other hand, genetic material can be studied without removing it, and then molecular biology is able to do things and learn things that transcend chemistry, as literary studies transcend grammar, without reducing the value of the chemical studies. The Bible can be removed from the lectern[2] and studied in a variety of ways—by literary critics, by textual critics, by anthropologists, by historians—in the standard ways appropriate to such studies. These give us information that we would otherwise not have, some of it

with value for us as Christians and some of it with other value. On the other hand, the Bible can be left, as I have put it metaphorically, on the lectern and studied as the physical embodiment of the central core of the tradition that includes sacraments, creeds, hymns—all the manifestations of the faith and order of the Church surrounding the lectern. The understanding of the Bible *left on the lectern* transcends what anthropologists, historians, and literary critics as such can say about it, because it is then being understood in its function rather than abstracted. One might say that even the higher criticism is not high enough even if it is critical enough. But this does not at all devalue the labors of, for example, textual critics any more than molecular biology is likely to replace analytical chemistry. It just gives us a perspective, a needed perspective (cf. E. L. Mascall, 1977).

Another consequence of the removal of the Bible from the lectern with its interpretative surroundings is that it then can be used, like the hypothetical wayward genes which have caused so much excitement, to produce non-Christians. It is my understanding that the Jehovah's Witnesses use the Christian Bible but wrench it from its traditional context. Still fulfilling formally the same role, it is acting as the genetic material for a rather different religion, just as, for that matter, Jews might regard the role of what we call the Old Testament in the Christian Church. These examples serve to illustrate the crucial importance of the impact of extra-Biblical environment on the Bible's functioning.

A reflection that illustrates the usefulness of the genetic-code view of the Bible's function and also the fact that it is only the core of the genetic material is the interpretation of mutations. The differences among Monophysites, Eastern Orthodox, Roman Catholics, Anglicans and the range of Protestants do not center on their Bibles, although they do differ rather unimportantly. In spite of the common core these groups manage to reproduce true-to-type within their different clans, as one might call them. Nevertheless because of the common core they all manage to recognize one another as parts of the people of God and to communicate with one another in a wide variety of ecumenical contexts, although only within the context of this century (cf. the amazing convergence represented by the document *Baptism, Eucharist and Ministry*). One of the most serious obstacles to the furtherance of this process is the substantial collection of documentary material produced by Roman Catholics between the Councils of Trent and Vatican II and accorded by them and only by them a status that in practice if not in theory competes with Scripture. Without these documents, a kind of interbreeding could more readily take place—as it has among some Protestant groups—quietly erasing distinctions residing outside the common core. These quasi-scriptural documents *could* be viewed as a mutant expansion of the common core, but that analogy should be kept to the actual addition of non-interpretative material by, for example, Joseph Smith or Mary Baker Eddy. The addition of what is meant to have a scriptural authority tends to produce new religions like Mormonism or Christian Science, a new species which cannot interbreed with that from which it sprang.

A feature of the Bible-based reproduction of Christians that I want to note is based on one of the differences from natural reproduction. Most members of species are reproduced and do not know it. We know and care that we have the code, a visible link with the apostolic Church and the old Israel. It matters to me that this code was evolved over a considerable period of time as the religion of Israel was converted through the agency of such men as Jeremiah into the inter-testamental basis for the Gospel. The New Testament is the coding of what Christianity adds because it evolved with Christianity as God created them both together. There is no chicken and egg problem about the Church and the New Testament. Both the formation of the community and of the texts were inspired by God—it was the same inspiration. We talk about the inspiration of St. Paul's epistles because they are what we have available, not because we doubt the inspiration of the writer of the word of God or of the readers that recognized it as the word of God. The view that the community's consensus was expressed in the New Testament and that the writings of the New Testament helped to form that consensus is my way of putting, in the terms of this communication, some ideas of the late Karl Rahner. For me they fit well with the biological analogy and apply equally well to the Old and New Testaments. I can see no justification for separating the inspiration of the writer and the inspiration of the writer's text, or even any clear reason for doing so (cf. I. H. Marshall, 1982). I want to conclude by remarking that I hope the biological members of the ASA will forgive the above musings of a mathematician. They will of course see ways that I do not see in which the Bible functions genetically and see more clearly than I other ways in which the analogy breaks down. That it breaks down is obvious; all analogies do. But it seems to me that understanding something is primarily an appreciation of its analogies. And so in offering the above analogy I make no apology for its limitations, regretting only my inability to explore them more effectively. In particular, if the Bible functions as the matter of the genetic process in the Church, what in the Church corresponds to what is called epigenesis in biology?

Perhaps a place to look for part of the answer to this question is the other biological analogy to which the Bible as genetic code is relevant: Paul's doctrine that the Church is the resurrection body of Christ (e.g., 1 Cor. 12:27). The late J. A. T. Robinson, long before his *Honest to God* notoriety, explored this doctrine as a Biblical scholar in his little book *The Body*. As he points out, *we* are completely familiar with the idea of a body corporate and are probably unaware of how novel the idea of such a body of Christ was to Paul's readers. Paul does not, note, ever refer to a body of Christians as we might to a body of marchers. This is a very physical notion indeed, and a vivid metaphor that has paled with time. Paul says that we are "limbs" (μέλη) of that body, which is usually translated "members," bringing our thoughts back to a body corporate (Eph. 5:30) like a club or company. That is certainly not Paul's intention; Robinson points out[3] that the graphic "description of Christians as 'joints' and 'ligaments' actually occurs in Col. 2:19; cf. Eph. 4:16. Professor C. H. Dodd[4] suggests 'organs' as the modern equivalent of μέλη." The force of Paul's metaphor is sapped also by the obvious fact that there are now so *many* Christians; even a millipede does not really have a thousand feet. If we are going to feel the force of Paul's striking imagery, we are almost forced to

think of ourselves as "cells" rather than members or even organs, the smallest parts of a body that we can identify with, fortunately endowed with a certain amount of functional differentiation, and reproduced true-to-type through their body's genetic code.

Notes

1. The Pentateuch is a law code among other things. Such a code is the result of codifying, not coding. Despite its Biblical relevance, such codes have only a verbal connection with the present text. Again, only a verbal connection is displayed by the coding that uses mathematical coding theory. This kind of coding, a recent invention, builds redundancy into digitally transmitted messages so that the decoding of the received messages can detect and even correct errors. Another kind of encoding, this one having some Biblical relevance in addition to the verbal connection, is that used to hide messages from unauthorized interpreters. Cryptography studies how to conceal messages and how to reveal concealed messages. The cryptographic approach to the Bible has been in evidence from the time of the gnostics in the first Christian century to the Jehovah's Witnesses at present, and has not always been endorsed by only the unorthodox. This would be one way to describe the extremely allegorical exegesis of the Alexandrian school of catechists in the third Christian century. What are called genetic codes are codes in none of the above senses, though they have elements of two of them, redundancy and hiddenness.
2. In speaking of the Bible "on the lectern," I am using a spatial metaphor to symbolize all the actual uses of the Bible by the Church, definitely including its private study by Christians.
3. Robinson, 1952, p. 51n.
4. Dodd, 1958, p. 159, cited in Robinson, 1952, p. 51n.

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SCIENTIFIC TENETS OF FAITH

On January 10th, 1985, Louisiana District Court Judge Adrian Duplantier entered a summary judgement against the Creation Science Legal Defense Fund. Judge Duplantier forbade instruction of creation-science under the United States Constitution. He ruled the concepts of creation and a Creator originate in religious conviction and are, thus, implicitly unconstitutional—and unscientific. This decision echoed the highly publicized result rendered in the Arkansas trial of 1982. There, Judge William Overton ruled that creationism's reliance upon "tenets of faith" precludes its acceptance as scientific theory and, in turn, its use as proper public school curriculum.

While this highly visible legal debate has raged over creationism's qualifications as true science, another more fundamental question about the true nature of science has escaped public discussion almost entirely. Courtroom creationism has proved instructive primarily by exposing philosophical naivete about science's ability to maintain continuity without its own "tenets of faith." As faith in the foundational propositions of modern science seems increasingly inexplicable to agnostic points of view, one may wonder if science itself does not originate, philosophically, in Christian conviction.

Questions of origin require prodigious doses of humility. While advancing a particular Biblical view of origins, scientific creationists have again learned the meaning of humility in the courtroom of a Louisiana judge. Since their first defeat in Arkansas three years ago, much has been written about the folly of legislating curriculum that alters accepted scientific theory to fit particular religious belief. Few, however, have commented critically on what now constitutes accepted scientific theory, despite the threat of a protracted appeals process that will again require addressing precisely this question.[1]

Certainly, to date, courtroom creationism has not limited expressions of folly to zealots of a religious variety only. Defenders of science, either because of impatience with creationist fervor or because of their own philosophic ignorance, have played a much stronger hand than they possess in describing the methods and supposed autonomy of the scientific discipline.

We scientists are not immune to the need for intellectual humility when discussing origins. Clearly, theorists might consider humility an asset when attempting to reconstruct the origin of the universe and its life. But more importantly, humility is essential to discussions about the methodological and presuppositional roots of science itself.

Sadly, a scientific education often neglects such discussions. Questions of method and meaning comprise the stuff of philosophy, and disciplines like epistemology seem far too esoteric for those trained to view the world as a collection of physical, chemical and biological causes.

This is not to say scientists are narrow-minded technocrats with no appreciation of ethical considerations or artistic sentiment. Rather only, that we in this century have learned our science in a context of philosophic naturalism and positivism that ignores the entire conceptual framework necessary to modern science.

These philosophies attempted to objectify scientific inquiry by rejecting any belief that could not commend itself to the strict scrutiny of observation. The attempt failed.

Instead, these philosophies have introduced a serious internal contradiction into the structure of natural science, quite the reverse of their expressed intentions.

Naturalism assumed all events to be exclusively the result of physical or natural causes. It was, thus, forced to view the human mind as a composite of evolutionary adjustments responding to chemical and biological stimuli. An intellect, however, that responds solely to stimuli can think only that which stimuli cause or determine it to think. In this scheme, with the human mind viewed as a machine, the validity of human reason and natural science is destroyed. The mind cannot know truth; it can only produce response. As Professor Haldane has said, "If mental processes are determined wholly by the motions of atoms in my brain, I have no reason to suppose my beliefs are true . . . and hence no reason for supposing my brain to be made of atoms."[2]

Another school of thought, known as logical positivism, also wrought internal contradiction. In presuming all knowledge must come through the senses, the positivist assumed knowledge of something that, quite ironically, could not be verified through the senses. The premise that no truth exists independent of experimental verification crumbled beneath the realization that the positivist premise was itself quite impossible to observe in the laboratory. Even many philosophy texts, typically judicial in approach, now record without hesitation the dissolution of positivism as a credible philosophy of science.

Far from accomplishing their purpose, these viewpoints have begun to undermine a belief in the validity and objectivity of scientific theorizing. Many philosophers of science, long aware of the extent to which scientists creatively contribute to the result of experiment—through personal judgment, intuitive guesswork, and a whole network of conceptual beliefs—now regard knowledge as essentially subjective. The scientist's final justification for his theory, in their view, rests wholly within. Some suggest that causal links and the order men perceive in the universe are impositions of the human intellect, rather than real features of our world. In this vein, in 1980, a prominent French physicist wrote to *Scientific American* arguing that the idea of an objective reality independent of human consciousness is untenable in light of the new physics.[3]

This is heady stuff, to be sure. And such overt skepticism rarely circulates even in the academic world far beyond those in quantum physics or philosophy departments. Yet, it often conveys a kind of cynicism that easily permeates culture and can only serve to enhance an already pervasive relativism and personal alienation. Modern poetry abounds with the themes of poets languishing in cosmic loneliness—a loneliness that is underscored, fundamentally, by a curious inability to give meaning to perceptions, or to know anything truly outside one's own mind.

Many of us, who do not take such a grim view and who realize the absurd consequence of attempting to live, let alone conduct science, by skepticism regarding our own logical faculties, believe there is another alternative. The failure of the positivist's view to validate scientific method only serves to illustrate the role and necessity of making intelligent foundational assumptions. These foundational premises, by nature, do not avail themselves either to proof or disproof. Scientists may, however, choose assumptions that lend explanation and meaning to the necessary functions of inquiry. Certainly those who choose to live with skepticism, however, cannot be disproved.

Ironically, these foundational assumptions are not unlike the much scorned "tenets of faith" whose detected presence in creation theory first disqualified it as legitimate science in an Arkansas federal court three years ago. This observation neither suggests nor repudiates a defense of creation theory as legitimate science. It does, however, assert that from the definition offered by the American Civil Liberties Union, and the press's coverage of the scientific community at the time of the trial, science itself does not qualify as legitimate science.

In an excellent article capturing the pre-trial mood of many in the scientific community, Wall Street Journal science editor Mr. Jerry Bishop identified an interesting philosophical shift in the creation science court debate. The precedent-setting Arkansas debate hinged, he asserted, on whether or not creation science could demonstrate "the properties of a scientific theory."[4]

Mr. Bishop's Wall Street Journal report of the scientific consensus, "Creation Theory Doesn't Predict—or Postdict," cited two accepted elements of scientific theorizing.[5] Ironically, though both of Mr. Bishop's criteria were accurate, neither could be sustained or validated by the strict empiricism of the positivist outlook. Yet many scientific voices held up the positivist position to the press throughout the trial proceedings as the basis for dismissing creationism.

Mr. Bishop reported that a scientific theory first must have the properties of prediction and postdiction.[6] Scientists recognize that these terms refer to the process of inductive reasoning applied to the past and to the future. Induction, the inference of universal rules describing nature from observed facts, has often provoked skepticism by those who reflect on scientific method. Since the time of David Hume, philosophers have recognized that the validity of inference rests on the truth of an assumption—a tenet of faith—that nature remains uniformly ordered throughout space and time.

Mr. Bishop's second criterion, falsification, also rests on the acceptance of an assumption.[7] The doctrine of falsification states that a theory is scientific only if the possibility exists to disprove (or falsify) it by observation. Though falsification clearly cannot provide a valid rule for theory verification, it can not, of its own, supply a valid rule for theory rejection either. Theories are rarely disqualified on the basis of raw data alone and certainly never on the basis of just one perturbation. In every experiment, scientists exercise judgment about what ought to be regarded as data.

Scientists make these judgments in accord with a whole network of foundational beliefs. Many of these beliefs are

inferred from other observations.[8] Others are concepts and intuitions that are the contribution of the observer. These concepts (for examples, space, time or matter for the physicist) act as a kind of gridwork through which the scientist passes and orders his observation. Such creative mental contributions must be presupposed to correlate meaningfully to the world outside the observer, for falsification to be considered a valid guide to inquiry.

Clearly, for man, the commodity of truth (even the truth of falsifiability) requires an expenditure of faith. In natural science, truth rests on expenditures of faith in propositions that necessarily fall out of the realm of empirical study and into the realm of epistemology, metaphysics and theology. Given the current and historical difficulty human philosophic systems have faced in accounting for truth as autonomous from revelation, scientists and philosophers might be most receptive to systems of thought that find their roots in Biblical theology.

The Judeo-Christian scriptures have much to say about the ultimate source of human reason, the existence of a real and uniformly ordered universe, and the ability present in a creative and ordered human intellect to know that universe. Both the Old and New Testaments define these relationships such that the presuppositional base necessary to modern science is not only explicable but meaningful. Moreover, all of us would do well to reflect on the scriptural axiom that "in Him all things hold together,"[9] and further reflect on the serious consequences to a society and culture that divorce spiritual thought not only from moral considerations but scientific ones as well.

Notes

1. The lawyers representing creationism have already submitted an appeal in the U.S. Court of Appeals. The creationist strategy, in general, remains the waging of a war of attrition. They plan to keep creation-science alive in appeal until conservative Reagan appointees begin to stock the courts in greater numbers.
2. Haldane, J. B. S., *Possible Worlds and Other Essays*, Philadelphia, Penn.: Richard West, 1972, p. 209
3. d'Espagnat, Bernard, "Quantum Theory and Reality," *Scientific American*, p. 128, November 1979; and Letters Section, May, 1980
4. Bishop, Jerry, "Creation Theory Doesn't Predict—or Postdict," *The Wall Street Journal*, New York, New York, December 27, 1981
5. [5]*Ibid.*
6. *Ibid.*
7. [7]*Ibid.*
8. These beliefs are, thus, subject to the same assumption-constraining inference discussed above.
9. Colossians 1:17, (NIV)

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"Personal peace means just to be let alone, not to be troubled by the troubles of other people, whether across the world or across the city—to live one's life with minimal possibilities of being personally disturbed. Personal peace means wanting to have my personal life pattern undisturbed in my lifetime, regardless of what the result will be in the lifetimes of my children and grandchildren. Affluence means an overwhelming and ever-increasing prosperity—a life made up of things, things, and more things—a success judged by an ever-higher level of material abundance."

Francis Schaeffer in *How Should We Then Live?*, p. 205.

Book Reviews

ON BEING HUMAN: Essays in Theological Anthropology by Ray S. Anderson, William B. Eerdmans Publishing Company, Grand Rapids, Michigan, Paper, $9.95 (1982).

Andy Rooney, CBS's contemporary Mark Twain, has observed that "Writers don't often say anything that readers don't already know unless it's a news story. A writer's greatest pleasure is revealing to people things they knew but did not know they knew." It was with considerable agreement with Rooney that I began to read this work by Ray S. Anderson. My confession, after careful reading, and in some sections, rereading, is that the author has reviewed felicitously and explicitly not only what is known by those of us in theistic/anthropology but has added much new information regarding what it is to be human within a biblical and evangelical world view.

As I pondered the subtitle, "Essays in Theological Anthropology," I recalled a work by the psychologist Elton B. McNeil, of the University of Michigan, with the title *Being Human: The Psychological Experience*, and thought it would be both interesting and relevant to compare as an anthropologist the two approaches, that of an evangelical Christian theologian and that of an articulate humanistic psychologist. However, since my initial reading of Anderson's writing was during field work in Amman, Jordan, and my copy of McNeil was in my home library, I had to delay such comparison until my return home. Furthermore, since I read Anderson while engaged in research related to Christian mission in the world of Islam, the assignment to review Anderson was cast into a context of cross-cultural application; that is, my evaluation was colored by another world view, albeit one with a monotheistic perspective having historical affinities with Judaism and Christianity.

Hence upon returning home, I pulled from the shelves a copy of McNeil and attempted a rough parallelism between the two as they addressed themselves to such problem areas as human sexuality, family relationships, abortion, and death. True, they both seek for answers for these pressing issues as they gaze into what seems to be a likely scenario for humankind. The exercise became a poignant review for me of how, whereas empirical data can be used to address crucial issues, yet how the approach of naturalism—the stance of McNeil—is inadequate to provide the imperative answers which are found outside the human experience; although it is of course pertinent to mankind in the past, present, and future.

In essence, then, this comparison brought into sharp relief the theistic viewpoint, that of biblical and evangelical Christianity as held by Anderson, particularly with regard to such questions as What does it mean to be human? How does a right understanding of personhood affect decisions on critical life situations? What implications does a biblical perspective on personhood have for the pastoral ministry of healing and hope?

Of course, Anderson's initial premise for the quality of "being human" is that man is made "in the image of God"—a premise which is not found in McNeil's evaluation—and one which quickly establishes a strikingly different focus. In elaborating on this basic postulate, Anderson pursues the question: "What is at stake?" (pp. 70–73) which he summarizes in four points as follows:

(1) It is essential to recognize and define the correspondence between human being and the being of God while at the same time preserving the absolute difference.

(2) The intent of Scripture seems to be that no matter how one understands the correspondence between the "man" and the "image," the image is a gift or an endowment which occurs in the concrete and particular existence of each person.

(3) If the "image" is present as a particular and concrete instance of human being, it can only be present as an "embodied" *imago Dei*.

(4) Since the "image" is present in human beings only as embodied in human persons, and since Anderson views the person in a state of sin (from the Fall) as being fully human, we can only account for the continuity of humanity as a continuity of the *imago Dei* in what becomes virtually a negative form.

Thus the stake here and throughout the work becomes the meaning of regeneration and renewal of humanity through the supernatural grace of God through Christ with regard to our concept of personhood. The issue of course is one of continuity, though necessarily in somewhat existential terms. If, according to Anderson's argument, we hold that the sinner remains human (made in the image of God) even when in a state of sin, does the sinner as an existing self remain the same person through the process of moving from "death to life" in what the Scriptures call the new birth? With considerable audacity, Anderson asserts that the regenerative experience includes all that was affected by sin. Such an assertion goes beyond the concept of salvation as a purely "spiritual" experience (as reflected by such terminology as "soul-winning" or "saving souls") to one which recovers persons in a wholistic sense. Logically, such a line of thought leads Anderson's theological anthropology to a form of "theology of liberation" as it takes seriously redemption through Christ *as historical* existence, rather than as a primarily spiritual experience *in* history.

Also of critical significance with respect to the basic premise of man as "image" is Anderson's discussion on human "response-ability," which rests upon the consequence of "hearing" the Word of God. This discussion stresses that

the human ability to speak and to hear is distinctly human in quality of being as well as being a mark of the image and likeness of God. Thus mankind is sharply distinguished in creation from all creatures which have no word of response and which consequently will never be judged for not hearing. The human being emerges from the creation event of the spoken and heard Word along with profound implications as to humanity's status and role in the universe.

Perhaps it is Anderson's and McNeil's respective conclusions on sexuality, that is, male vis-à-vis female, that best reveal the marked differences between a theistic and a humanistic position; this issue is especially critical in the Western world today given the "sexual revolution," "women's liberation," "equality of the sexes," and similar phrases which suggest both subjectivity and controversy. For McNeil, speaking in conventional naturalistic terms, we read that "The male must learn to manage his life. . . . He must learn to understand the attitudes, acts, and stereotypes of the female. . . . Men have a choice. They can remain an embattled sex at bay, or they can accomodate to the changing culture and share in its benefits. If they are lucky they may even learn a definition of masculinity that is not so corrosive of their psychological health" (p. 181).

In contrast, Anderson observes, " . . . we choose to continue to explore the implications of the biblical teaching of a specific order of male and female relationship in terms of what may . . . be called the hierarchal modality. In the case of the modality of Father and Son, the terms ordination and subordination appear to be ontologically equivalent, and thus neutral so far as quality of being is concerned. . . . If we were to call the polarity by which human persons exist in the image of God essential sexuality—as distinguished from creaturely sexuality—we could argue that the former is more related to the ultimate determination of our personhood and the latter to the penultimate. . . . There will be a time when the penultimate will give way to the ultimate. . . . This theological perspective seems to liberate us from the tyranny of role-relationships as determinative of our personhood far more effectively than the concept of partnership, with its asexual implications. There will be and is a tension between the ultimate and penultimate" (pp. 116–117).

We must limit ourselves to one other contrast of views, this being a comparison of scenarios regarding the future well-being (total health) of each person and of mankind as a whole. According to McNeil, "Unlike behaviorists, who view man as an essentially passive object that can be governed through the proper manipulation of external and internal stimuli, humanists believe positive social change can result from man's potential for growth and maturity on a rational rather than mechanistically conditioned level. . . . If a humanistic philosophy prevails in the years ahead, the psychologists of tomorrow will be fully engrossed in the task of helping each member of society be the kind of human being he is uniquely capable of becoming. Only in this way . . . can man evolve psychologically to a point where he can rationally and emphatically make decisions for the good of all mankind" (p. 338).

The theistic perspective on being fully human is epitomized by Anderson as follows: "The relevance of a christological critique for the cure of souls is obvious. If one begins with the assumption that Jesus Christ constitutes not only the fulness of deity, but also the complete expression of true humanity, it is clear that humanity has been given an exceptional ontological status in the person of Christ. Not that Christ is any more or less human than any other human being; but his humanity cannot be attributed to an accidental or impersonal process of creaturely development. In Jesus Christ we discover that true humanity is rooted in personal being, and that is what is meant by ontological status" (p. 199).

It must be noted also that Anderson is well aware of the many scholars, past and present, who have explored this problem of being human. In his case, however, it is clear that he prefers the Reformed school of theology, especially the thinking of Karl Barth, Emil Brunner, and G. C. Berkouwer. As Anderson nears the end of his book, he casts his vote for the "Augustinian orientation of the Reformers," while suggesting that modern conservative evangelical (how soon will we need additional adjectives or modifiers?) Christian scholars such as Gordon Clark and Carl F. H. Henry "build on the more Aristotelian notion of a rational soul as the locus of the *imago Dei*" (p. 225).

At best the reviewer feels frustrated in that this review must be relatively brief and thus cannot suggest the richness of Anderson's articulate discussion, which is both lucid and seminal for us all in our quest for knowing just who we are. The author also has provided a very useful indexing of subjects and names of authorities. In an area where so much writing has occurred through history, he has also added a selective, but highly relevant, bibliography in which is found a concise spectrum of eminent students of the subject. His surprising comprehension of the subject finds commendable expression in a relatively limited compass of size and invites profitable study.

Reviewed by George J. Jennings, Middle East Christian Outreach, LeMars, Iowa.

HISTORY AND HISTORICAL UNDERSTANDING

edited by C. T. McIntire and Ronald A. Wells. W. B. Eerdman's Publishers (1984). 144 pages. $6.95.

So broad a title can cover almost anything! The present collection of eight new essays, primarily by historians of Calvin College, focuses on the methodology of history—"for scholars *and* students alike."

As a student of the history of science I found myself confused by the casual use of undefined and therefore indistinguishable phrases throughout; e.g., "history," "historical method," "*the* historical method," "critical historical

method," "scientific historical method," "logos of history," "empirical verification," "empirical methods," "*the* scientific method," "the scientific enterprise," "scientific and theoretical methods," "cognitive scientific visions," "truth of science," "scientific teleology," "disciplined imagination," "religious myths," "religious issues of history," "religious visions of history," "mythical and theological understanding," "ontic knowledge," "oneological reason," and so forth.

Granted historical facts, embedded in culture, and the abundance of factitious theory, there is little appreciation of the major problem of history, i.e., the ferreting out of historically related factors—even though statistics now affords a weak attempt in this direction. It is strange to find historians venerating Francis Bacon, who extolled experience but had little conception of the role of scientific theory, and, at the same time, idolizing Thomas Kuhn, who is so fascinated by man-made theory as to practically ignore natural phenomena. M. Howard Reinstra in his essay "History, Objectivity, and the Christian Scholar" boasts that "historians . . . affirm that their discipline is *both* art and science"—neither of course defined.

The most challenging essay, "On the Difference in Being a Christian and the Difference it Makes—for History," is by Martin E. Marty (University of Chicago). Noting that a historian's view rarely reveals his viewpoint, he believes that a "substantive philosophy of history," i.e., one concerned with "ultimate meaning," is highly desirable. George Marsden continues along the same lines in his "Common Sense and the Spiritual Vision of History." Together with many Ph.D.'s from secular universities, he is personally concerned with how to teach history in a so-called Christian college. He suggests the Gestalt patterns of apparently the same phenomena, thus allowing for a Christian view as an alternative. In any case he prefers experience to argument.

In "Social Science History: an Appreciative Critique," Robert P. Swierenga (Kent State University) emphasizes the "new history" utilizing the social sciences to supplement the traditional humanist history. An illustration of this technique is given by Dale VanKley in "Christianity, Christian Interpretation, and the Origin of the French Revolution."

The introductory essay is by Langdon Gilkey (University of Chicago); it deals briefly with "History and the Quest for Meaning." The first part, "The Structure of History and the Need for Scriptures," presents a new view, unfortunately hazy because of nebulous terminology.

The other section, on "The Biblical Scriptures and History," is typically traditional—and hence understandable. C. T. McIntire's "Historical Study and the Historical Dimension of Our World" is a lengthy (one fifth of the material) presentation of the same material in three ad hoc categories that are not particularly illuminating (Why does he speak of science as an "absolute?").

Reviewed by Raymond J. Seeger (NSF ret.), Bethesda, Maryland.

STAR WAVE: Mind, Consciousness, and Quantum Physics by Fred Alan Wolf. Macmillan, New York (1985). 342 pages. $19.95.

Continuing on through this book to the end provided this reviewer with the maximum adult exposure dosage to free-association philosophical speculation based on some relationship to modern quantum mechanics. Formerly a professor of physics at San Diego State University, the author was awarded the American Book Award of 1982 for his earlier book, *Taking the Quantum Leap*. By free-wheeling speculation based in some way on quantum physics, the author claims to provide the reader with a true humanistic psychology, insight into how the future is more important than the past in deciding the present, an explanation of how human consciousness creates reality, and the basis for a new religion and an understanding of the human spirit.

This book might more properly be called "Alice in Quantum Land." Effectively the author assumes that analogies are proofs, that illustrations are demonstrations, and that personal speculation is evidence. Furthermore he assumes that his own personal reflections on the significance of quantum mechanics for all of life are somehow necessary consequences of quantum mechanics itself. Sometimes I have jokingly said to colleagues that there must be an "Uncertainty Principle" governing film deposition methods: the simpler it is to do, the harder it is to understand and control; the easier it is to understand and control, the more complicated (and expensive) it is to do. This is the kind of thing that Wolf does throughout his book, but he isn't joking.

It is difficult to imagine for which readers this book is intended. The discourse ranges back and forth through esoteric usage of quantum mechanical language and mathematical formulations, but then the author will stop and explain some elementary point such as the meaning of a logarithm, or why surface area increases less rapidly with radius than the volume. He goes to elaborate lengths to use notation and calculations resembling those in quantum mechanics, but he gives standard cute names that will surely confuse the uninitiated, such as "qwiff" for "quantum wave function," and "quamp" for the "quantum probability amplitude." He spends endless pages on the Dirac notation (bra-ket) as though it contained within itself the secrets of the world.

Wolf assumes that the mathematical formulation of quantum mechanics describes the details of the world as it is with extreme literalness, and then extrapolates far and wide beyond this formulation to embrace every aspect of philosophical, psychological and religious thought. He adopts as a given the "parallel universe" interpretation of quantum mechanics, which, although it remains an interesting exercise in formal interpretation, can hardly be accepted as a meaningful approach. From the very beginning, when he tells us that the word *physis*, from which physics is derived, means "spirit"—whereas it means "nature"—he misleads the unwary reader into believing that speculation is established and that fantasy is fact. Almost every possible departure from

authentic scientific thinking, including an attempt to establish from science things that science is incapable of establishing, may be found somewhere in this book.

One of the most charming of Wolf's constructions leads him to argue that we can find the fundamental root of fear or self-hatred in the electron, since electrons obey Fermi-Dirac statistics that do not allow more than one electron per state, and that the fundamental root of love can be found in the photon, since photons obey Bose-Einstein statistics that do allow more than one photon per state.

One is tempted to quote any number of outrageous statements to be found in the book. Let me include just a few:

> I believe that mathematics and its application to the physical world govern the operation of our psyches. . . . I believe this more than I believe in any religious or spiritual leader's dream. (p. 9)
>
> The inertia of an object . . . depends on consciousness. It depends on observation. (p. 30)
>
> The discovery of the irrationality of the world came about with the realization of the quantum nature of all physical processes. (p. 37)
>
> Underneath the slick illusion of mechanical continuity and all of its causal consequences lies the great cosmic joker, God, and God's jokes are quantum-mechanical toys. (p. 75)
>
> Perhaps by forgetting or becoming confused it would be possible to pay the entropy price of allowing the physical universe outside the mind to manifest "sudden" order. Perhaps this was God's trick. He made the big bang of creation when She forgot She was He too; i.e., She lost sight of Her own Godliness. (p. 124)
>
> The electron's loneliness and 'her' insistence on 'doing her own thing' and maintaining her separate identity by having unique quantum numbers is, I believe, the origin of our own egos, self-hatred, and, when reflected onto the outside world, our tendency toward destruction. (p. 141)
>
> The qwiff and God are one. (p.153)
>
> There is not the slightest shred of evidence that proves the existence of a physical world acting independently of human thought. (p. 185)
>
> We read this as I-*bra*-A-op-ket-*Ai* equals *ai*-I-bra-ket-*Ai*. This is how the unconscious mind creates the realization of things moving. (p. 199)
>
> What we call reincarnation is attributable to two possible explanations. . . . Our genes contain molecular qwiffian patterns. These patterns were set up according to experiences of our ancestors. (p. 213)
>
> Your great-great somebody may have slept with Cleopatra or Genghis Khan. That imprint lives on as a genetic influence today. (p. 214)
>
> The Buddhists claim that suffering is universal . . . traceable ultimately to one cause: the false identity or ego we all seem to possess. Thus suffering and the ego are the same thing. (p. 215)
>
> The God consciousness reality, which I called the big "I" . . . is the quantum-mechanical probability amplitude of Yogananda's ultimate "self-realization." (p. 262)

These quotations do more than I can do in any other way to convey the essence of this treatment. I have not mentioned the author's personal travel to the parallel universe where he encountered "the astral plane of suicidal souls," and where he learned that "Each of us is a universe of souls, not just a single soul journeying from here to Timbuktu. As the Buddha taught, we are all questions of compromise." (p. 234)

Overall I am amazed that a reputable publisher like Macmillan would have published this book. Perhaps it indicates to us the seriousness of the situation in which modern thought finds itself. There may indeed be some valid insights given to us in this book, but except for the devotee of science fiction who may find the approach fascinating, I cannot recommend reading of the book except as a warning of the spiritual morass in which we live today.

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THE CHRISTIAN COLLEGE; A History of Protestant Higher Education in America by William C. Ringenberg (Taylor University). Christian University Press and William B. Eerdman's Publishing Co. (1984). 257 pages. Paperback $11.95.

As a graduate of a small colonial college and of a large colonial university, as a sometime professor in a small Presbyterian college and in a large secular university, I found this book interesting reading. (I had also been a member of the United Lutheran Church of America's Board of Higher Education for twelve years.) Despite the historian author's confession that he has relied primarily on secondary sources, his introduction to this social maze proves to be a challenging problem that admittedly requires a more comprehensive approach and more intensive study. I must, however, confess that I cannot wholly accept his basic assumption, viz., "of the several approaches to Protestant higher education during the last 350 years in America the orthodox/evangelical model represents the best approach to the search for truth."

This very statement in the Preface exemplifies the need for clarification of terms at the very outset. But it is not until the Epilogue that the author defines a Christian college "as a community of believers, both teachers and students, who are dedicated to a search for an understanding of the divine Creator, the universe which he has created, and the role which each creature should fill in his universe." This declaration is at best an ideal, but is certainly not typical of the colleges cited in this book. Under any circumstances, I cannot conceive of an author deliberately excluding all Catholic institutions and at the same time including Friends and Unitarian schools under the heading "Christian." My own experience indicates that most of the colleges mentioned are Christian in name only, but not in deed. Even the author himself admits, "Today at most church-related colleges, secular modes of thought dominate over the Christian world view." Throughout the book, moreover, there is a lack of discrimination between designations such as "Church col-

leges," "Church-related colleges," "Church-affiliated colleges," those that are "generally religious," "liberal Protestant," "evangelical Protestant," and so forth. Many denominations claim colleges, and vice versa, where there is only nominal financial support, say, a Bible chair, or a religious department. Comparatively few so-called Protestant Church colleges are actually controlled and maintained by the Church. They are mostly independent with a Board of Trustees whose primary concern is the local welfare. A major factor, moreover, in the development of any college is its size, not even mentioned in this book. When Dartmouth College expanded its enrollment to 2800, I asked its Provost what Daniel Webster would have felt about the small college he loved. The faculty had apparently studied this whole question of size and decided that the very nature of the institution changes radically at about 1000, regardless of what anyone claims. The next critical level is much higher.

In this book's first chapter, "The Colonial Period," no evidence is given for the author's dictum. "The Calvinistic-related colleges probably promoted their religious goals more intensely than did the Anglicans." His discussion of the pervading Christian purpose, the instructors, and the students in this period, including "The First Great Awakening of the 1730's and 1740's," is quite informative.

"The Old Time College" (pre-Civil War) resulted from the rapid expansion of Christian higher education during the Second Great Awakening" (1800–1835), when evangelism, including foreign missions, was emphasized. (I question the author's designation of "the mental, moral, and intellectual philosophy" as "the science of what ought to be." His reference to courses in *social science* during that period is an anachronism.)

The next chapter deals with the subsequent "New Colleges and New Programs." Colleges were then established for blacks and for women. In addition, universities were founded by wealthy patrons such as Duke, Hopkins, Rockefeller, Stanford, and Vanderbilt. Degrees were offered specifically in science and for graduate work. Students formed fraternities and participated in intercollegiate athletics. (The author relates the founding of Phi Beta Kappa, the first social fraternity, but neglects to mention its later significant contribution to collegiate scholarship.)

The author subscribes to a general belief that by the 1960's the average college student lost any religious commitment during his four years in college. He blames this on "The Movement Toward Secularization," five sources of which he traces. "One of these he ascribes to natural science inasmuch as it gave rise to scientism (advocated more by non-scientists than by scientists.) His few references, indeed, to science betray an immaturity in this regard. Although Francis Bacon was the great popularizer of the back-to-nature movement, he himself had little understanding of the scientific method. His inductivism was insufficient; it lacked imaginative insight. The *what* of science is dependent upon *how* it is determined—meaningless except in terms of *who* did it. It is surprising, moreover, to find a historian speaking of "agnostic science." Faith is just as potent in science as in any other human endeavor. Civilization has been built by men of faith, not by agnostics and sceptics. Finally, although it is true that "in geology and astronomy scholars seek to understand more about the physical universe," the goal is never reached. The more one knows, the more one doesn't know! Science is like a fire-ball expanding in the dark. As its bright surface increases, its contact with the dark unknown also increases. Unfortunately, the author shows little appreciation of the mysterious universe revealed by science. So, too, seminaries ignore God's creation in their curricula and have no room for a Christian scientist on their faculty. Religious scientists are best qualified to interpret the religious values of science, not philosophers or even theologians!

Relativism, higher criticism, liberal Protestant theology, and the social gospel are all regarded by the author as contributing to secularization, but none as significantly as dogmatic evolutionary theory. He considers the growth of religious pluralism in America to be a minor cause. This chapter proposes seven marks characteristic of a college during its transition to secularization. I would add to these the study of a comparative religion which fails to emphasize the uniqueness of Christ. Upon visiting an outstanding Presbyterian college, I found such a course largely responsible for the Department of Religion's being regarded by the students as the greatest irreligious force on the campus.

The author discusses various factors resulting in the abandonment of chapel programs. One of the strangest reasons cited was "the abundance of Christian instruction in other parts of the college program." This uncovers the real root of the problem, the common failure of an institution to regard the Chapel meeting as essentially a worship service, rather than as a hodgepodge occasion for announcements and the like. The primary need in colleges has always been better chapels, and fewer of the kind generally held. No wonder few faculty ever attended them voluntarily.

In addition, there is a provocative chapter on "The Response to Secularization." In his discussion of Christian organizations the author emphasizes the Y.M.C.A., but fails to mention religious clubs formed by students per se, unless under the sponsorship of pastors. He is particularly fascinated by "The Bible Movement" and the Bible colleges which it spawned. Of more general interest is his discussion of "Fundamentalism and Higher Education." He emphasizes the current trend for institutions to discard the "emotionally-laden" term "fundamentalist" (used by Bob Jones University, Liberty Baptist College, *et alia*) in favor of the more nondescript label, "evangelical" (used by Oral Roberts University, Taylor University, Wheaton College, *et alia*).

The last chapter considers "The Reconstruction of Christian Higher Education." The author concludes that there are "perhaps 200 continuing Christian liberal arts colleges plus the Bible Colleges." (He makes no reference to the fact that four of the seven original liberal arts were mathematically oriented, one actually a science, in comparison with modern requirements.) Particular attention is devoted to the Pentecostals (e.g., Oral Roberts University) as well as to other colleges that sponsor national TV programs. The section on "The Emerging Identity of the Modern Christian College" deals in particular with Wheaton College. Although some reference is made to the occasional recurrences of revivals, no mention at all is made to the more common local religious-

emphasis weeks or to the University Christian Mission Programs of the National Council of Churches. The book is notably silent on activities that do not seem to have the imprimatur of the author's own selected colleges. For example, to honor the nation's bicentennial (1976), Sigma Xi, the Scientific Research Society (national honor group), offered 100 lectures (gratis) to all U.S. colleges having enrollments under 2000. The college could choose from a list of nationally known scientists, including historians of science and philosophers of science. When I was invited, I invariably offered to speak also on science and religion, if desired. The author, indeed, ignores all such attempts at intellectual integration. Having been initially a classics major, I believe truly interdisciplinary approaches to be a genuine need and real opportunity for liberal arts colleges, particularly senior seminars offered under *joint* departmental leadership.

The author discusses colleges "In Partnership with the Government." He implicates the Federal Government, but ignores the tax-free status given by states. There is no mention either of the indirect benefits from the Federal Government: improvement of texts and faculty, not to mention buildings, facilities, and equipment. As an NSF representative in the 1950's I personally visited colleges that were small or isolated, for blacks or for women, including many so-called Christian ones. As a member of the MPE Research Division in each I urged the faculty to stimulate their students by introducing a research point of view in their teaching. The Foundation itself sponsored a number of conferences concerned with good research practiceable in small colleges, not to mention similar interests of NIH, the Office of Education, and others. Christian colleges above all need to instill their students with the joy of having life "more abundantly." The professors of divinity do not have sole possession of the keys to the kingdom: "In my Father's house are many mansions." All disciplines can reveal the glory of God.

The author chose Mark A. Noll to write an Introduction on "Christian Colleges, Christian Worldviews, and an Invitation to Research." It seems an unnecessary appendage to a well written book. It does contain a good section on "The Rise of the Seminary." Unfortunately, there is no analysis of the influence of seminaries on colleges, nor of their dependence upon size and proximity. The writer argues that "the professors at evangelical seminaries are the best trained of all professional academics identified with evangelical institutions, and their work is read far more widely in evangelical circles than work from professors in the Christian colleges." Presumably he is referring to scholars in comparable fields, e.g., religion. I am not at all surprised: the seminary professors are at a higher academic level. I note that the writer does not mention the unusual set-up at the secular University of Chicago with its cluster of seminaries. He gives no reason at all for his obviously personal feeling that "independent seminaries are less likely to be corrupted by the secularism of a university than is a divinity school attached to a secular university." I did not find such to be the case at Oxford University, which has a diversity of religious colleges in addition to the traditional European Divinity Faculty.

The Epilogue concludes appreciatively with some words of John Eliot, an early missionary to Indians, but fails to mention that his support came from funds specifically willed for this purpose by Robert Boyle, a Christian scientist.

Reviewed by Raymond J. Seeger (Ret.) NSF, Bethesda, MD.

SUMMONS TO FAITH AND RENEWAL: Christian Renewal in a Post-Christian World by Peter S. Williamson and Kevin Perrotta, editors. Servant Books, Ann Arbor (1983). xiv + 167 pages. $7.95.

The major theme which pervades the seven articles and three appendices of *Summons to Faith and Renewal,* a theme which is either a presupposition to be accepted or a thesis to be proved, declares that a more profound and significant division exists within Christendom than the obvious denominational alignments. More crucial than the labels "Protestant," "Catholic" and "Orthodox," is the cleavage which cuts through all denominations between "trads" and "rads," to use James Packer's terms. Traditionalists ("trads") are "those for whom the God-giveness of all biblical teaching, and of the historic faith as therein set forth, are fixed points" (p. 154). Radicals ("rads") deny this presupposition.

The book itself, edited by two leaders of the Ann Arbor Center for Pastoral Renewal, is the product of a Center-sponsored conference held in October, 1982. This meeting, the second of its kind, brought together 130 leaders of the three major Christian traditions who share the concern to maintain traditional Christian teaching and morals in the face of the erosion of Christianity in a society which is growing increasingly secularized.

The seven articles are organized within the volume into two parts, a division which reflects the two-fold summons to respond as envisioned by the editors: faithfulness to God and to his word and devotion to church renewal through prayer and pastoral work. The four essays included in the first part are largely negative in tone. They develop in similar ways the thesis that traditional Christianity is retreating under the attack of secular culture. "Religious secularization" (chapter 1) or "the spirit of the age" (chapter 2) has mounted an "attack on God's word" (chapter 3), leading to a "loss of a Christian way of life" (chapter 4). Part II wears a more positive face. An interesting basis for inter-denominational cooperation is developed in one essay whereas renewal is the topic of the other two.

On the whole, the book comes across as quite one-sided and even reactionary. The authors are surely correct in suggesting that renewal is needed in the church. However, they seem to assume that their understanding of renewal is the only viable one, an understanding that appears to be little more than the reinstitution of the theology and morality of an earlier era. As is the case in so much conservative literature, complex questions, whether theological, sociological or political, are over-simplified; and the list of the great issues of the day, which should include nuclear war and economic injustice, is

pared down to questions centering on the family and sexual morality.

The major thesis of the book, so readily assumed by the contributors, likewise cannot be accepted without qualification. While there is indeed a certain bond between all conservatives, the suggestion that denominational distinctions ought to pose no ultimate barrier for joint effort among "traditionalists" seems naive. Is it not the traditionalist and not the radical who is more interested in maintaining denominational distinctives? Is it not the traditional Protestants, Catholics and Orthodox who most readily see any other faith group as constituting an entirely different approach to the Christian faith and a very different religious heritage? For this reason Baptist traditionalists, to cite one example, ought to find more compatibility in the approach to a wide range of social issues which they share with Baptist radicals than they find in the vision of high church conservatives.

Summons to Faith and Renewal remains, in spite of these criticisms, an important statement concerning a crucial problem. Stephen Clark's article on cooperation and the offerings by J. I. Packer are especially worthy of further consideration.

Reviewed by Stanley Grenz, North American Baptist Seminary.

MAKING A BAD SITUATION GOOD by Raj K. Chopra. Thomas Nelson Publishers, New York (1984). 172 pages. Hardcover, $10.95.

Rah Chopra was born in India to a wealthy family and attended Punjab University. In 1969 he came to the United States and continued his education at Bowling Green State University where he received his master's and doctor's degrees. In 1976 Chopra became a United States citizen and in 1977 he became a Christian.

One of Chopra's goals was to become a superintendent of schools; this book was born out of his experiences while attaining this goal. His greatest challenge as an educator grew out of a situation described in 1976 on the CBS-TV program "60 Minutes," in which Mike Wallace reported that in Council Bluffs, Iowa, student test scores were the lowest in the state and that the school system was in a run-down condition.

In August of 1978 Chopra accepted the position of superintendent of schools in Council Bluffs and found a school system that was as bad as had been reported: adversarial relationships, futile school board meetings, lack of school discipline, too many administrators, loss of vision, communication gaps, ineffective curriculum, and lack of public confidence.

Chopra asked himself, "How can I change this situation?" This book describes how he went about transforming a school system in decline to one of the best in the nation. Chopra reduced the administrative staff, reorganized the curriculum, tightened attendance requirements, stiffened standards, emphasized test taking, developed a new code of conduct, and instituted better management of money. It worked. Test scores, teacher morale, and parental support all went up. The schools were looked upon by the citizens as an asset to the community. What made the turnabout possible? "Simply putting the principles of realistic thinking into action" (p.30), writes Chopra.

Chopra, who is characterized as a realistic thinker, attributes his success to being able to build on the good which exists even in bad situations. Through his experiences he has developed methods and attitudes which can make bad situations good for anyone. He recommends them in this book. They include the employment of praise, optimism, enthusiasm, love, and faith. With these virtues, stress, burn-out, negativism and seemingly impossible obstacles can be conquered. Through illustrations Chopra applies these principles to education, marriage, family and other areas of life. He illustrates in his own life the principles he espouses.

The book is divided into three major sections: the possibilities, the principles, the practicalities. With its many anecdotes, quotes, and aphorisms, the book reads somewhat like a sermon and the reader may become motivated to be more successful. It is a book that Norman Vincent Peale would be proud of and indeed he gives his recommendation for it on a jacket blurb. I think anyone who works in the field of education at any level and in any position would find this book especially relevant, interesting, and helpful. Christians in any walk of life will be inspired.

Reviewed by Richard Ruble, John Brown University, Siloam Springs, Arkansas 72761.

C. S. LEWIS AND THE SEARCH FOR RATIONAL RELIGION by John Beversluis. Eerdmans, Grand Rapids (1985). 182 pages. Paperback $9.95.

Clive Staples Lewis lived from 1898 to 1963 and was converted to Christianity in 1931. During the last 25 years of his life he wrote over 40 books on a variety of topics and in a variety of literary forms. His output is somewhat remarkable because he produced much of it in his spare time while holding posts at Oxford and Cambridge Universities. Further, it encompassed areas in which he was not professionally trained, namely philosophy and theology. "Despite his erudition as a Medieval and Renaissance literary historian, Lewis really was a 'very ordinary layman' of the Church of England" (p. 165). As a result of his writings, Lewis came to be recognized as Christianity's most famous contemporary apologist.

Those who are not well read in the writings of C. S. Lewis might anticipate finding this book uninteresting and perhaps incomprehensible. They would be wrong on both counts. This book can be understood by those who have never read a line written by Lewis because its author gives lots of quotes and

summaries to convey Lewis's thoughts and then explains their implications in an interesting way.

Material from eighteen of Lewis's books is discussed in the ten chapters of this volume (which also included notes and an index). One letter from Lewis to the author is included (pp. 156, 157). Several years in contemplation and preparation, this book has been enthusiastically endorsed by reviewers.

John Beversluis, professor of philosophy at Butler University in Indianapolis, has written a book which one reviewer considers "the first systematic and radical critique of C. S. Lewis's theological arguments." The publisher characterizes this volume as iconoclastic and presents it as a counterpoint to "marketplace saturated with worshipful tributes to Lewis" in the hope that it will generate discussion. Beversluis' conclusion to this study should serve that purpose: "Lewis stands as a paradigm of steadfast personal commitment to orthodox Christianity but a failure as a proponent of a traditional Christian apologetic."

"I am not asking anyone to accept Christianity if his best reasoning tells him that the weight of the evidence is against it" wrote C. S. Lewis. Beversluis evaluates the evidence as presented by Lewis and finds it insufficient. Lewis fails, writes Beversluis, in his arguments for God's existence, his analysis of evil, and his understanding of philosophy. Thus, concludes Beversluis, Lewis's "failures accumulate, the inconsistencies remain, and the case for Christianity has not been made" (p. 167).

Beversluis' evaluation is insightful. Perhaps many readers of Lewis have sometimes felt a bit uncomfortable with his conclusions. Beversluis shows that this discomfort results from the fact that many of Lewis's arguments produce non sequiturs. This may be partly due to the fact that Lewis was not well informed about philosophy. Beversluis illustrates Lewis's weakness in philosophy by pointing out that while Lewis contends that deduction is the only legitimate form of inference, all his examples in chapter three of *Miracles* are inductive (p. 77).

Beversluis discusses the three arguments Lewis gives for the existence of God: the Argument from Desire, the Moral Argument, and the Argument from Reason. Beversluis shows that none of the arguments is valid. For example, the Argument from Desire states that since humans have a recurring desire for something infinite, there must be an Infinite Object who can fully satisfy this desire. Beversluis shows the illogic of his statement with a statement from Bertrand Russell who observed that it does not follow you will get food just because you are hungry. Furthermore, Beversluis thinks Lewis is inconsistent in using this intuition as an argument for God's existence when, in other writings, he shows disdain for basing belief on anything except reason. Thus, Beversluis thinks that there are really two incompatible Lewises: the Romantic and the Rationalist.

Beversluis' book is intelligent because it deals with serious questions in an informed way. Its author is knowledgeable about philosophy and theology as well as the writings of Lewis. This broad understanding enables him to address issues from a variety of perspectives.

Beversluis' evaluation is courageous because he evaluates the most popular Christian apologist of the twentieth century and finds his logic lacking. He thinks that "if Lewis's critics are too ferocious, his admirers are too benign, erring grievously in the opposite direction" (p. xi). Beversluis seeks to take the middle course and treat Lewis even-handedly. The reader gets the feeling that Beversluis respects Lewis even though he disagrees with him. He compliments Lewis for such things as his humaneness (p. 24), brilliant prose (p. 92), and utter honesty (p. 142). Beversluis thinks that "if anyone wants to know what orthodox Christianity is, what it requires in terms of personal commitment, and what difficulties it must ultimately face, he need only read C. S. Lewis" (p. 167).

However, Beversluis' courage does not allow his admiration for Lewis to prevent him from being critical of his apologetics. According to Beversluis, Lewis is guilty of "self-indulgent rhetoric" (p. xi), "irresponsible writing" (p. 40), "carelessness, inaccuracy, and oversimplification" (p. 41), "a ferocious attack" (p. 46), "harsh words" (p. 47), "complete misrepresentation" (p. 47), "name calling" (p. 49), "a very poor argument" (p. 51), "emotional rhetoric" (p. 55), "fallacious strategy" (pp. 56, 57), "fuzzy thinking" (p. 57), "inconsistent premises" (p. 57), "scandalous implications" (p. 61), "careless use" of terms (p. 75), "fatal confusion" (p. 75), setting up "straw men" (p. 83) and so forth.

Beversluis is exacting in his evaluation of Lewis. For instance, he faults Lewis for confronting "us with false dilemmas" and formulating "non-exhaustive sets of options in emotionally inflammatory ways" (p. 57). Perhaps the best known of these is the Lord-or-lunatic dilemma (pp. 38–39, 54–57). Beversluis points out that these are not the only alternatives and suggest another possibility: Jesus thought he was God but was mistaken.

Beversluis is exacting at this point because he does not acknowledge that Lewis might be using the "lunatic" alternative in a generic sense. Taken this way, Lewis's argument would be that Jesus was either Lord or He was something else and it does not really matter whether that something else is labelled lunatic, or mistaken, or deluded, or crazy, *et cetera*. Lewis chose a colorful word, if not an exhaustive one, to describe the alternatives. Perhaps "lunatic" covers the alternatives better than any other word. People who chronically claim to be Jesus or God are considered out of contact with reality and therefore by definition psychotic, i.e., lunatic. Of course, Lewis did not say he was using lunatic generically but perhaps assumes his readers will understand it that way. Beversluis evidently did not.

One more word could be used to describe this book: stimulating. I hope it enjoys a wide circulation because it is well researched and written. Perhaps it will cause readers to view the apologetics of Lewis more accurately, an outcome of which Lewis himself would doubtless approve.

Reviewed by Richard Ruble, John Brown University, Siloam Springs, Arkansas 72761.

EVANGELICAL IS NOT ENOUGH by Thomas Howard. New York: Thomas Nelson Publishers (1984). 160 pages. Hardback, $9.95.

Thomas Howard, professor of English at Gordon College, is perhaps best known for his book *Christ the Tiger*. He has also written other books including *The Achievement of C. S. Lewis*. This present book has a rather pedestrian title and a drab jacket to match.

Howard's writing style has been compared to that of C. S. Lewis. Indeed, Howard frequently quotes from his predecessor. They both write in an informative, stimulating and thus readable manner. In some ways, I find that Howard has more literary flourishes than Lewis, but they serve to enliven the text and give it greater impact. One item I wish evangelical writers, including Howard (e.g., pp. 27, 37), would give attention to is the use of "man" as a generic term. Many secular publications have avoided this, and I think such avoidance should become the norm in the near future for all writing .

Howard was reared as an evangelical Christian who was wary of liturgical worship even though it contained the ritual and ceremony of the historic church. He had been taught that spontaneous prayers are superior to written ones, Bible exposition to topical sermons, and simplicity of worship to public displays of ceremony. In this book, Howard gives an autobiographical account of his journey from evangelical roots in spontaneous worship to preference for worship in a liturgical mode. The journey started as a teenager when he visited a ritualistic church. It advanced during residencies in England, Illinois and New York.

Howard discovered that liturgy means "the work of the people" and involves worshipers more actively than the traditional evangelical service. The litany provides help in formulating and directing worship, and ceremony provides a means for expressing the inexpressible. The church calendar is beneficial because throughout the year it gives a more systematic coverage to the cardinal truths of the Christian faith. Kneeling was a posture in worship which Howard had always appreciated, even in his pre-liturgical days. He found an opportunity to engage in it with impunity when he was living in England and attended and Anglical Church. Howard thinks kneeling important not just because it is an expression of an inner attitude of worship, but because it helps create that attitude.

The approach to this subject is not objective, detached and impersonal. The first person singular is used throughout. Howard is not writing a dissertation but a testimony of how one man found fulfillment through worship of God via liturgy with its ritual and ceremony. Because his faith has been enriched, Howard invites non-liturgical Christians to consider returning to the interdependency of the episcopate, the Eucharist as the center of Christian worship, and the church calendar for celebrating the events of the gospel. The book concluded with a helpful bibliography for further study.

Reviewed by Richard Ruble, John Brown University, Siloam Springs, Arkansas 72761.

CLASSICAL READINGS IN CHRISTIAN APOLOGETICS, A.D.100–1800 edited by L. Russ Bush. Academie Books (Zondervan Publishing House), Grand Rapids, Michigan (1983). 386 pages. Paper. ISBN 0-310-45641-X.

Christians are commanded by the Scriptures to be ready to explain their faith to non-Christians. Understanding how Christians in the past have responded to this command can help equip us to respond to it more effectively. This book presents selections from a dozen Christian apologists who ably defended Christian truth in their day. Selections contained in the book, listed below, were judiciously chosen to illustrate a number of different challenges which have faced the Church in the past.

Justin Martyr (A.D. c. 100–167) *The First Apology of Justin*

Athenagoras (A.D. Second Century) *A Plea for the Christians*

Irenaeus (A.D. 120–203) *Irenaeus Against Heresies*

Tertullian (A.D. 155–253) *The Apology*

Origen (A.D. c. 185–253) *De Principiis* and *Against Celsus*

Athanasius (A.D. c. 298–373) *Against the Heathen* and *On the Incarnation of the Word*

Augustine of Hippo (A.D. 354–430) *Concerning Freedom of the Will, Confessions of Saint Augustine* and *The City of God*

Anselm of Canterbury (1033–1109) *Monologium, Proslogium, In Behalf of the Fool,* and *In Reply to Gaunilon*

Thomas Aquinas (1225–1274) *The Summa Contra Gentiles* and *The Summa Theologica*

John Calvin (1509–1564) *Institutes of the Christian Religion*

Joseph Butler (1692–1752) *The Analogy of Religion*

William Paley (1743–1805) *Natural Theology* and *A View of the Evidences of Christianity*

A brief introduction describing each writer and his life should be most helpful to the general reader, as the bibliography of materials by and about the writer will be for the serious student. The book concluded with a very well done, but brief essay on apologetical writing in the nineteenth and twentieth centuries. Because of the varied topics covered in the book, an index would have been very helpful.

Reviewed by D. K. Pace, The Johns Hopkins University Applied Physics Laboratory, Laurel, Maryland.

WHAT THE BIBLE SAYS ABOUT GOD THE RULER by Jack Cottrell. College Press Publishing Co. (1984). 465 pages. $14.95.

In the September/October 1984 TSF Bulletin I reviewed the first volume of this trilogy on the doctrine of God by Jack

Cottrell. In this large but reasonably priced book he has moved on from creation to providence. Both of these books are well written, thoroughly researched, and comprehensive. They also offer a moderately Arminian perspective on the whole subject. I will begin by moving through the themes in order, and then will proceed to the large theological issue which Cottrell raises by his approach.

The author begins by correctly noting the pressure which has been brought to bear upon the doctrine of providence by scientific modes of thought. In the course of the book he endeavours to state the doctrine in such a way as would meet the challenges of the hour. I find that he does so very successfully and better than Berkouwer, for example, does. Calvinist readers will be interested to note that Cottrell has placed them in the second chapter on alternatives to the biblical doctrine of providence, under the heading of "theological determinism." Some will find this refreshing after so many years of finding the Arminian view placed among the alternatives!

Three substantial chapters are then dedicated to an exposition of the doctrine: God's general providence in preserving the world, God's special providence in relation to history, and the vexing question of providence and human freedom. Cottrell posits a relative autonomy for the created order which allows for natural laws and human liberty. He pauses to refute the modern perversion of God's providence which takes it to mean health and wealth for believers. Of particular interest of course is the fine way he defends the conditionality of God's decrees against the deterministic schemes. He wisely notes that when Calvinists face up to moral evil they usually resort to some notion of permission, and shows how Arminian they all are at that delicate point. I think he is right—moral evil requires us to think in terms of conditionality in God's plan, and, if we do, classical Calvinism is out the window. (That is not to say that a revised 'Calvinism' cannot be devised.)

I think Cottrell handles the issue of miracles with real insight both as it relates to natural law and to answers to prayer. He has obviously written this book with care and devotion, and has picked up most of the intellectual and practical issues along the way. There is a fine chapter on prayer in relation to providence, and of course one on the problem of evil. You guessed it, the free will defense! I have the feeling that Cottrell the Arminian has a right to it, but how do people like Plantinga manage it? The book ends in a fine devotional note, as the author suggests how we ought to respond to God's providence in wonder and praise.

The central theological problem of the book is also its main thesis intellectually: God is timeless in his knowing and knows everything exhaustively *including* the future free actions of men and women. By means of this very classical belief Cottrell is able to retain belief in a predestination which encompasses everything including the election of individuals from eternity. Thus, Cottrell has added Arminian assumptions about freedom to the Augustinian framework without feeling the need to make radical revisions in it. The question is, will this work? Both the traditional Calvinist and the more daring Arminian will wonder. Does not the belief in God's exhaustive foreknowledge of the future negate the assumption of human freedom Cottrell is so eager to preserve? Are we not back with the kind of determinism he is keen to avoid at all costs? The irony is superb: Cottrell, in order to arrive at conditional predestination, has posited total foreknowledge which might seem to land him back in the Calvinist territory he wishes to flee. Certainly it would seem so to scholars such as Carl Henry on the one hand or Richard Swinburne on the other. They would argue that you cannot have total foreknowledge without having total predestination at the same time in the non-Arminian unconditional sense. Now Cottrell is well aware of this objection, and works at answering it both in this volume and in the one which preceded it.

It would have been possible for Cottrell, had he chosen to take this step, to have suggested a limitation on the knowledge of God in order to avoid this dilemma. Had he done so, the threat to the reality of human freedom would have been greatly diminished. But for Cottrell such a step would go against the full biblical claims for both predestination and foreknowledge, and qualify as a sub-biblical rationalism, well on the way to process theism itself. Is not a limitation upon God's knowledge a key plank in Hartshorne's program? If anyone is interested in this more radically Arminian view, I would recommend Richard Rice's *The Openness of God*, reissued by Bethany Fellowship in the fall of 1985, and of course my own essay *Divine Sovereignty and Human Freedom* (IVP, 1985). The dilemma for me is this: although limiting God's knowledge makes more sense to me, I am not sure it makes better biblical sense. There are passages which at first sight do seem to posit a more total foreknowledge than the more radical solution would allow. Cottrell would certainly agree.

In two years, Lord willing, a third volume *God the Redeemer* will be published. I am certain it will be good, and that the trilogy will stand for many years—certainly as the best doctrine of God from the Arminian side, but also as one of the best from any perspective.

Reviewed by Clark H. Pinnock, Professor of Theology, McMaster Divinity College, Hamilton, Ontario.

WHAT THE BIBLE SAYS ABOUT GOD THE CREATOR by Jack Cottrell. College Press Publishing Co., Joplin, Mo. (1983). 518 pages. Hardcover; $13.50.

This book is the first of a trilogy on the doctrine of God, the second (published in 1985) dealing with God the Ruler and the third (to be published in 1987) on God the Redeemer. A basic thesis for the trilogy is that the study of God be both possible and necessary. "A study of the true God is necessary to combat and offset atheism, false doctrine, ignorance and indifference." "The modern aversion to metaphysics and metaphysical thinking about God has had considerable influence in Christendom . . . it has had serious implications about how one thinks about the nature of God." The view of many modern theologians is that redemption is primary. The traditional (and correct) view is that creation is primary, thus

the series begins with God the Creator. The method of study used, as opposed to that of modern liberal theology, is one which holds that "our understanding of both the works and the nature of God is grounded in the special revelation of Scripture." Three main assumptions of the study are 1) that the primary source of knowledge about God is his revealed word, the Bible, 2) that the Bible is the inspired and infallible word of God and 3) that the Bible can be understood.

I found the first half of the book, with chapters on "Pagan Alternatives to Creation," "The Biblical Doctrine of Creation" and "Implications of Creation," particularly relevant and meaningful. Cottrell shows that the religious and philosophical world in general has rejected the concept of creation, opting either for monism or dualism. "The Christian doctrine of creation stands out in unique contrast against this pagan background." In the development of the Biblical doctrine of creation, three concepts are central: 1) God created the universe out of nothing (ex nihilo), 2) creation was a free act and 3) creation is inclusive of both spiritual and material realms. Especially helpful are the collections of Scriptural references in discussions of the Biblical data on creation. In a summary statement the author says, "Our goal has been to set forth the biblical doctrine of God as Creator. We have discussed the meaning of creation itself, that mighty act by which God brought into existence out of nothing the whole material universe as well as the realm of created spirits. We have discussed the nature of God who is capable of such an incomparable deed. We have seen that He alone is Uncreated Spirit, the holy and exalted one who transcends the whole of His creation. We have seen that He is infinite in His existence, His knowledge, and His power; and He is unlimited by space and time. He is hidden and incomprehensible God, yet He has chosen to make himself known to His creatures through His deeds and words. He is the Living God, the only true God, the one who rightfully demands and deserves our exclusive worship and service."

I have found much in this book to recommend it. Cottrell has discussed modern theology and modern theologians without the use of theological jargon. (This alone should be an adequate reason to read the book.) He has presented the Biblical doctrine of creation in a clear and easily understandable (not simplistic) manner. While the book can be easily read by a college student, I think anyone reading it would benefit from the clear exposition and concise expressions of the author. For example, "The Creator is the essential center of our lives, the Bible is the epistemological center and Jesus Christ is the existential center." I wish I had had such a resource many years ago.

Reviewed by B. J. Piersma, Houghton College, Houghton, New York.

THE GOSPEL ACCORDING TO GENESIS by Charles C. Cochrane. William B. Eerdman's Publishing. 1984. 88 pages. Paperback; $5.95.

This interesting book grew out of teenager questions of a pastor (40 years) of the Presbyterian Church of Canada. It starts with the provocative statement, "The story of the bible really begins with the opening verses of Genesis 12: 'In thee [Abram] shall all families of the earth be blessed.'" God's covenant of grace with Abraham is truly the sequel to the creation; it reveals the reason—God's desire for fellowship—leading to the drama of salvation, for which the first eleven chapters of Genesis are essentially prologue. In his first chapter on "Our Father Abraham" the author raises the question of why Abraham was called.

Noting that Genesis 1–11 is neither history nor science the author discusses first "The Nature and Meaning of Creation." He himself believes in God as creator, who thus reveals that He is at least a person and also who we are and how this affects the world. In the next chapter, "The Question of Truth" is explained; i.e., historical, moral, mathematical, and spiritual truth, which he emphasizes. (It is noteworthy that he omits scientific truth.) He prefers to present Genesis 1–11 as parables; i.e., truths "conveyed and expressed in story form." Six illustrations are discussed: "Creation by the God Who Is High and Up," "Creation by the God Who Is Near at Hand," "The Entry of Sin into Human Life," "The Spread of Sin in Human Society," "God's Attitude to Man's Sin," and "Man's Attitude to His Own Sin." This form of presentation is debatable, but fruitful. The author's style is refreshing and readable. He gives a modern point of view, fortified throughout with verses from the whole Bible, and with quotations from religious leaders, living and dead. The climax comes in the concluding chapter, "Abraham and the Nations," the promise to Abraham being fulfilled in the birth of Jesus.

The author does not sidestep thorny problems such as Usher's dating, the two creation accounts, the order of creation, the length of a day, or God's possible abandonment of his Creation upon its completion. Neither does he offer "final" answers to difficult questions such as the singular and plural forms for God, the acceptance of the shepherd's animals rather than the farmer's fruits, the two flood accounts, the apparent break in chronological sequence with respect to the Tower of Babel, and Jesus' world mission despite his personal ministry primarily to the Jews.

A "Personal Postscript," notes that "the word 'evolution' does not occur anywhere in the foregoing chapters." The author states concisely the current controversy between so-called creationists and evolutionists and warns of dogmatism in either camp. He counts himself among the "millions of convinced Christian men and women . . . to whom the evolutionary premise is quite inoffensive as an explanation of change."

Reviewed by Raymond J. Seeger (Ret. NSF), Bethesda, MD 20816.

Books Received and Available for Review

(Please contact the Book Review Editor if you would like to review one of these books.)

Ashley, B. M., *Theologies of the Body: Humanist and Christian*, Pope John Center

Bloesch, D. G., *The Battle for the Trinity*, Servant Books

Boa, K. and Procter, W., *The Return of the Star of Bethlehem*, Zondervan

Jacquard, A., (tr. M. M. Moriarty) *Endangered by Science*, Columbia University

Kennedy, D. J. and Moore, T. M., *Chain Reaction!*, Word

Lenters, W., *The Freedom We Crave*, Eerdman's

Mills, W. E., *Glossolalia: A Bibliography*, Edwin Mellon Press

Pope, R. H., *Incidental Grace* (How Christ Intercepts a Life) Zondervan

Russell, C. A., *Cross-Currents: Interactions Between Science and Faith*, Eerdman's

Ryken, L., *Windows to the World* (Literature in Christian Perspective), Zondervan

Sanders, R. K. and Malony, H. N., *Speak Up! Christian Assertiveness*, Westminster

Van Leeuwen, M. S., *The Person in Psychology: A Contemporary Christian Appraisal*, Eerdman's

Wilson, C. and McKeon, D., *The Language Gap*, Zondervan

THE CONTROVERSY: Roots of the Creation-Evolution Conflict by Donald E. Chittick. Multnomah Press, Portland, Oregon (1984). 280 pages. Hardcover; $12.95.

Following his training as a chemist, his work as a professional educator for over twenty years, and his active involvement in the creation-evolution debate for that period of time, Dr. Chittick has written this book to help "those struggling with the issues of creation and evolution." His basic thesis is that creation and evolution are opposing philosophies, based on opposing world views. The biblical world view assumes that the natural world is dependent moment by moment on the Creator. The naturalistic world view assumes that nothing in nature happens which is not in accord with natural laws. These two world views are antithetical; if one is true, the other is false.

Chittick suggests that while the Bible is not a textbook on science, it touches on science in at least two ways:

1. It provides presuppositions for building a framework within which scientific facts can be interpreted.
2. The Bible has true information about earth history.

He argues that no observations of either the present or the past universe have shown that the days of Genesis I were anything but normal 24-hour days. The radioactive dating system, for example, does not meet the fundamental requirements of a clocking system. "We do not know the initial conditions (isotope ratios), and even if we did, we cannot be certain that the rates of radioactive decay have always remained constant." Isotope ratios could just as well be a process indicator (geophysical processes) as a time indicator.

In reconstructing earth history Chittick argues that we have difficulty getting a clear picture because of "veils" to our understanding. These include 1) the Fall, 2) the Flood, 3) Time, 4) Cultural Conditioning, 5) Primitive Man and 6) the Educational System. Chittick discusses how each of these "veils" has hindered attempts to interpret the changes which have occurred since the creation. He argues that the disagreement of the biblical and evolutionary world views is not over facts but over interpretation of the facts.

The book is written at a level such that it can be easily read by laymen with little or no training in the physical sciences. The perspective taken is that biblical creation means creation in six 24-hour days and that any other view of origins is no biblical. I was particularly eager to read chapter 7 which was a "discussion of a christian theology of science." However, I finished the chapter, and the book, with the feeling of not really being satisfied. The approach of creation science was supposed to provide "big answers to big questions." I finished the book with many questions unanswered.

The book is certainly worth reading and I find much with which I am in agreement. I particularly appreciated the illustrations and examples used by the author, some of which helped me think about certain concepts in new ways. The author's hope is that this book "will direct people's attention to God, our loving Creator, and to His Word which is His revealed truth."

Reviewed by Bernard J. Piersma, Houghton College, Houghton, NY.

THE MIRACLES OF OUR LORD by Charles Caldwell Ryrie. Thomas Nelson Publishers, 1984. 192 pages. $14.95.

An enjoyable, readable, and clear account of Christ's 35 miracles (20 mentioned by Matthew; 18 by Mark; 20 by Luke; 7 by John) by an evangelical former Professor of Systematic Theology. Each one is discussed chronologically in a separate chapter with a succinct, characterizing title, as well as the usual description as subtitle. The basis is C. S. Lewis's conception of a miracle as the occurrence of the supernatural in the natural order of things. First Ryrie provides an exegesis (the facts), and follows that with insights regarding spiritual significance then and now. Thus miracles are treated as helpful for revelation and for teaching.

The format of the book stands out clearly with enticing headings. The most complete version (New King James) of each miracle is given at the beginning of the chapter along side of a full-page historical illustration in color. The author and publisher are to be congratulated upon this complete collection (11 oil paintings, 7 illuminated manuscripts, 3 stained glass windows, 2 frescoes, 2 drawings, 2 stone friezes, 1 wall painting, 1 altar piece, 1 triptych, 1 tempera, 1 tapestry). Ten of these are by world-famous artists (2 by Rembrandt). The others, however, are not all spiritually noteworthy. Seven chapters conclude with poems.

The presentation is informative (specific Scriptural references are always cited), and attention is called to relevant

material. For example, the author notes that the Greek verb for love used by Christ in his three questions to Peter differs the third time (John 21:15–17). He calls attention to the niceties of Greek tenses which are not always preserved in English translations. There are, however, instances when he himself relaxes his rigorous thinking; e.g., when he claims that Martha was "*evidently* a widow, *apparently* owning the house." Even a theologian, I believe, should not presume that the hypocrisy of the nation Israel *must* have been in *His mind* upon viewing the fig tree. His reminder of the unique ministry of women (cf. Peter's mother-in-law) is quite timely. What is wanting, however, for any modern scientist is a medical view of demonology as it relates to disease.

The author concludes with a challenging, "Because He lives." I agree with him that we all should meditate on the miracles of our Lord!

Reviewed by Raymond Seeger (NSF ret.), Bethesda, MD

FAITH AND SAVING FAITH by Gordon H. Clark. The Trinity Foundation, Jefferson MD (1983). 118 pages. $5.95.

The cover promises us that "in *Faith and Saving Faith*, Dr. Clark clarifies the psychology of belief using the Bible as his only source of information, and logic as his only means of argument." While not totally accurate, this statement does indicate Clark's sources of authority. He believes in an inerrant Bible and in the power of reason to understand it.

The book is polemical in tone. Clark, who was for 28 years Chairman of the Department of Philosophy at Butler University, is disturbed by anti-intellectualism in the church as by anti-intellectualism in the world. So he seeks, by Scripture and logic, to defend intellection and rationality, which he identifies with the image of God in man (p. 113).

Clark sets out to demolish the idea that there is a dichotomy between head and heart. He uses many tests to prove his contention that when the Bible says "heart," it usually means reason or understanding. This established, he contends that saving faith is assent to Biblical propositions (p. 118). He further asserts that it is nonsense to contrast belief in doctrines with trust in a person, as many evangelicals do.

Clark discusses several books, most of them old, which deal with the psychology of belief. He quotes and disagrees with philosophers and theologians from Catholic, Protestant and unchurched backgrounds.

To say that a book is extreme is not necessarily a criticism. It could be extremely correct. But this reviewer believes that Clark has truncated the Biblical teachings of man in God's image by limiting this image to rationality. This results in limiting faith to the assent to truth. Had he argued that assent to truth is a necessary part of faith, I believe he could more nearly substantiate his assertions with his evidence. But, if the image of God in man is more than rationality, he has not proved his point.

While not an easy or fun book to read, and albeit having some problems, *Faith and Saving Faith* deals with important issues which are usually not analyzed critically. It deserves to be read and discussed.

Reviewed by Joseph M. Martin, Professor of Missions, Edward Lane Bible Institute. Patrocinio, MG, Brazil.

THE TRINITY by Gordon H. Clark. The Trinity Foundation, Jefferson, Maryland (1985). 148 pages. Paperback, $8.95.

The Trinity Foundation is a newcomer in the book publishing business; *The Trinity* is only the eighth book it has published. John Robbins, its president, writes both a foreword and an epilogue for *The Trinity* in which he explains the purpose of the Foundation.

Gordon H. Clark was a theologian, philosopher and writer for many years and has 33 books to his credit. *The Trinity* is divided into fifteen chapters with no index. A noteworthy feature of the book is its beautiful, full-color, fold-in cover, a reproduction of *The Baptism of Christ* by Nicolas Poussin which hangs in the National Gallery of Art in Washington.

This book includes history, theology and philosphy which permits the reader to face the difficulties and not "resign theology in despair" (p. 46). It concerns a topic which, with the doctrine of the Scriptures, is the basis of the Christian faith. Of the doctrine of the trinity Clark writes, "Nothing is more fundamental" (p. 20).

In tracing the doctrine of the trinity, Clark discusses the early heresies of Sabellianism and Arianism. He quotes, among others, Athanasius, Jerome, Augustine and Calvin. Clark's longest section is devoted to a refutation of what he considers the erroneous ideas of Herman Bavinck and Cornelius Van Til. Particularly offensive to Clark is Van Til's idea that "God is numerically one. He is one person" (pp. 86, 87), a position which Clark believes contradicts orthodoxy.

Clark includes interesting facts (e.g., "the term *trinity* is not a Scriptural term") and opinions (e.g., "Charles Hodge, I think I may say, is the greatest theologian America has so far produced"). His personal anecdotes are interesting, his knowledge admirable, and his combativeness stimulating.

Who might profit from reading this book? A person who has a fair vocabulary, some knowledge of church history, an interest in theology and a motivation to learn more about the trinity. Some sections require careful reading to follow the logic. Bibliographic references may lead to digressions. The occasional militant tone may be distracting. The book might appeal to an advanced Bible study group. More likely a college or seminary student, or an informed lay-person, would find *The Trinity* useful reading.

Reviewed by Richard Ruble, John Brown University, Siloam Springs, Arkansas 72761.

THE HARD SAYINGS OF JESUS by F. F. Bruce. Inter-Varsity Press, Downers Grove (1983). 265 pages. Paperback, $6.95.

In the wake of a renewed interest in orthodox Christianity the British evangelical press, Hodder, intends to produce a series of books by an international body of scholars concentrating on the teaching, death, resurrection and uniqueness of Jesus. This projected series will be similar to the one produced during the 1970's dealing with controversial issues in Christianity. For the first volume in the new series, editor Michael Green approached one of the most distinguished evangelical New Testament scholars of our day, F. F. Bruce, who recently retired as Rylands Professor of Biblical Criticism and Exegesis at Manchester.

In this volume, Bruce tackles seventy "hard sayings" of Jesus. These sayings are "hard" in two basic ways. Some are "hard" for the contemporary mind-set to understand, because of the differences between first century and twentieth century culture. Others are more readily understood, but remain "hard to receive" because of the demands they place on the hearer/reader. In either case Bruce attempts to clear away any cultural and historical difficulties so that the reader may grapple with the real challenge of Jesus' words.

On the surface it appears that the seventy Jesus-sayings chosen for treatment were selected somewhat at random. Closer inspection, however, reveals a unifying thread running through the segments of the book. Bruce's choice of materials is intended to illustrate the main emphases of Jesus' teaching. In this way the "powerful attractiveness" of Jesus can be perceived by the contemporary reader and such a one can enter "into the same experience as those who made a positive response to him when he was on earth" (p. 15).

The seventy sayings are exegeted by Bruce in varying detail. Although as many as five pages are devoted to certain sayings, the two-hundred-fifty page length allows for an average of three pages for each topic. Obviously, intense exegesis is precluded by the high number of topics covered. This is perhaps both the greatest strength and most glaring weakness of the volume. Bruce provides a concise resource to aid in understanding many Jesus sayings, painting thereby a portrait of the Master through Jesus' teaching. At the same time, a more in-depth treatment of certain of the texts is wanting.

On the whole Bruce's exegesis is carefully executed and plausible, although occasionally his results are not free from bias. Perhaps most problematic is his treatment of certain eschatological statements of Jesus. Mark 9:1 (chapter 38) forms an important example. After rightly eliminating the transfiguration as the reference of Jesus prediction that some would not die before seeing the kingdom coming with power, the author states:

> the coming of the kingdom of God is essentially the coming of God himself . . . So again, when the new deliverance was fully accomplished by the death and triumph of Jesus, the sovereign power of God was manifested—God himself came with power. (pp. 144–156)

One wonders if this "hard saying" can be simplified in such an easy fashion as this, especially given the preceding context in the Matthew version (see Matt. 16:27–28).

In the final analysis, however, the volume reflects the careful treatment that characterizes Bruce's writings. His conclusions are solidly evangelical, but his evangelical convictions do not hinder his methodology. His honest scholarship stands as a challenge to others.

Reviewed by Stanley Grenz, North American Baptist Seminary.

THE INTERPRETATION OF HOLY SCRIPTURE by Walter M. Dunnett. Thomas Nelson Publishers (1984). 210 pages. Paperback; $6.95. ISBN 0-8407-5923-1.

Walter Dunnett is Professor of Biblical Studies at Northwestern College in Roseville, Minnesota. He sees his book as an introduction to hermeneutics. In it, he addresses methodological issues relating to how the Bible is translated, ideological issues about inspiration and the authority of the Bible, and historical perspectives on the interpretation of Scripture. The concluding chapters present principles and models for biblical interpretation and for applications of the Scripture to current situations.

I cannot identify a ready audience for this book. It is too skimpy in its treatment of most subjects for the serious student, the one who will use the references cited by Dunnett, and who may already be familiar with them, instead of his condensation of them. But the book is too filled with details, some of which are disconnected without a larger context than presented within the book itself, for the general reader, even when that general reader is seriously interested in a personal study of God's Word and reads Dunnett's book very carefully.

Dunnett reviews much of the literature on hermeneutics. But he does so without presenting an evaluation of it. Moreover, he does not provide an identifiable position from which to view his description of what is in this literature.

His book is filled with interesting items, but he does not quite explain how to use them in interpreting the Bible. For example, Dunnett illustrates how both the human and divine perspectives are given in incidents about Abraham and Saul; but he fails to explain how to recognize such or what to do hermeneutically when one recognizes such.

I suspect that a major problem with the book is that it tried to cover far too many topics for its length. Consequently, it is not as useful as one might hope, although most readers should find a number of nuggets of personal interest in it. However, it is unfortunate that the book does not contain an index.

Personally I felt that Dunnett should have included the following major evangelical works on hermeneutics in his bibliography instead of merely citing them in footnotes: Milton Terry's *Biblical Hermeneutics* (old, but a classic,) Bernard Ramm's *Protestant Biblical Interpretation* (widely

used a couple of decades ago), and A. B. Mickelsen's *Interpreting the Bible* (the current standard in many evangelical seminaries).

Reviewed by D. K. Pace, The Johns Hopkins University Applied Physics Laboratory, Laurel, Maryland.

WOMEN AND CHURCH LEADERSHIP by E. Margaret Howe. Zondervan (1982). 256 pages.

E. Margaret Howe, professor of religion at Western Kentucky University, has written a provocative and persuasive book about women in ministry, which focuses on biblical models for ministry as well as women's place in them.

Howe's methodology is sound and scholarly. She begins with the Bible, then moves into Church history, and finally, to contemporary practices in various ecclesiastical groups. She adopts this order for treating her subject because she believes that "the scriptural principles themselves must assume priority" over the church's practices in different times and contexts (p. 27).

Her conclusions, based on exegesis and church history, include the following: 1) women in biblical times and in the early church were active in ecclesiastical leadership, including leadership over men; 2) priesthood was not open to women, so as priesthood gradually became the major paradigm for ministry, women were excluded from leadership roles; 3) when the biblical model of servanthood becomes the paradigm for ministry, and when the biblical texts are properly interpreted, women will be welcomed in all forms of church leadership.

Although she documents her assertions, sometimes I wished she would discuss at more length the ideas of those who disagree with her. But I understand that would not be possible in a book of this size and scope. I will be waiting for more from her.

Howe has made a significant contribution to the current discussion. The scope of her book is impressive. Its depth is perhaps as great as is possible in a book this size which covers so much ground.

Reviewed by J. M. Martin, Professor of Missions, Edward Lane Bible Institute, Patrocinio, M. G. Brazil, S. A.

WOMEN IN THE BIBLE by Mary J. Evans. Inter-Varsity Press (1983). 160 pages. Paperback; $5.95.

This work is described as being an investigation of "what the Bible has to say about women and their role." Its major focus is on the New Testament church and women's roles therein.

Evans begins with Old Testament doctrine and Old Testament practice. Then she includes a brief chapter giving an overview of the influences of Judaism, the Essenes and the Qumran sect, and of Graeco-Roman culture. The Gospels are then considered with special emphasis on the contrast between Jesus' attitude toward women and that of the Disciples and their culture. The most lengthy chapter deals with the doctrinal teachings found in Acts and the Letters. Finally, Evans describes the community practices of the early church(es), and follows with a brief conclusion.

Evans attempts, and I think succeeds, to address all the crucial passages in Scripture which bear on the controversial subject of women in society and particularly on women in the Body of Christ. (She does not present any denominational slant and leaves those implications to the reader and his/her polity affiliation.) Her method of sound exegesis of doctrine and practice is far superior to the polemics of traditionalism and feminism, both of which tend to fix on the pros and cons of historic practice.

She also adds to her approach something which I, being trained in both theology and sociology, find especially illuminating. Part of her expressed agenda is to get at the text with as little of our modern-Western-world-view baggage as possible. She makes a good case for our own, as well as some translators', reading into several texts male-oriented slants that are just not there. To make her position in this matter clear, I will paraphrase her stated attitude in the Introduction. The position that all biblical teachings are culturally conditioned and thus inapplicable, and the idea that we already know all the precepts that the Bible teaches and just have the task of applying them and never questioning them, are both wrong and fail to take the texts and their contexts seriously. This is also a never-ending process since we can never get completely past our own presuppositions and cultural influences.

This book is something rarely seen. Evans shows her mastery of learned literature on language and culture but presents the information in an easy flowing style without any of the technical jargon. And for those interested in looking further, the eight-page, 204-entry, bibliography is useful and spans Pliny to the present.

I highly recommend this book. Its intelligence, balance, easy reading, and freedom from denominational slant make it important reading for all interested in women in church and society.

Reviewed by Larry Reidinger, MRE, The Southern Baptist Theological Seminary, Louisville, KY, and graduate student (sociology) at the University of Louisville.

WOMEN AT THE CROSSROADS by Kari Torjesen Malcolm. Inter-Varsity Press (1982). 215 pages. Paperback, $5.95.

This book can be seen as a modern cultural and biblical variation on the great poem "The Road Less Taken." Malcolm relates the experience of attempting to climb Mount Apo in the Philippines while she and her husband were missionaries in that country. They came to what they thought was a normal "T" in the road but found that neither the right nor the left reached the summit. On a later try they found that a much less travelled path led straight ahead and did lead them to the summit and its breath-taking view. This experience has become, for her, a metaphor for the choices facing Christian women today. She says, "I can look back on a time when I thought there were only two choices open to us—the road marked Tradition and the one named Rebellion." She argues that the message of "release and liberation" in Christ provides the third alternative to women's identity.

She approaches her argument from four perspectives and presents a generally well balanced view of each although it seemed that I was reading a condensed version of a four-volume set. Maybe this is just a reflection of my hope for more detailed information on the subject! This comment is not intended to be negative, but if one reads this book in one day, as I did, then she/he must cope with much ground's being covered in a short time.

Part I presents some background for her thinking taken from her experiences as a missionary in pre-Mao China and her three years in a concentration camp until the end of our war with Japan. It also brings us up to the present in her experiences with recent trends in women's responses to the Great Commission in the United States. It is a great help to have an author's world view and its development made explicit.

The second part deals with the anti-traditional approach of Jesus to women and Paul's struggles with the conflicts between extreme beliefs and practices in the early church. One of the most fascinating discussions of the book is found in the part on Paul's writings. In 2 Timothy 2:12, where Paul says that he does not allow women to have authority over men, it turns out that the word translated "authority" is *authentein*, which appears nowhere else in the New Testament and rarely in other Greek literature. If the arguments she cites are valid, and they seem so, that word has been misunderstood. The most potent of the arguments is founded on a work by Clement of Alexandria. He "complained about Christian groups who had turned the communion service into a sex orgy, and he calls people who participate in this form of religion *authentai*. This behavior appears to have been common in pagan rites also. Two scholars are cited who use this and other extra-biblical evidence to develop the following translation. "I do not permit a woman to teach sexual immorality or to involve a man in sexual activity." Presumably verse 11 is a separate thought and verse 12 refers to sex outside marriage. This certainly makes more sense than the common reading since traditionally this reading has been in total contradiction to Paul's obvious high regard for women prophets and deacons found elsewhere, and to his putting only the restriction of some sort of hair covering on women who prayed and prophesied (preached) in the first century church.

Part III softens the traditional reading of the above text by presenting a brief history of women leaders of the church, missions, and various ministries from A.D. 100 to 1900.

The last part homes in on the author's initial metaphor by presenting experiences from her life and the lives of many others who made Jesus Christ their number one love. They found, as a *result* of that identity, leadership in the many varying roles God—and not culture—opened up to them for the furtherance of His Kingdom. This same understanding of identity is prescribed for the home and is a welcome corrective to traditional male chauvinism "founded" on the Bible and to extreme secular feminism. Also, this understanding is applied to women as they live out their calling in all walks of life in order to transform the world.

> As Christian women we will find our identity only in a relationship with Jesus Christ. This relationship will enable us to break out of our culturally bound identities, to minister as catalysts for change, prophetic voices of healing agents in the homes, churches and societies of our hurting world. If a disciple of Jesus lacks this sense of identity and has no special calling in life, it is very unlikely that anyone will ask her to "give the reason for the hope that is in her" (1 Peter 3:15).

In essence this book is an impassioned and well reasoned plea for women to seek first the Kingdom, lay aside all cultural roles which make a prime claim on them, and in that context receive God's will for their lives. Only then should they act.

This same message could well be heeded by men . . .

Reviewed by Larry Reidinger, MRE, The Southern Baptist Theological Seminary, Louisville, KY, and graduate student (sociology), The University of Louisville.

SLAVERY, SABBATH, WAR AND WOMEN: Case Issues in Biblical Interpretation by Willard M. Swartley. Herald Press, Scottdale, Pennsylvania (1983). 366 pages. Paper $15.95.

The discussion of issues on the interaction between science and Christianity often hinges on specific details of scientific and biblical interpretation. A thorough understanding of hermeneutics in each area is therefore essential to an authentic treatment of such issues. In this book, Willard M. Swartley, Director of the Institute of Mennonite Studies and Professor of New Testament at the Associated Mennonite Biblical Seminaries in Elkhart, Indiana, puts in print his Conrad Grebel Lectures of 1980. In so doing he provides the Christian community with a remarkable resource for guidance, teaching, and interaction on the vital subject of biblical interpretation. No one who is responsible for thinking through or teaching on the many subjects concerning which biblical interpretation is often divided should remain without the help that this book can provide.

Dealing with interpretation in an abstract fashion can be a relatively simple task. But it is in the application of this theoretical framework where the test really is made. Few more controversial issues characterize the Christian community through the last centuries than those involving slavery, the right evaluation of the sabbath, a Christian attitude toward war, and the role of women in home and church. The first two of these are issues that were aflame in their day but not so much in ours; the latter two are vital issues today. The examples of the former two illuminate the controversies of the latter two as only historical perspective can.

Swartley treats each of his four major issues in case-study form, citing in some detail the positions of biblical interpreters with a wide variety of conclusions. This procedure shows us, as few others can, the sensitivity required in approaching Scripture and the ambiguities with which the would-be interpreter is confronted. These four major case histories are followed by a discussion of "How Then Shall We Use and Interpret the Bible?", drawing on the examples of the case histories to provide the framework for guidelines. A final "Summary of Learnings" gives twenty-two points worthy of consideration.

The book concludes with four Appendices, 56 pages of notes, a 13-page bibliography of sources cited, and Scripture and person indices. It is an ideal resource for individual study, group discussions, adult education, theological students, and Christian men and women who desire to have a deeper insight into the Spirit-guided interpretation of the Scriptures.

Reviewed by Richard H. Bube, Department of Materials Science and Engineering, Stanford University, Stanford, California 94305.

THE CHRISTIAN AS A CONSUMER by Denise George. Philadelphia: The Westminster Press (1984). 120 pages. Paper $6.95. (Part of the 11-volume "Potentials: Guides for Productive Living" series edited by Wayne E. Oates.)

This little book (under 90 pages of text) does not directly address any issues in science, but may be helpful to ASA members in dealing as Christians with the consumerism (and it *is* an "ism") that pervades modern society. This is the book's main theme, and the content and examples are concrete enough to convey a sense of the author's having wrestled with the enticements of advertising, the topic of her second chapter, and the temptation to "keep up with the Joneses," the topic of her third chapter. She does this without turning the book into a "how to" manual.

A sub-theme, found in a chapter entitled "Christians in a Needy World," develops the idea, in a "rich" versus "poor" sense, that as Christians we are often irresponsible in the quantities of "goods" we direct to our own selves. She uses this to lead into a final chapter on living simply, again with a wisdom which seems to reflect struggle with trying to consume less, and to use the resources thereby freed to help others. I was impressed with her emphasis that one should start close to home, and aim at small, concrete problems, trusting in God that this does indeed provide the route to the "big" and "abstract" problems.

I do have problems with the book. In terms of organization, the link between the topics in chapters is not explicitly made, nor are the themes listed in the introduction all eventually discussed. I was annoyed that the concept of stewardship did not appear until near the end of the book; it seems to me the natural framework around which to build the "live simply" theme. There is thus a tension between the negative stance of the first part of the book ("don't be taken in by mammon") with the latter ("maybe we should . . . ") for which no positive principles are set forth. A more formal structure would help, yet need not be made so obvious as to intrude upon the author's writing style. The foreword and introduction are overly long, while the bibliography strikes me as an appendage out of place in a book of this sort; a note at the end of each chapter might be better.

I also find her failing to refer much to man's sinfulness, whereas I would stress it. As an economist, I am dubious that advertising is the "deceptive hypnotist" she claims: large ad budgets notwithstanding, "new" products on average do not fare very well, as Coke and Reggie Jackson have learned. The problem is rather our sinfulness, not modern society *per se*. Thus I would claim that the symptoms she dwells upon can be found even in Old Testament days. More concretely, I do not find myself being "taken in" by ads, though perhaps they are a stumbling block for some. I *do* find myself letting envy reign—and often. I would make the same point about her discussion of poverty—sin is the root cause, and produces the opinions of people and government which she sees as needing change. She does not explicitly link the two. But, as mentioned above, her purpose is not to discuss poverty but to discuss lifestyle.

There is also a tendency to present rather too much of the secular side of issues for my tastes. Christian issues are placed at the end of discussions with little indication that they might be the more important. For example, in her final conclusion she asks what can be expected from working toward a simpler lifestyle, and proceeds to list better health, less worry, more time and the like as the benefits-cum-reasons. But whenever I started getting irritated with this habit, a bit of Christian wisdom would appear which caused me to reflect and learn—what the author, after all, set out to accomplish.

Reviewed by Michael Smitka, Economics Department, Yale University

JOHN: EVANGELIST AND INTERPRETER by Stephen S. Smalley. Thomas Nelson (1984). 287 pages. Paperback; $7.95.

Having once taught an adult Bible class using William Temple's delightful *Readings in St. John's Gospel* (1945), I looked forward to reviewing the present book. Imagine my dismay upon finding the author's statement in its Prologue

that it is intended primarily for theological students (1975, minor revisions 1981). Nevertheless, I was encouraged by his promise of a "new look" based on the finds at Qumran and Nag Hammadi, a springboard for his consideration of all previous relevant material (Temple cited only once). His thesis is that "John's Gospel is indebted to an independent and basically historical tradition which the evangelist has interpreted in his own way." The author puts himself in the place of the original writer(s) and/or editors attempting to meet the then religious needs of a postulated community church within the framework of his own chronology. In emphasizing source criticism, form criticism, and retroactive criticism, to be sure, he ignores the potential influence of the Holy Spirit throughout the ages. I would have preferred his own personal witness to the meaning of this Gospel today.

The Bible is not primarily a theological textbook. The Greek word for theology does not even occur in the Greek New Testament; John probably did not know it, certainly he did not consider himself to be a theologian. Nevertheless, the author, in describing John's views, uses the word generally as an adjective about a dozen times and specifically with respect to salvation a half a dozen times—not to mention the word's modifying approach, argument, Church, conception, contrast, cross, development, history, individuality, interpretation, line, meaning, outlook, reasons, revelation, significance, sophistication, theme, understanding, version. Necessary repetition? Nor am I impressed by professional jargon such as the speculative "formula authentic because kerygmatics." The author is wont to set up straw men, which he then knocks down with arguments. The author is to be commended upon his fanciful composition which attempts to unify the whole of John and render it coherent from prologue to epilogue (Meaningful today, even if not quite historical). In theoretical physics, too, we paint such pictures, but we have the advantage of experimental check points, which limit our endeavors. It is interesting to analyze and synthesize, so long as you are not hypnotized by your own cleverness. The author does not differentiate carefully between written records and oral traditions. He reminds me of my own collegiate "debates" (one of his favorite words). He is fascinated by words such as "reason, argument, claims," by what is "obvious, evident, doubtless, likely, probable, possible," or even by what "may be, seems," based upon ad hoc "presuppositions" and "assumptions," not to mention his favorite "suggestions" attended by "if." He adorns his ideas with hortatory phrases. I am not all impressed with such a dictum as "the program from Israel to the nations was an evanglistic strategy familiar to the first apostles." As an Anglican, he might be expected to be obsessed with the role of the Church in contrast with that of an individual.

The first four chapters are really prologue: "A New Look," "Who Was John?", "How John Wrote," "Why John Wrote." It is not until chapters 5 and 6 that we reach the substance of the book (one-third of it): "John: Evangelist," "John: Interpreter." There is a brief, summarizing "Epilogue."

The book is a scholarly work, replete with footnote references on every page in addition to a bibliography of 14 plus pages, a list of abbreviations (2 pp.), an index of John references (1+ pp.), an Index of Modern Authors (4 pp.), and an Index of Subjects (4 pp.). It would have been helpful if he had been consistent in translating Greek words.

Reviewed by Raymond J. Seeger (Ret. NSF), Bethesda, Maryland 20816.

THE ASCENSION OF OUR LORD by Peter Toon. Thomas Nelson Publishers (1984). 153 pages. $5.95.

This book is a comprehensive, detailed review of Scriptural aspects of the Ascension of Christ by the Rector of Boxford Parish, England. It begins with a survey of "New Testament Foundations," viz; fact, time, resurrection body, place at the right hand of God in heaven. The meaning is then summarized preparatory to the development of a theology of the Ascension, which is the author's primary objective. A Christian layman may view such speculation askance, particularly in the absence of any references to conclusions of church bodies over the ages and of any attempt to depict the Trinity, while assigning Christ the precise role of "co-Regent" and of dispenser of the Holy Spirit.

The second chapter is even more speculative in identifying possible allusions "Prefigured in the Old Testament." The best authenticated passages are those actually cited in the New Testament; less valuable are those selected *ad hoc* for church liturgy. It is unfortunate that the author never differentiates historical church bodies from some nebulous entity he nonchalantly calls "the Church."

He considers "Jesus the King" before the Ascension and then afterwards, leading to Him as King of Kings, and Lord. I believe it is somewhat presumptuous even for a theologian to ask How does Christ execute the office of "King, Lord and Head?"—not to mention his audacity in attempting to answer this question.

His discussion of "Jesus the Priest" is based upon Hebrews. Was the sacrifice of Jesus completed in space and time? "Those who answer "no" are usually high-church Anglicans, Lutherans, or Roman Catholics." Where did the author get this opinion about Lutherans? I have belonged to the three largest Lutheran bodies in the U.S.A., all of which are strictly orthodox Protestant and would have replied unequivocally, "yes." He offers an interpretation of Jesus' intercession as a seated Priest-King.

The next chapter is concerned with "Jesus the Prophet," from the "Prophet in Palestine" to the "Exalted Prophet in heaven for the world," as given in the final discourse of Jesus recorded by John and recognized by the "primitive church." I must confess my amazement at the author's frank effrontery in deliberately mistranslating Ephesians 2:20 in order to have a verse more in harmony with his own interpretation. The author then considers briefly "The Protestant understanding of Jesus as Prophet—primarily from a Calvinistic viewpoint; but he ignores completely any Roman Catholic attitude. In his summarizing "Revelation, the Exalted Christ, and the Scriptures" he proposes a peculiar "triangular" relation of

"Jesus, the Holy Spirit (Spirit of Christ) and the one holy, catholic and apostolic Church."

The concluding chapter cites a few familiar exhortatory hymns such as "Lift Up Your Hearts." The author sees the Church looking up and forward—not so much back and around. It is significant, however, that whenever Jesus was asked about "the great commandment," he always gave two!

Theology, once called the queen of the sciences, has difficulty nowadays even qualifying as a science in practice. There is no dearth of theory, but related factors are difficult to ascertain. Religious facts, moreover, even if they are allowed to include so-called revealed ones, are at best nebulous owing to our ignorance of ancient languages and their cultural interpretations and the problem of transcribing such materials into their equivalents today. A faith-full scientist, I fear, will not be impressed by this speculation on "The Ascension of Our Lord" and will disagree wholeheartedly with the author's prejudiced dictum in the Epilogue that "the successes of modern science and technology condition us to be this-worldly in our thinking." The problem lies rather in failing to discern God's fingerprints on His creation.

Reviewed by Raymond Seeger (Ret. NSF), Bethesda, Maryland.

THE RAPTURE: Pre-, Mid-, or Post-Tribulational? by Richard R. Reiter, Paul D. Feinberg, Gleason L. Archer, and Douglas J. Moo. Zondervan Publishing House (Academie Books), Grand Rapids, Michigan (1984). 268 pages. Paperback. ISBN 0-310-44741-0.

Biblical teachings about the return of Christ are important to many evangelical Christians. This book will be very helpful to those who are concerned about this subject. It will profit both the causal reader and the serious student.

The timing of the eschatological removal of the Church from the earth, the "rapture," is the key to the primary differences among the three dominant varieties of premillennialism. Some believe the rapture will occur before ("pre-") the tribulation, some believe it will occur during the middle ("mid-") of the tribulation, and some believe it will occur after ("post-") the tribulation.

The Rapture consists basically of four essays. The first, by Reiter, presents a history of the development of positions about the rapture over the last century. His discussion of this area of theological development is quite readable, well balanced, and carefully documented. It is interesting to observe that, in marked contrast with other areas of theology, the debate within premillennialism about the rapture is essentially an American phenomenon. There are few contributions to the literature from outside America.

The other three essays present the basic arguments for the three main views of the rapture: "pre-" by Feinberg, "mid-" by Archer, and "post-" by Moo. All of these men are on the faculty at Trinity Evangelical Divinity School and are eminently qualified to present the rapture positions, which they do quite well. Each essay is followed by brief critiques from the other two writers. This enables the reader to see clearly both strengths and weaknesses in each argument, in addition to focusing clearly on the issues.

The essays are presented with the humble and honest recognition that, on the subject of the rapture, "the data of Scripture do not lend themselves to any clear and unambiguous pattern that is completely free of difficulties" (p. 144). The writers are committed both to the inspiration of the Scriptures and to their perspicuity. They are forthright in their convictions, yet avoid the acrimony that has at times tarnished eschatological discussions.

Those readers who know very little about the premillennial position may find this book frustrating because the essays do not describe the position in general. Instead they concentrate on the issue of the rapture's timing.

In conclusion, I strongly recommend the book to all evangelicals who are premillennial. This book can help one both to clarify his own position and to understand more sympathetically the views of other brethren who love Christ and await for His return.

Reviewed by D. K. Pace, The Johns Hopkins University Applied Physics Laboratory, Laurel, Maryland.

THE EMPTY CROSS OF JESUS by Michael Green. InterVarsity Press (1984). 249 pages. $6.95.

In this marvelously readable book by Michael Green, one finds insight on every page. Green admirably fulfills his objective of uniting the cross and the resurrection and applying it to daily life. The Jesus Library edited by Green and put out by IVP is of high quality, and features not only this volume, but volumes by F. F. Bruce (*The Hard Sayings of Jesus*), Norman Anderson (*The Teaching of Jesus*), and Steven Neill (*The Supremacy of Jesus*). Green's book is intended not only for the theologian but also for the layman and is broken into three parts: the cross, the resurrection and the empty cross. The empty cross of Jesus, Green says, liberates the theologian, inspires the preacher, comforts the counselor and disciplines every disciple for a life of self-sacrifice. I highly recommend this book to all who will read it as a well thought-out, inspiring and insightful volume in the Jesus Library.

Reviewed by Fred Walters, Associate Professor of Chemistry, University of Southwestern Louisiana.

READERS TAKE NOTE: The book *Developing a Christian Mind* by Oliver Barclay, which was reviewed in the September 1985 *JASA*, has been published in the United States by Academie Books (Zondervan). The American edition is entitled *The Intellect and Beyond* with the sub-title *Developing a Christian Mind*.

Letters

MacKay vs. Cramer: A Rebuttal

One of the best services we can render one another as apologists is to identify any weaknesses in our apologetic armament; but for public criticism to be useful, let alone a trustworthy guide to others, it is essential that the critic understands, and does not seriously misstate, the argument he criticizes. Unfortunately, in Dr. J. A. Cramer's essay on "Science, Scientism and Christianity," in the September 1985 issue of *JASA*, the following statements (among others) are either directly false or so misleading as to have the semantic function of falsehood.

I have appended brief notes of the mistakes, in square brackets.

1. "(MacKay) allows for the sake of argument that causal determinism is true of the mind." [This confuses 'mind' with 'brain'].

2. "(MacKay argues that) for a particular brain state to be inevitable *for you*, you must consider and accept the prediction as true." [Not at all: my criterion of 'inevitability' was whether (unknown to you) there exists a complete prediction of your future brain-state with an unconditional logical *claim* to your assent—i.e., such that if only you knew it, you *would* be logically correct to believe it and in error to disbelieve it. I showed that no such prediction exists. Since the case discussed is one in which you *won't* be offered the prediction, Cramer's question whether you can *choose* to believe it does not even arise!]

3. "(MacKay) views theological statements as not readily testable against experience." [Misleading generalization. *The Clockwork Image* (p. 100) has a whole section on "The test of experience;" and *Brains, Machines & Persons* (p. 102) refers to specific theological claims that "should be *testable* in your experience and in mine."]

4. "(MacKay) says one explanation debunks another when one story '. . . would have had to be different if the other story had been different . . . ' This gives us no criteria for deciding which story should be judged to be debunked." [This makes nonsense by omitting the context. My full sentence reads: "A good test is to ask whether the *admitted* story would have had to be different if the other story had been different" (emphasis added). I was discussing the standard case where one story is *admitted* by both sides, and the question is not "which is debunked?" but whether the other story is debunked by that admission.]

5. "(In the case of the advertising sign) the two accounts do not contradict and appear to stand to each other as overlapping levels of explanation. If this is correct, the example has no relevance to 'nothing-buttery.'" [Clearly false. "Nothing-buttery" was *defined* as the tactic of alleging that even where there was no explicit contradiction, the *completeness* of one (scientific) account (in its own categories) ruled out (left no room for) another (religious) account. The advertising sign is precisely a counterexample, in which the completeness of one account does *not* rule out the other.]

6. "Differences in *viewpoint* and *standpoint* lead respectively to what MacKay terms 'hierarchic' and 'non-hierarchic' complementarity." [This is *not* the basis given for the two terms. I make no distinction between "viewpoint" and "standpoint." The *Zygon* article (pp. 229–231) gives the basis explicitly.]

7. "The advantages of 'complementarity' over ' complementariness' are elusive." [I agree! I have nowhere made the distinction Cramer invents, nor does any of my argument hang on it. If I ever used the latter term, it would be as a synonym of the former. In *Zygon* (and earlier) I argued that Bohr's use of 'complementarity' was simply a particular application of the general logical concept I tried to elucidate. My point was that complementarity need imply no dependence upon Bohr's philosophy of physics.]

In these circumstances, I do not wish to take up further space in debate with Dr. Cramer; let me only ask any readers interested in getting the picture straight to (please!) read the original arguments and see for themselves how accurately his essay reflects them.

It is piquant to find such damaging carelessness of the reputation of others evinced in the same issue of the *Journal* as your admirable reminders of the spirit in which Christians ought to engage in controversy, together with Gareth Jones' horrifying account of experiences of a different spirit. In my closing address at the 1985 ASA/RSCF Conference in Oxford I ventured to ask whether there might not be scope for some applied research by Christians to find better ways of helping test and strengthen one another's arguments through mutual criticism. (Even without benefit of research, one can think of some elementary precautions to include in a minimal 'code of practice'!). On current evidence, perhaps the time is over-ripe?

References

The following are representative of my actual views on the topics treated by Dr. Cramer. Although later references enlarge on the earlier arguments, I would still stand by those of 1953!

(a) Complementarity

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(b) Logical Indeterminacy

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Genesis 1: Proto-science?

It has been a pleasure for me recently to be able to receive your *Journal* in England, courtesy of U.C.C.F. One double article I particularly enjoyed in the September and December 1984 issues was Conrad Hyers' on the narrative form of Genesis 1. He very clearly brought out the numerology and the cosmogonic structure of that great biblical chapter.

But am I alone among your readers in believing that Hyers' observations point, not as he argues, *away* from any possible interpretation of Genesis 1 as scientific, but rather *towards* proto-science? Although it has to be true that Genesis 1 is pre-scientific and of course highly theological, that in no way excludes it from being the best possible attempt in its own terms and time to present the truth about how our world came into being. As such, it would necessarily include whatever scraps of information or intuition were available to its writer. As examples, Hebrew writers were far too down-to earth to describe animals as being created before their food supply, or plants before water or land. Again, their sharp eyes allowed them, despite intense nationalism, to sense a single orgin for the present human race. Thus although they did not have access to scientific method or its corpus of knowledge, they would almost inevitably have carried out a mental process closely akin to the way present-day scientists approach their more speculative theorizing. When facts are few, we order out thoughts with criteria such as neatness, whether this be the neatness of the 3 + 3 days of Genesis or the symmetries of particle theory. We speculate on numbers that seem to fit together admirably, the sevens and twelves of the Bible or the thirds of quark theory, and the large numbers of Dirac. Nobody calls theoretical physicists unscientific because of this. Again, we stretch language beyond its secure boundaries, whether the *tohu* and *bohu* earth and the mysterious primal "waters" of Genesis, or such modern oxymorons as "virtual particles" and "multiple universes." The borderline between metaphysics and physics is narrow; cosmology has only just crossed it.

One of Hyer's aims in trying to drive a wedge between cosmology and science is to discourage an over-literal interpretation of the text. However, this aim is not lost by admitting that the author had genuine proto-scientific interest and a realistic frame of mind. He even guesses at some of the mechanisms of the creation. On three occasions God involves what he has already created in the next process of creation ("let the earth bring forth," etc.). This careful wording is not necessary to cosmogony or to theology, but rather bespeaks a sound sense of natural process under God. Again, the idea of "God divided" still informs physics as we reach backward towards an ever-increasing integration of physical phenomena. Its roots certainly lie deep in Hebrew theology, but so for that matter do those of modern science. There is no major difference between the discipline of reaching out towards earthly truth and reaching out towards heavenly truth, except that the latter requires rather more faith. Genesis 1 encourages us to do both.

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Shalom: Either/Or?

Dr. Jones (September 1985) is an innocent by-stander in today's debate on abortion; I ask that he accept my sincerest apologies for the injustices done to him, to his book and reputation, on behalf of the responsible law-abiding Protestant Christians in the USA.

Christianity is notorious for its either/or, or the all or none syndromes, and Dr. Jones rightly finds this in his case, as reported on page 173. This does not allow for a "middle of the road," approach. It is either "Abortion on Demand" without restrictions by Society, or "Pro-Life" and no abortions. There is no room for cases of rape, incest, or the pregnant woman who could die if she carried the pregnancy to term (e.g., lupus erythematosus).

I've found useful the following verses:

> Depart from evil and do good, seek peace (Shalom) and pursue it. (Ps. 34:14)
>
> When a man's ways please the Lord, he makes even his enemies (the man's) to be at peace (Shalom) with him. (Prov. 16:7)
>
> No appearance of evil. (1 Thess. 5:22)

The Hebrew word, *Shalom*, is usually translated "peace," but it means more than absence of war. It includes: welfare of *every* kind, peace of mind and heart, friendship, as opposed to unrest caused by evil.

Evangelical and Protestant Christianity, as a "Priesthood of all believers" (1 Peter 2:9), has not learned from the mistakes and achievements of the past, and is losing members and influence. It is abandoning its unique and progressive role of *Informed Consent*, (all relevant pro and con arguments on a particular topic or issue), and the reformative role of the separation of Church and state.

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A Case of Missing Proof

Richard Ruble writes (September 1985 issue) that his survey of introductory psychology textbooks published during the last ten years provides no support for my comment that "psychology texts usually introduce God only as a psychic aberration." Then he goes on to indicate that the terms he checked in the indices did not include "God" (was the term perchance absent?). Not a single reference he quotes or summarizes in connection with related terms (e.g., Bible; religion) mentions God. If representative psychology textbooks used in secular universities and colleges now argue for the existence of the psyche (soul) as an immaterial reality not dependent upon our present bodies, or for the existence of God as a transcendent personal Being (as theism affirms), I would be glad to read the evidence.

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More on *A Reasonable Faith*

James Garner praises Anthony Campolo's book *A Reasonable Faith* (June 1985) for its opposition to the "Christ against culture" position of politically conservative Christians (notably Falwell, the whipping boy of liberalism), and for its attempt to find "some good in the secularists." Garner's review, however, fails to tell the whole story.

Campolo does indeed fault the Moral Majority and similar groups for their approach to living Christianity out in the realm of society and politics. Unfortunately, he does not stop there. He has something negative to say about evangelicalism and "fundamentalism" in every chapter, and some of his criticisms strike at the heart of evangelical beliefs. The Protestant Reformers, he informs us, paved the way for secularism by taking the magic and superstition out of Christianity and formulating a sternly logical theology (39). The Jesus of evangelical Christianity is largely a "cultural deity," so that unbelievers who reject the evangelical Jesus may still find salvation in Jesus through intimate "I-Thou" relationships (174–175).

In an effort to make Christianity seem meaningful and relevant to the secularists, Campolo redefines several basic concepts in Christian theology in such a way that his book becomes more of a capitulation to secularism than a response to it. To be "human" means to be infinitely loving, sensitive, empathetic, and so forth; since none of us fit that description, none of us are really, fully human. Those character qualities are, however, found fully in God, so that "humanness and Godness are one and the same" (164). With that in mind, Campolo can agree with one of his secularist students that "Jesus was God *because* He was fully human and he was fully human because He was God. . . . He was God because He was human; and He was the only human that ever lived" (165). Thus historic, orthodox Christology is turned on its head: when Christians affirm that Jesus was "fully human," they mean that He was exactly like us (except without sin); when Campolo says that Jesus was fully human, he means that Jesus is all those things we are not but should be.

The redefinitions do not stop there. Sin becomes anything that makes me lose self-esteem, even a job that I find emotionally deadening. The biblical understanding is different, though: no work situation, not even slavery, can rob a Christian of the joy of serving Christ (Col. 3:22–24). (This does not justify economic oppression, of course.) Salvation is primarily a matter of humanization, rather than reconciliation with a God who stands against us in judgment. In fact, Campolo tells us that "Jesus didn't make a big deal out of heaven and hell either" (171), even though Christians who know their Gospels know differently.

Secularists who want to meet Jesus and be humanized by Him are not encouraged to pray, repent of their sins, confess their rebellion against God, or acknowledge Jesus as Lord. Instead, they are encouraged to look for Jesus in every human being—not symbolically or representatively, but mystically and literally—and to reach out to experience Him through intimate relationships with human beings.

Garner's primary concern, of course, was with Campolo's references to the natural sciences, not his theology. Still, neglecting to mention the aberrational nature of his gospel to the secularist is a grave oversight. Not that Campolo's capitulation to liberalism is not evident in his discussion of science. I do not refer simply to his espousal of theistic evolution (although as a creationist I cannot agree with that position), but his negative stance toward conservative Christianity and creationism. Thus, in his treatment of the Scopes trial (which Garner mentions), Campolo adopts the liberal rewriting of history popularized by *Inherit the Wind*, in which Scopes was tried for teaching evolution (he never taught it, by his own testimony years later), and in which Bryan made fundamentalism look ridiculous (actually, it was Fredric March who made Bryan look ridiculous).

Readers who want to know more are encouraged to read the special report on Campolo in *Christianity Today* (Sept. 20, 1985), or contact me for a more complete review of the book.

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