JOURNAL OF THE
AMERICAN
SCIENTIFIC
AFFILIATION

Evangelical Perspectives on Science and the Christian Faith

In this issue . . .

Appropriate Technology

Determinism

Behaviorism

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

VOLUME 37, NUMBER 2 **JUNE 1985**

MEMBER epa EVANGELICAL PRESS ASSOCIATION

Second class postage paid at Ipswich, Massachusetts and at additional mailing offices. Postmaster, please send POD form 3579 (change of address) to: American Scientific Affiliation, P.O. Box J, Ipswich, Massachusetts 01938.

Business requests, (subscriptions, changes of address, requests for back issues), should be addressed to the Executive Director care of the above address. Regular subscription price is $20.00. (See back cover for more pricing information.) Published four times a year in March, June, September and December by the American Scientific Affiliation, 12 Spillers Lane, Ipswich, Mass. 01938. Telephone: (617) 356-5656.

The pages of the *Journal ASA* are open to any contribution dealing with the interaction between science and Christian faith in a manner consistent with scientific and theological integrity. **Papers published in the *Journal ASA* do not reflect any official position of the American Scientific Affiliation.**

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AMERICAN
SCIENTIFIC
AFFILIATION

JUNE 1985 PRINTED IN THE UNITED STATES OF AMERICA VOLUME 37, NUMBER 2

Putting Things in Perspective

The plight of the poor, especially in Third World countries where there are so many people living in abject poverty, should be of concern to every Christian. To those of us who are in areas of science through which it might be possible to apply our expertise to change the situation, poverty, starvation, and the lack of pure water and adequate housing are a special challenge. But all aid and change is not necessarily helpful. Johan Ramon and Richard Bube discuss some approaches to responsible Christian stewardship through forms of technology that attempt to consider the social and cultural background in which these problems develop.

Charles Flynn looks at some of the deterministic theories that play an important role in more general social and economic theory. In addition to an evaluation of determinism in its several forms, he shows us some of the ways in which these theories can challenge us as Christians to live out our faith in a more biblical manner. In a somewhat similar vein, Michael Boivin examines behavioristic psychology and concludes that "the tensions between a behavioral and a biblical view of man are not as great as commonly supposed." The general premise of both of these papers is that we still have something to learn, even from the advocates of theories that are, for the most part, unchristian.

On the lighter side, Harold Hartzler, former president and first Executive Secretary of ASA, reminisces on his forty years with ASA. This paper was read at our meeting in Newberg, Oregon in August, 1983. To long time members of ASA Harold gives us a refresher course in some of the people and events in our last forty years. To younger readers Harold provides useful insight into how we arrived at where we are in relation to some of our practices and concerns.

Among our Communications, D.K. Pace discusses the potential of the Christian gospel to rehabilitate criminals. In the light of the biblical mandate to be concerned for the prisoner, as well as the several current Christian prison ministries, Dr. Pace has given us some valuable insights through his research.

Most of us are not familiar with the content of the Book of Mormon, a religious document considered inspired by a small but significant minority in our society. Tom Key provides us with an interesting commentary on some of the biological errors and inconsistencies in this religious book.

Last but not least, Raymond Seeger shares three more of his short insights into the lives of great scientists with particular emphasis on some of their religious beliefs and attitudes.

WLB

Appropriate Technology for the Third World

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Christian commitment and gratitude to God is a primary motivation for extending technological aid to people in the Third World countries. Such a desire to help, however, must be informed by an understanding of the conditions in such countries and what it means to be genuinely helpful. In this paper we indicate the dimensions of "appropriate technology" that express a realistic assessment of human relationships as well as technological needs and solutions. It is essential that Christians recognize the importance of these considerations when contributing their prayers, money and time on behalf of men and women in the Third World and those ministering to them.

Many of us in the First World have a perception of world conditions in which the future of the Third World will be improved primarily by following the same paths that the First World has followed over the last century. Thus there is the common expectation that the exportation of First World technology to the Third World will be the cornerstone of a development that will inevitably result in better living conditions for human beings all over the world. It is important for us, especially as Christians dedicated by our calling to bring comfort and aid to the poor of the world, to realize the possible fallacies implicit in this perspective.

We probably need to start with the realization that in many ways the First World is the *cause* of the conditions in Third World countries. In his trenchant analysis, *Until Justice and Peace Embrace*, Nicholas Wolterstorff has written,

> It is now clear that mass poverty is not the normal situation of mankind, nor is it the consequence of the actions of a few aberrant individuals. It is in good measure the effect of our world-wide economic system and of the political structures that support it—of the unregulated and unqualified pursuit of profit by enterprises from the core, of systems of land ownership in the Third World that deprive workers of all incentive, of repressive governments in the Third World supported by those in the core, of aid programs designed not to help the poor but to win skirmishes in the contest of the superpowers.[1]

It is against this background that Christians seek today to be involved in genuine help to the people of Third World countries. This is the reason that commitment to an "appropriate technology" must carefully evaluate what "appropriate" means in this context.

We do not attempt here to enter into extensive economic and political analyses that are essential for an understanding of world conditions—many others have undertaken to set these forth. But instead we focus on the question of what principles and practices should govern our efforts to aid in Third World development.

Underlying all Christian approaches to responsible living is the biblical concept of the faithful steward.[2] As Christians we are not charged with the responsibility of

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resolving all of the injustices of this sin-torn world, but we are charged with the responsibility of being faithful disciples, of acting where we are "response-able." Thus, although the complexity of the world situation tends to paralyze us, we can still rest in the assurance that God is in control of His creation. For us it is sufficient (and essential!) that we try to do what we can do. It is in this spirit that we approach the question of appropriate technology for the Third World. We are able to share with Wolterstorff the more optimistic perspective that comes to us *in Christ*:

> I have heard the news of bands of Christians around the world saying No to injustice while singing hymns to God the Father and his Son Jesus Christ. I have found the inspiration for my words in these enfleshments of faith, of love, and of hope.[3]

The Albert Schweitzer Ecological Center

In order to give a specific focus to our discussion, we draw on experience obtained in connection with the Albert Schweitzer Ecological Center, which was formed to embody the basic ideas described here and expressed by Schweitzer himself,

> In a thousand ways, my life comes into conflict with the lives of other human beings. Ethical considerations do not resolve this conflict, but put me under obligation to make a decision in each case.

We do this in no way to imply that this Center is absolutely unique or has all the answers, or to suggest that all of Schweitzer's theological thought is endorsed, but rather to be able to give a concrete example rather than simply abstract ideas.

The Albert Schweitzer Ecological Center was founded in 1977 by Maurice Lack, a Swiss architect and builder, upon his return from West Central Africa where he had spent two years in Gabon designing and constructing new buildings for the Albert Schweitzer hospital in Lambarene. Lack had become interested in "bioclimatic constructions" (constructions adapted to the climate), having noticed that some of the hospital's wooden buildings remained in good condition after 35 years in a hot and humid tropical rain forest climate. He investigated the factors that enabled a building in a hot climate to remain relatively cool without the use of air conditioners, and those that enabled a building in a temperate climate to derive maximum heat from passive solar heating without inordinate cost or architectural inappropriateness.

From this the Center moved to research and implementation of biogas plants, the establishment of a small workshop in Burkina-Faso (formerly Upper Volta)[4] where a solar water-heater was made entirely with materials already available in the country, the construction of improved wood burning stoves to save wood, the construction and testing of hand pumps for shallow and deep wells, the development of a prototype of a hand-operated machine to produce wire fencing for the protection of vegetable-growing projects against cattle, the design of a solar sterilizer for a bush hospital in Burkina-Faso, the development of a simple tool to produce handmade chains for a chain irrigation pump, and the investigation of different possibilities to provide aeration for greenhouses and solar dryers.

As Christians we are not charged with the responsibility of resolving all of the injustices of this sin-torn world, but we are charged with the responsibility of being faithful disciples.

All of these specific examples illustrate the general involvement of the Center in feasibility studies and designs for a variety of simple machines, tools, installations and buildings for the application of solar energy and the utilization of energy-saving techniques. They also illustrate in a concrete and practical way the concept of "appropriate technology" that has been developed after years of living in Africa and experience in development work.

Common Misconceptions

Frequently held misconceptions concerning giving technological aid to Third World people form a useful basis against which to view a more positive presentation of the meaning of "appropriate technology."

Giving is Enough

One misconception that is particularly common is that simply giving what is needed is sufficient. Of course, such giving is often essential just to allow life to continue in the midst of catastrophe, but to view giving alone as the *end* of responsible stewardship toward Third World peoples is to misunderstand their basic need: the ability to help themselves. If indeed first we must supply fish to prevent starvation, then next we must supply a fishing rod so that the people can fish for themselves. But more than that, we need to supply information and training on how to fish, and how to make their own fishing rods, so that the people have under their control as well as at their disposal the means for obtaining survival.

Our Type of Development is What the Third World Needs

If we today attribute our high standard of living to the highly technological society in which we live, does it not follow that other countries in the world must adopt as quickly as possible all the technological developments that we have in order to move forward to the same standard of living? Too often western-style industrialization is thrust upon the Third World peoples in one grand effort. We forget that such development must be accomplished step by step; we forget the absolute necessity of an effective local infrastructure.

The world has changed. We do not have the same possibilities as in the environment of the past century—of which the present condition of world energy is only one of many reminders. One who works in a Third World country works in an environment with a history and a philosophy quite different from that of the First World. All too often, even where industrial projects are successful in the Third World, the result is nothing more than a raising of the standard of living of the elite rich, while widening day by day the gap between them and the vastly more numerous poor people in that country. Conversion to technical industrial practice often displaces the individual artisans of the country, whose training and disposition is inconsistent with machinery and synthetic imported products, forcing them to go out of business.

To manufacture plastic shoes, for example, a multinational corporation imported two machines into a country, each costing $100,000, equipped with the molds to inject the plastic.[5] These machines employed 40 people in three shifts to produce 1.5 million pairs of sandals and shoes a year. They were sold for $2 a pair, the same price as the leather shoes of lesser quality (not as long lasting) made by the local artisans. The result was that 500 local shoemakers lost their business, which in turn started a decline in the market for the manufacturing and distribution of leather, tools, cotton string, glue, rivets, wax and shoe polish, canvas (for the inside of the leather shoes), shoe laces, wooden molds and carton boxes—all these products not being used for plastic shoes. On the other hand, all the machines and materials necessary to produce the plastic shoes had to be imported, while the manufacturing of the leather shoes was mainly based on the local products and small industries. The end result was a very clear decline in employment and real income for that country. As a counter example, it may be observed that in a country in which political development has supported small enterprise and the extensive use of hand labor (such as Korea or Taiwan), the gap between rich and poor has decreased.

The young engineer who arrives in the Third World is often not aware of all these factors. He has been trained to be effective in an affluent industrial society, but he does not know how to be effective in a poor society where simple survival is the continual concern of the majority of the people. He may help to install a high pressure pump, without realizing that no one in the country is able to maintain the pump and either obtain or afford new parts, or that the initial investment raises the price of the end product to a level that only the already rich can afford to purchase it; soon that pump, instead of serving irrigation for the production of fruit, sits idly by, a useless piece of metal. He may encourage supplying farmers with modern tractors, without realizing once again that no one locally is able to maintain the tractor or afford gasoline to keep it running, or that there is no possibility of depreciation because of the low productivity of the soil; soon it also sits rusting in a corner of the field. With the best of motives he may engage in a photovoltaic energy generation project, without realizing that no local ability exists to monitor the project, deal with the electronics associated with it, or handle the replacement problems

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and costs. He may advocate the establishment of "model farms" complete with highly bred cattle from the West, which are unadapted to local conditions and simply cannot survive away from their carefully controlled western habitat. He may fall victim to the desire to make major cities in the Third World look architecturally like cities in the First World (Abidjan in the Ivory Coast is an outstanding example among many): tall rectangular skyscraper structures that require an incredible amount of air conditioning and become totally uninhabitable when the strain on the limited electricity available makes itself known in frequent brownouts and blackouts.

One who works in a Third World country works in an environment with a history and a philosophy quite different from that of the First World.

Separation of Spiritual and Physical Needs

If bodily needs are separated from spiritual needs, under the influence of a Greek dichotomy between body and spirit rather than a biblical emphasis on personal wholeness, the success of appropriate technological developments is often inhibited. When sharing of physical benefits is made contingent upon acceptance of evangelization activity, with the implied message, "We love you enough only to help the bodies of those whose spirits we save," effective aid to whole human beings is rendered very difficult. Sadly also, the biblical message is distorted and both physical aid and evangelization are hindered.

An Integrated Development

Any reference to "appropriate technology" must take full cognizance of the necessity for integration between such technology and the other characteristics of the society involved. An integrated development must be adapted to the needs and possibilities peculiar to the local region of the specific country where the development is to take place. Such decisions often have little to do with engineering techniques. For the most part, *technical problems are easy to overcome.*

There must be a careful analysis therefore of what is *necessary* and what is *possible,* especially with regard to the continuation of the project within the realities of its local situation. In a little village in the Sahel, for example, a solar pump and a grain mill with an electric motor were installed by an international organization that assured the initial support of an electronics engineer. But if a local association were to be formed to take charge of this project, who would guarantee the continuing salary of the engineer? And who would cover the cost of the 80 batteries every 3 to 5 years, when they had to be replaced and external support had been withdrawn? In a society in which people are living on the edge of survival, such a project *cannot* succeed. The possibilities in the local village for technical expertise and for long-range financing had not been adequately researched. One could refer to the effort as a "research project," but scarcely as an integrated development project.

It is essential to an integrated development that all of the parties concerned agree on the concept of the project and on their responsibilities in carrying it out in the future. In general, many meetings are necessary to achieve such an agreement. For example, the construction of a dam to catch and retain rainwater (so that it could be used to irrigate the downstream plain in the dry season) required four years for its preparation.[6] This much time was absolutely essential for the local people to realize and assume their responsibilities in

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carrying out the work. During two dry seasons, 200 local volunteer workers helped to prepare the irrigation system. Each family who supplied a worker subsequently received a parcel of land to cultivate and irrigate. By this means the people were involved and became able to assimilate the project without a governmental structure; they felt responsible for the continuation since it had become *their* project.

This aspect of the *importance of time* cannot be overestimated. It is frequently far better to proceed progressively than all at once. The project must be allowed to develop step by step according to the possibilities that arise. Often it is necessary to repeat many times certain ideas or techniques before they are actually applied. Any development—no matter how beneficial ultimately—requires a change and a destabilization of a society that is often very stable and traditional. Consider the following example.[7] The first stage of development introduced by a rural expediter was the introduction of animal-drawn equipment for farming (previously everything had been done by hand). The second stage was a little project in vegetable growing during the dry season to provide work, income, and a better balanced diet. These two beginnings allowed the population much greater self-sufficiency both in their food supply and in their financial situation. After three years, the expediter began a literacy program for the adults and a primary school for children. It was not until two years later that he began to speak about a reforestation program, a difficult subject to introduce because it involved a project the beneficial results of which were not immediately apparent (and, in any case, "it was the women who had to go and gather firewood"!). But during the previous time, he had gained the confidence of the people by helping them with their immediate and more pressing problems, and with a number of people with a reasonable degree of literacy, they were better able to apprehend the problem.

Finally, an integrated development must *avoid rules and programs* that are too rigid. It is *people* with whom one is working, not with machines or numbers. Long-term plans frequently fail because in general there are too many unknowns and too many variables to allow for fixing plans over many years. It is good to have long-range goals, but it is equally necessary to have the freedom to change or to stop a previous direction of development if it is not moving in a successful direction. A project in raising pigs, for example, was changed during its progress when it was realized that the appropriate food for the pigs would be difficult to find in a little village (the result of a bad original analysis of local conditions, and a non-realistic enthusiasm from the local population).[8] Those cooperating in the project then began to raise sheep since they had plenty of pasture land around the village. The income from this changed project was not as great as anticipated from the raising of pigs, but the raising of sheep was something that could be integrated with the possibilities available in that village.

No one who does not know *the Third World can truly help the Third World.*

An Appropriate Technology

In the larger sense, appropriate technology is an important way of responding to the real needs of a people, because it uses insofar as possible the human and material resources to which the local community is adapted. Such technology must be appropriate in relation to:

(1) the artisans, their methods and their tools;
(2) the users, their needs and habits;
(3) the materials locally available; and
(4) the local infrastructure.

It is evident that the appropriate technology is often an important factor in achieving an integrated development. It also means that every situation is different: sending a few drawings with a little technical information is generally insufficient and often inappropriate for a given situation.

A true technical, human cooperation and partnership is indispensable, and is possible, if one is willing to invest the required time and patience, and if one has the necessary development experience. The Albert Schweitzer Ecological Center has elaborated the concept of an Appropriate Technology Interaction and Concretization Partnership. This means a partnership that involves a true exchange of technical know-how and an honest follow-up of emerging technical questions or problems, while at the same time the local organization and population determine the form and direction that their small-scale enterprises should take according to their social, cultural and economic environment. Although it is possible only in rare exceptions, the established local organizations should be encouraged to be as responsible as they can for raising or finding the funds required for this exchange of technical information, since this indicates a genuine interest. Seeing the human factor as of primary interest, the Partnership stresses a human approach to the technical problems; it is insisted that all the parties involved engage in genuine dialogue. Such dialogue may well

take time, but it helps to avoid imposing our ideas, furthers our understanding of the local situation, and makes the local people aware of what is needed for a real development and stresses their own participation and responsibility.

This approach by no means implies that appropriate technology is a "shoe-string" technology. Products should be of good quality, even if in certain cases this might require the use of certain imported materials. Here great caution must be exercised, however, so that materials are imported only if (1) an adequate local infrastructure can assume responsibility for the importation formalities, (2) this alternative is economically viable, and (3) a greater independence from imported finished products can be foreseen as a result of this choice.

An approach deserving the title, "Appropriate Technology," should (1) encourage exchange and contact with the modern sector and with industrial nations only to the extent that such contacts favor the use and the development of local resources and talent; (2) free people from dependence on foreign resources; (3) be characterized by small units of decentralized production; (4) create jobs by adopting techniques that guarantee the extensive use of manual labor; (5) recognize that different countries and peoples have different cultures, priorities and values, and that all technological development in that country should be integrated with those cultures, priorities, and values; (6) be able to function within the capacities, materials and resources locally available; (7) usually be characterized by its simplicity and low cost; (8) have sufficiently flexible guidelines and regulations to allow for adaptation to new conditions or unforeseen difficulties; (9) be compatible with the local ecology; and (10) seek to assure that relevant research will lie in the direction of leading to new initiatives that are both constructive and independent.

Conclusions

Responsible Christian stewardship in the area of appropriate technology for Third World countries is not easy. It is essential to know as much as possible about the details of various projects to see how faithful they are to the principles of "appropriate technology."

The emphasis throughout this paper on the value of "small technology" should not be interpreted to imply that "big technology" is never desirable or necessary. There may indeed be special and exceptional cases where following the path of "big technology" is pragmatically necessary to bring real aid to the poor. It is our contention, however, that these cases must be recognized as exceptions rather than the rule. Similarly our emphasis on the importance of the agreement and involvement of all concerned should not be interpreted to imply that emergencies, crises, or major calamities may not arise in which such agreement and involvement are not possible; again it is our contention that the pattern of agreement and involvement should be followed as the norm.

For the technically trained individual whom God may call to such service, many opportunities exist. It is essential, however, that such a call to service be seen as involving an extended period of learning and adaptation—not because of technical problems, but because of human problems. A willingness to invest at least three to four years and to undertake a number of simple tasks only peripherally related to one's technical training, and a willingness to listen rather than to impose preconceived ideas because of a realization that authentic help leads people to help themselves—these are the prerequisites for a successful experience in "appropriate technology." No one who does not *know* the Third World can truly help the Third World.

God's command to us to care for the poor, and our own gratitude to Him for the gift of His Son, provide ultimately the only lasting motivation to carry on "appropriate technology." Christians need to supplement their desire to help with the knowledge of the actual situation that will enable them to help in a lasting and beneficial way.

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[3]*In loc cit*, p. 177.

[4]The address of the workshop is: DESTA, c/o M. Schneider, BP 3306, Ouagadougou, Burkina-Faso.

[5]K. Marsden, "Appropriate and Inappropriate Technologies: Some Case Histories," Intermediate Technology Development Group Ltd., London. Marsden is Technical Consultant for Small Industries for the International Labor Organization. Another negative aspect is that it reinforced the idea that whatever is made by the machine or is imported is "better." People in the Third World have often lost their belief in their ability to improve their own skills and possibilities. They have too often become resigned to waiting on the white magician coming with money and technical skills to do it all for them instead of only getting some advice on how to improve and going ahead with what is already there. Certain people in the Third World believe that appropriate technology is a second rate technology that the West is imposing so that the Third World cannot "develop," even after all the recent disasters of inappropriate development of rural economies into industrial ones (e.g., Algeria, Venezuela, Brazil, Nigeria).

[6]This dam was built in Ouedbila, a little village 27 km south of Ouagadougou in Burkina-Faso. About eight other villages in the same area profit from the dam. Most of the vegetables are sold in the capital.

[7]This project is situated in and around Sassa, a small village about 100 km west of Ouagadougou on the main road to Yako.

[8]This project was again in Burkina-Faso, in a small village named Gomboro in the extreme west of the country, close to the Mali border. The examples cited in this paper are all from Burkina-Faso, because Johan Ramon was working there at the time and was responsible for these projects. Similar examples could easily be found in other developing countries.

Determinism and Christian Affirmation

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This paper examines various ways in which deterministic theories of human behavior, society, culture, and social transformation, which emerged out of the effort to understand human phenomena scientifically, present reductionistic perspectives which tend to deny the role of God in social behavior. While deterministic models such as those of Freud, Marx, and Durkheim tend to explicitly reject and claim to supercede theological models, it is argued that such theories can and should be used by Christians as necessary means of distinguishing between the truly divine, and those phenomena conditioned by social, economic, and other forces. Used in this way, deterministic theories can affirm rather than deny genuine Scriptural teachings. Moreover, the ontological and other limitations of deterministic models are discussed in terms of how their false claims to ultimacy point the way toward and underscore the necessity and indispensability of the Cross, the Resurrection, and salvation through Christ.

The behavioral and social sciences postulate various kinds of deterministic theories that maintain that particular determining factors—economic, sexual, psychological, social, cultural, biological—are *the* cause(s) of social behavior. The early social theorists were especially prone to setting forth deterministic models. Marx's economic determinism, Spencer's bio-organismic and evolutionary focus, Durkheim's social reductionism, and Freud's sexual reductionism are perhaps the most notable, and influential, of the deterministic models of human behavior. Although many later and contemporary social theorists have eschewed such blatant tendencies toward deterministic reductionism, most still adhere, implicitly or explicitly, to some factor or another as the "bottom line" by which everything can be explained.

The ontological conflict between a Christian worldview and a non-Christian epistemological foundation is in sharpest relief at this "bottom line" point. The Christian argues that God, and His will, are the ultimate bases of all being and hence, the First Cause not only of existence itself, but of everything in it—including, of course, all forms of social behavior. The determinist, in sharp contrast, contends that his/her determining factor is *the* ultimate explanation of psychological, sociocultural, and political phenomena.

Christians generally have assumed that such deterministic theories as Freudianism, Marxism, Social Darwinism, and many others are antithetical to the Christian worldview, and generally reject the idea that they can have any value in fulfilling Christian values and goals.

Is this apparently irresolvable breech really irresolvable? Can the concept of God's Will as the ultimate causal factor of human phenomena be reconciled with present modern deterministic models and theories?

Marx's Economic Determinism

Perhaps the most significant deterministic theory in terms of its impact on world history is Marxian economic determinism. Marx's perspective is so well known that it should be unnecessary to describe it in great detail. In essence, he contends that the "true" determining element of all forms of social, cultural, and political phenomena is the relation of different groups of people to the prevalent means of production of food and goods in any society. In feudal societies, those who own the land or control it through force develop religious, cultural, and social forms and institutions aimed at the maintenance and expansion of control by the ruling classes. Likewise, since factories are the basic means of production in capitalist societies, sociocultural and political phenomena emerge which rationalize, legitimate, and sustain the control of the ruling bourgeoisie.

Typically, Marxists charge that patterns of inequality and unjust institutions and practices of various kinds are rationalized and legitimated by religions as reflections of God's will. The doctrine of the Divine Right of Kings is the most notable example of the use of God's will as a rationalizing mechanism; this doctrine is just one of countless ways in which God has been and continues to be used as an excuse for injustice and inhumanity.

Fatalism is defined as "the doctrine that all things and their occurrence is necessitated by the nature of things or by the fixed and inevitable decree of arbiters of destiny" (Webster's *Unabridged Dictionary*, Second Edition, p. 922). Many of those who oppose theological explanations of sociocultural or political phenomena presume that such explanations are inevitably fatalistic. Moreover, theological explanations are seen, especially by Marxists but also by many others, as supportive of unjust *status quo* patterns.

In the famous Eisenstein film of the revolt of sailors on the Russian naval ship *Potemkin*, for example, we witness sailors forced to eat maggoty meat and their protests arrogantly dismissed by their superiors. As they begin to violently revolt, a priest confronts them and passionately shouts, "Stop! You are revolting against God!" His meaning, of course, is that God had instituted the hierarchic order which relegated the sailors to a "lower" level of existence, and that it was God's will that they put up with their conditions, no matter how humiliating and unjust.

A similar example of the use of theological explanation to legitimate and rationalize injustice is a wealthy landowners' talk to peasants attempting to form a Peasants' League in a Latin American nation:

> The land on which you live I inherited from my father. And you, what did you inherit? Nothing. Therefore I am not to blame for being rich nor are you to blame for being poor. Everything has been ordained by God. He knows what He is doing. If He gives land to me and not to you, to reject this is to rebel against God. Such a rebellion is a mortal sin. Let all men accept God's will so that they will not incur His wrath nor lose their souls. You have to accept poverty on earth in order to gain eternal life in heaven. The poor live in God's grace. The rich don't. In this way you are more fortunate than I, since you are closer to heaven. Hear what I tell you and take my advice. Let him who has joined the League leave it. (Page, 1972:43).

Such use of God as legitimator of economic and social injustice has led many to reject all forms of religious explanation, and to replace it with deterministic explanations. The above speech would be analyzed by a Marxist, for example, as an illustration of the mystification of socioeconomic class-related processes of religious rationalization of class interests.

Marxian economic determinism thus relegates all sociocultural phenomena to *epiphenomena* in that they are regarded as not having any determinative, causal power of their own, but are mere reflections of the "real" economic factors that are the "true" foundation of sociocultural and political phenomena.

> . . . we must begin by stating the first premise of all human existence, and therefore all of history . . . life involves before

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> everything else eating and drinking, a habitation, clothing and many other things. The first historical act is thus the production of means to satisfy these needs, the production of material life itself. And indeed this is a historical act, a fundamental condition of all history, which today, as thousands of years ago, must daily and hourly be fulfilled merely in order to sustain human life. . . . The first necessity therefore in any theory of history is to observe this fundamental fact in all its significance and importance (quoted in Kamenka, 1983;171).

Mircea Eliade, Ernst Benz, Norman Cohn, and many others have argued that the sense of history moving in an upward direction toward a culmination in a collective utopian fulfillment, a conception characteristically Western, stems from the millenarian dynamism of the Judeo-Christian heritage. In many respects, when God entered, so did history. Eliade in his masterful *Cosmos and History* points out how the Greek and earlier conceptions of time as cyclical, with religious ritual pointing toward an "eternal return" of the time of the Creation, contrasts with the unidirectionality of the Christian worldview. Benz emphasizes in *Evolution and Christian Hope* how such theologians as the 12th century Joachim of Fiore saw history as moving through a tripartite ladder from the Ages of the Father, the Son, and the Holy Spirit. Cohn demonstrated how the chiliastic movements of the Middle Ages and their *Pursuit of the Millenium* presaged the revolutionary totalitarian Nazi, Communist, and other secular political movements of the modern era.

The prophetic dimension of Marxist thought has been a prime example of such thinking. Structural rearrangement, especially the abolition of private property, was seen (and with varying degrees of explicitness is still regarded by contemporary Marxists) as the essence of historical, indeed human, fulfillment:

> *Communism* is the *positive* abolition of *private property*, of *human self-alienation*, and thus the real *appropriation* of *human* nature through and for man. It is the *definitive* resolution of the antagonism between man and nature, and between man and man. It is the true solution of the conflict between existence and essence, between objectification and self-affirmation, between freedom and necessity, between individual and species. It is the solution to the riddle of history and knows itself to be this solution. (quoted in Kamenka, 1983:149–150).

Ernest Becker (1975) discusses such illusions as *immortality vehicles*. Like money, fame, power, etc., commitments to ideologies based on historical determinism give meaning and purpose to life by allowing a person to be regarded as part of the flow of history. Since the Marxist vision sees a final resolution and culmination of the human experience in the overthrow of private property, tying oneself to such a cause also resolves the need to feel significant and important. All of these functions of commitment to a historically-deterministic ideology are apparent in Gornick's account of what being Communist meant to some of her relatives and friends, whose meetings around the kitchen table she frequently witnessed as a young girl:

> When these people sat down at the kitchen table to talk, Politics sat down with them, Ideas sat down with them, above all, History sat down with them. They spoke and thought within a context that had world-making properties. The context lifted them out of the nameless, faceless obscurity of the soul into which they had been born and gave them, for the first time in their lives, a sense of rights as well as of obligations. (It) endowed their lives with the vision of a communal world with moral meaning. It was this dream—this passion, this hook on the soul—that made of Communism the metaphoric experience that it was. (Gornick, 1977:7;13;17).

In numerous works, Reinhold Niebuhr long ago warned of the dangers of sacramentalizing a particular reality construct as capable of fulfilling Self and History by linking the two in a false immortality pattern. Yet, are we to disregard what I would term the *analytic* dimensions of Marxist determinism because of the negative consequences of its prophetic aspects?

Christians often overlook the fact that God can work even through those who deny Him, if only Christians are sufficiently aware that He works in such mysterious ways. Marx and Marxists do afford a valuable dimension of analysis for Christians seeking to distinguish God's will from socioeconomic factors. As countless historical and contemporary examples show, the label of "Christianity" has been used to legitimate and rationalize various kinds of economic and social oppression and exploitation. While recognizing that the ultimate vision of fulfillment and resolution of the problem of human existence through structural rearrangement is puerile and dangerously false because it ignores the fullness of the resolution that can only come, and has come, through Christ, *analytic* Marxist perspectives can continually bring us back to the "nitty-gritty" of human suffering caused by the sinful greed of others, and the need to recognize that such suffering can and should be nonviolently resisted and not merely fatalistically accepted as God's will. Moreover, while not accepting its ultimate ontological principles, Christians can make use of Marxist modes of analysis that emphasize that sin is not merely individual, but is *institutionalized* in structured socioeconomic patterns. In so doing, the Christian is in a better situation to carry out the Saviour's injunction not to judge others as individuals, since it is the institutionalized sin of unjust patterns of property ownership, exploitative relationships, etc., that must be condemned and changed.

Social Determinism

Another type of determinism common in modern society is that which reduces religion and belief to functions associated with social solidarity and cohesion. In his *Elementary Forms of Religious Life*, Emile

Durkheim sought to discover the essence of all religions by examining what he regarded as its most basic, primitive manifestations in the practices and rituals of Australian aborigine tribes.

Durkheim found that sacred objects, such as totems, represent the solidarity and cohesion of the tribes, and that religious feelings and experiences take place when individuals partake in unifying rituals that gave people the illusion that they are in some higher realm of existence:

Durkheim, by emphasizing the social *character of many of the things Christians frequently believe to be of divine origin, can help us gain a truer understanding of what is truly God's will as opposed to that which is actually of human origin.*

> One can readily conceive how, when arrived at this state of exaltation, a man does not recognize himself any longer. Feeling himself dominated and carried away by some sort of an external power which makes him think and act differently than in normal times, he naturally has the impression of being himself no longer . . . everything is just as though he really were transported into a special world, entirely different from the one where he ordinarily lives. . . . How could such experiences as these . . . fail to leave in him the conviction that there really exist two heterogeneous and mutually incomparable worlds? One is that where his daily life drags wearily along; but he cannot penetrate into the other without at once entering into relations with extraordinary powers that excite him to the point of frenzy. The first is the profane world, the second, that of sacred things.
>
> So it is in the midst of these effervescent social environments and out of this effervescence itself that the religious idea seems to be born . . . the sacred principle is nothing more nor less than society transfigured and personified. (Durkheim, 1965 (1915):249–250;388)

This conceptualization of religion as *collective consciousness* has many implications for Christian belief and thought. First, it is, like other forms of determinism, a type of *reductionism*. Bellah (1970:237–259) argues that Durkheim, like other determinists, engages in *consequential reductionism*. Since *one* consequence of religious belief and practice is, ideally, cohesion and solidarity between the members of a group who feel themselves "lifted up" into a higher realm of existence through religious practices, then *all* forms of religious belief and practice can be understood as stemming from these functions.

If Christianity is "nothing but" another form of collective consciousness, what bases of belief are left? First, Durkheim makes no essential distinction, as Christianity at its core does, between idolatry and faith. The primitive-origins examples he uses are all based on idol-centered forms of religious expression, such as totemism, the rejection of which is, of course, a major Biblical theme. "Thou shalt put no other Gods before Me" is a continual emphasis of the Old Testament, which depicts the Jews continually falling back into idolatrous forms of religion and being punished for doing so. The revelry and frenzy associated with the Jews' continual backsliding is very similar overall to what Durkheim, in his use of ethnographic accounts of Australian aboriginal rituals, cites as the essence of all religion. This, of course, takes no account of the central Biblical theme of God's effort in history to push believers into a new form of worship superceding idolatry.

Secondly, Durkheim's depictions of the essence of religious phenomena pertain just as well, if not better, to secular phenomena. Football games, political rallies, etc., all involve the same form of collective exaltation and frenzy that has caused many to regard them as sacred: witness the sacramentalization of football by many Americans, and the collective excitement of political events.

Third, and closely related to the above, Durkheim implicitly assumes that the collectivity is the highest moral reference point. Though neither he nor his followers were in any sense totalitarian or even excessively nationalistic, his concept of religion as collective consciousness *implicitly* legitimates the claim of a nation-state, or some entity such as the Communist or Nazi Party, indeed any collectivity, as having complete claim upon the moral conscience of the individuals. Put differently, Durkheim's concept of religion as "nothing but" social cohesion leaves no support for claims of the supremacy of individual, divinely-guided conscience against the demands of a group, nation-state, or any collectivity the individual may be subject to.

Moreover, and most significantly, the moral cohesion of the collectivity is most often defined and maintained through conflict against an *outgroup* which, in times of war, must be struggled against and overcome if the collectivity and its moral force is to be maintained. Durkheim's concept of religion and morality as inhering solely in the collectivity and expressing social cohesion thus leads, by direct implication, to ingroup vs. outgroup struggle as the affirmation and maintenance of morality and religion.

These implications of Durkheim's social determinism stem directly from his reduction of God to a symbol of social solidarity and cohesion, and his view of

morality as having no higher reference point or source than the collectivity to which an individual happens to belong:

> However complex the outward manifestations of the religious life may be, at bottom it is one and simple. In all its forms, its object is to raise man above himself and to make him lead a life superior to that which he would lead if he followed only his own individual whims.
>
> If religion has given birth to all that is essential in society, it is because the idea of society is the soul of religion. Religious forces are only the individualized forms of collective forces. The sacred principle is nothing more nor less than society transfigured and personified. (Durkheim, 1965(1915):461; 466;472;388).

Does this mean that Durkheim's form of social determinism should be discarded entirely by Christians seeking to actualize God's will in their own and others' lives?

Like many Christians who have refused to even read, much less incorporate, Marx and Marxist thought into their perspectives, such rejection would be short-sighted. Just like Marx can help us separate the man-made economic and related constructs from the truly divine, thus Durkheim can serve an indispensable function of allowing Christians a foundation for recognizing that *what has often been, and is still, regarded as reflective of God's will is, in reality, social.*

For example, many forms of religious practice involve forms of collective frenzy similar, in an overall sense, to the kinds of collective excitements of the Australian aborigines. Many people attend church to share these experiences with others. But in so doing, it is easy to regard such rituals and practices as *ends in themselves,* and to overlook the fact that faith is not some kind of exalted feeling that one can gain only in large gatherings, or synonymous with the "highs" associated with much religious practice. Rather, it is a commitment, a surrendering of oneself not to a collectivity but to the Ultimate Unity of God that far surpasses, and even, with its emphasis on the *individual* soul, overrides and undermines, the solidarity of the group.

Moreover, faith is most readily manifested not in special times of collective worship but in everyday, mundane interactions with others. Jesus' parables are deliberately mundane and "everyday" in order to emphasize that faith takes on reality most clearly at times *other* than those involving "rising above" mundane existence.

Durkheim thus provides an invaluable basis for Christians to avoid the *sacramentalization of the social* by seeing and acting upon the differences between social phenomena and God's will as revealed in the Scriptures. One of the most destructive consequences of the sacramentalization of the collectivity has been the tendency to regard the interests of particular nation-states and their leaders as synonymous with God's will. The hundreds of millions of people who have been sacrificed in this century alone, not to mention the countless butchered in the past in the name of God, bear witness to the need for Christians to overcome this especially horrendous form of idolatry. Durkheim, by emphasizing the *social* character of many of the things Christians frequently believe to be of divine origin, can help us gain a truer understanding of what is genuinely God's will as opposed to that which is actually of human origin.

Christianity has often overemphasized the assurances, tranquillity, and other "comfort-related" dimensions of faith and relatively neglected its challenging dimensions.

Varieties of Psychic Determinism

One of the most influential theories of modern society has been Freud's explanation of religion as an extension of childhood anxieties and needs for security and assurance into adulthood. In *The Future of An Illusion,* Freud maintains that religion has its origin in children's fear of the unknown and their quest for a figure that can protect and nurture them. Hence, God the all-powerful and almighty is but an extrapolation of one's parents into idealized phantasy.

Freud's theory of religion is thus a type of reductionism which, in an ironic sense, postulates that humanity should take seriously Paul's admonition to the Corinthians to "put away childish things." Throughout the New Testament, particularly in the Pauline books, the challenges, dangers, and difficulties of living and promulgating the faith are emphasized. As Charles Glock in *To Comfort and To Challenge* points out, Christianity has often overemphasized the assurances, tranquillity, and other "comfort-related" dimensions of faith and relatively neglected its challenging dimensions. This is particularly true with regard to many media evangelists, who constantly sing and preach about "what God can do for you," rather than emphasizing, as do the Scriptures, how God wants us to love Him and others as ourselves.

Thus, even Freud can serve a useful foundation for separating childish chaff from the wheat of faith, in that his theory reminds us how often we think of God and Christ as Santa Clauses who exist only to satisfy and fulfill our wishes and make us feel good. If God's teachings on earth are to be more fully actualized, one must be willing to give up such childishness and realize and accept that rather than always giving us a rose garden, we are also given our Gardens of Gethsemane with shadows of crosses looming on the horizon. Even more importantly, it can help us realize that the Christian mission is not merely to *receive* God's love as His children, but to *give* it to Him and to others.

A second major Freudian theme is the attribution of First Cause status to sexual motives. In Freud's view, sexuality is the root of human motivation, and is closely tied to the modes of psychological dependency on parental security, since children first develop their sexual feelings and needs from close ties to their parents and a need to work out conflicts with the same-sex parent over the child's unconscious desire to sexually possess the parent. Since such possession is impossible due to the child's relative helplessness, it resolves the conflict by gradually learning to identify with the parent of the same sex. Nonetheless, the basic survival needs that stemmed from the original "object cathexis" with the mother remain the root determinant of the child's behavior as it, ideally, progresses to the full "genital" stage of development and participates in propagating the species by creating progeny.

Finally, Freud's overarching determinism emphasizes the *unconscious* motives of human behavior, a view contrasting strongly to the Christian perspective. Willard Gaylin, a practicing psychiatrist who is skeptical of orthodox Freudianism, has presented a very significant exposition and critique of Freudian psychic determinism:

> Freud postulated that we are mostly unaware of the determinants of our behavior, for much of behavior is determined not in the conscious but in the 'unconscious.' When one puts together the concept of unconscious determinants, the dynamic nature of determinants, and the developmental principle, what emerges is the profound doctrine of psychic determinism. If each piece of behavior is causally related to the past, if one does B *because of* an A that preceded it, (as well as A^1 and A^2 and A^3 . . .) and if one is going to explain B on the basis of A, then one is forced to say behavior is determined: You had to do what you did.
>
> This concept of psychic determinism is directly contrary to the perception of Christianity with its central emphasis on the individual and his need to seek his own redemption. Christianity is rooted in a sense of responsibility and freedom.
>
> Beyond the concept of determinism, Freud clearly announces the *nature* of these determinants as being predominately irrational. Those forces and counterforces that determine our emotions are primarily the passions, the instincts, the emotions, vested in the biological and animal nature of the human species (1983:155–156).

Is there any reason to believe that Freud's psychic determinism, as well as the other kinds of determinism we have examined, are any more valid, "scientifically" or otherwise, than the Christian view? Gaylin maintains that psychic determinism has achieved a high degree of predominance in our culture because it is couched in scientific, as well as medical, terms. Though he is discussing Freud and psychic determinism, the same points also pertain to the other determinists and deterministic theories we have examined here:

> (Freud) told us a new story—a good story, a gospel that a twentieth century in the process of replacing its reverence for God with awe of science and technology was prepared to accept as gospel truth.
>
> But it is not gospel truth, and it does not lead to certitude. The psychoanalytic view is in no way 'truer' than the Christian, or any other religious view of humankind. The power of the psychoanalytic model is that it took a philosophical vision of man and cast it within a medical model, so that we approach it not with the incredulity that we bring to new religions but with a credulity that we grant to 'scientific' discoveries (1983:158).

The Christian Utility of Deterministic Models

Where, then, does this leave the role of Christ and the Gospel? As we have seen, in one way or another the various deterministic theories of humankind we have examined here are based on the idea of the human being as organic and/or social *creature*, one whose survival biologically and socially is dependent on sources within and without him/herself. How does Christ, and the salvation He offers through the Cross and the Resurrection, afford answers to the dilemmas raised by deterministic theories?

First, as we have already seen, deterministic theories can provide invaluable, indispensable means for deciding what is really Christian and from God, as opposed to what is social, economic, political, and/or biological. Deterministic theories and worldviews, in other words, describe what are basically *idols:* things like social cohesion, status, economic success, freedom from class-related exploitation, sexual fulfillment, etc., that we have, in the past as well as now, *ultimatized*—i.e., falsely believed capable of providing us with ultimate fulfillment. Christians as well as non-Christians have often not only sought out, but regarded as legitimate, aspects of God's desire and will for our lives individually and collectively. Deterministic perspectives, *regarded correctly and put in their proper place,* can help us recognize how we have often *used* God through prayer and faith as an *instrument* to attempt to attain such idolatrous ends.

But even more importantly, the obvious failure of the applications of these deterministic theories to make human life more fulfilling through "free" sex, competi-

tive success, revolutions that lead to even more inequality and oppression, etc., can serve as a means for Christians to confidently assert not only the superiority, but the unique, irreplaceable power of Christ.

As we have seen, all of the above kinds of determinism can, at root, be seen as founded on faulty basic premises. Spencerian competitors, Marxist class struggles, Freudian sexualists, etc., all rely on a fundamental ontology that, in the final analysis, contradicts itself. Each in its own way claims to have the ultimate answer to human existence through the overcoming of some form of biological constraint. But each regards *struggle*—against repression, oppression, the weak, etc., as the necessary vehicle for its attainment. Each worldview, moreover, is inherently *zero-sum* in that fulfillment must be achieved through the *defeat* of someone or something that is perceived as the *obstacle* to total human fulfillment. The "least fit," the "bourgeoisie," the repressive elements of the self, the parents who provide false security and emerge into divine beings that provide illusionary relief from anxiety and fear—all these must be *done away with* in order for fulfillment to be possible.

Yet, by the very terminal conditions they implicitly or explicitly depict as ultimate visions, deterministic theories *cannot be universal*, since they *all postulate that fulfillment can be attained only at the expense of some category of others, or denial of some essential aspect of the self*. Moreover, *they all regard struggle of some sort—internal, class-related, against outgroups, etc., as the basis of human motivation and behavior, and yet mysteriously assume that what they regard as basic to human motivation will disappear when the struggle has resulted in a victory for the determining elements*. In other words, deterministic worldviews deny their own premises by first postulating some form of struggle as the basis of human existence, and then assuming that such struggle will culminate in an *end* to all struggle if some ideologically-defined "final" victory is attained through overcoming of the repressive superego, the dictatorship of the proletariat and the classless society, the victory of the "fittest" over the less fit, defeat of an outgroup, etc.. But such culmination is, by these very premises, impossible, since it would contradict the essential struggle-based character of human "nature" that the theories begin with. Human nature is, in each deterministic theory in different ways, seen as leading to an end of struggle. But such an end would be contrary to the very struggle-based foundations of human existence that each perspective, in its own way, illogically postulates as its ontological starting-point. Hence, each sets forth with different degrees of explicitness the illusion that *humanity can overcome its own bases of existence—some sort of struggle—by struggling*.

Understanding this can enable Christians to confidently step forward and claim that far from being an illusion itself, Christianity has the only true solution to the problems of human existence posed by the deterministic theories whose adherents claim to have "superceded" it. Christ's struggle on the Cross, and His Victory over the limits of organic existence and everything that is associated with it, is, in the terms of deterministic theories properly understood, the sole, indispensable, unique, and irreplaceable answer to the struggle-based deterministically-defined dilemmas of human existence. By dying on the Cross and being resurrected, and allowing us to participate in His victory, Christ has struggled for us and overcome all of the limitations of biological existence that prevent our true fulfillment in a way that does not demand the defeat or denial of the fulfillment of others.

Luther's basic insight that led to the Reformation was the recognition, shared by many others but which he alone articulated and promulgated, that what masqueraded as religious—the selling of indulgences—was actually motivated clearly by economic and political goals. In recognizing this, Luther was in effect acting out the role of a sociologist analyzing what Robert Merton (1949:51) terms the "latent functions" of social phenomena—the unstated, often unconscious motives and consequences of actions, behavior patterns, and institutions as opposed to their stated, "up-front" manifest functions. Such recognitions were made possible not only by Luther's and others' insights but by the material advances of the printing press which made such recognitions capable of being widely disseminated and shared. In the same way, deterministic theories can be used as vehicles of analysis by Christians to develop a purer Christianity less entangled with social, biological, economic, political, and other factors that we often take as the will of God, but which frequently eclipse and reverse His imperative of Love as evidenced most ultimately by Christ's sacrifice on the Cross and His Resurrection.

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Behavioral Psychology: What Does It Have to Offer the Christian Church?

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Skinner's brand of radical behaviorism has had a strong impact on American psychology, the social sciences in general, and consequently, on our culture. In addition, behavior modification techniques have been found to be effective tools and are now being used extensively by Christians in psychiatric, educational, and other applied settings. Despite this fact, Christian psychologists and academicians have, for the most part, disagreed with the philosophical implications of a behavioral view of man. The basis for the apparent tension between behavioral theories and traditional Christian views of man's behavior is discussed and evaluated. It is concluded that Christians need to seriously consider that the scientific approach, as exemplified in behavioral psychology, may provide a meaningful understanding of human behavior.

Behavior Modification: An Inconsistency Among Christian Professionals

At a recent conference I attended on Christian approaches to learning theory, the theories of B.F. Skinner became the focus of discussion following one of the paper presentations. It was clear from the tone of the discussion that most of the participants did not feel that a Skinnerian approach to human behavior was especially compatible with a Christian view of man. While the discussion was going on, the person sitting next to me, a chairman of the Education Department of a small Christian liberal arts college, commented matter-of-factly that he found the discussion amusing. He noted that despite some of the negative views towards Skinner's theories, the behavior modification techniques derived from them were presently being included in the teacher training of every Christian college that he was aware of. According to this educator, behavior modification had been found to be an indispensible tool in the classroom because it worked, unlike many other techniques that have been derived from other psychological viewpoints regarding man.

As I thought about his comments, I was also impressed by the apparent inconsistency of many Christian educators and psychologists. Many of these professionals freely use behavior modification techniques in the classroom or on the psychiatric ward because they find these techniques to be helpful tools. At the same time, though, they often reject the behavioral theories and philosophical assumptions regarding the nature of man from which those techniques have been derived, because of the supposed incompatibility of those views with a biblical view of man. Such dissonance between traditional Christian beliefs regarding the nature of man and the implications of behavioral techniques, must be addressed by the Christian psychological community.

Presented May, 1984 at the annual convention for the Christian Association for Psychological Studies in Dallas, Texas.

It has been my experience when teaching the principles of conditioning and learning in the classroom that the students often begin with a traditional Christian view regarding the nature of man. As a result of the review of laboratory and case studies, the students note numerous examples of human and animal behavior that can be effectively understood in terms of lawful environmental relationships. Students soon find themselves concluding on the basis of sound empirical research and case studies that many behavior modification techniques are effective. Yet they sense a tension between the implications of these findings and a traditional Christian view which they have derived from the day to day context in which human behavior is discussed in the church. If the techniques are effective, it is appropriate for Christians to consider the philosophical implications derived from the theories from which the techniques have been developed. Why are these techniques effective? What insights can we glean about the nature of man from the effectiveness of these techniques? It is my intention to more fully consider the philosophical implications derived from the effectiveness of behavior modification techniques, and to discuss why these implications are frequently in tension with what Christians suppose is a biblically derived view of human behavior.

Christianity and the Nature of Mind

In dealing with therapeutic or educational applications, behavior modification techniques focus on observable behavior changes and the structuring of environmental events in order to arrive at those changes. Such notions as mind, soul, values, beliefs, volition, and other such mentalistic constructs, are typically ignored. If behavior modification techniques can successfully change behavior without invoking such intermediators as mind or will, the implication is that perhaps such mentalistic constructs are not important in determining at least some of the things that people do.

One of the reasons that Christians are uncomfortable with this implication is that the notion of mind and will have traditionally been considered to be important concepts within a biblical view of man. These notions are typically invoked as explanatory concepts when dealing with the "why" of human behavior. Though many Christians assume that the notion of mind is biblical, it is in fact more the result of our dualistic Western culture than of any biblical exegesis as such. Platonic dualism was incorporated into Christian, and therefore Western, thought by virtue of the early church fathers who were strongly influenced by some of the classical Greek philosophers. St. Augustine was perhaps the person most responsible for the adaptation of Platonic dualism into medieval theology. Augustine's dualistic notion of the soul/body was then adopted by French philosopher/mathematician René Descartes who began using the term soul almost interchangeably with mind. As the British empiricists and associationists of the 18th century acquired a strong philosophical foothold in Western thought, the medieval functions and abilities of the soul became the functions and abilities of the mind. Even today, there exists some confusion among Christians as to precisely what are the functions and abilities of the soul, and what are the functions and abilities of the mind. Soul is considered to be that faculty which allows us to exist and function as distinct personalities for eternity. Yet when discussing those very same faculties in the living person, they are said to embody the mind.

Though many Christians assume that the notion of mind is biblical, it is in fact more the result of our dualistic Western culture than of any biblical exegesis as such.

A Hebraic Model of Human Behavior

Had the early church and subsequent Western culture embraced a Hebraic view of man rather than a classical Greek view, a behavioral disregard for the importance of mind might not be so threatening to the Christian church. Old Testament Hebrew culture tended to place a greater emphasis on the physical dimensions of existence. Soul was viewed as a biologically living entity, the living body if you will, within a more wholistic approach to man.

One of the Old Testament words for man that is most analogous to the Greek *homo* is the Hebrew *'adam*, which means he who has been brought forth from the *'adamah* or earth. This characterizes the traditional Hebraic view of man, which emphasizes the ephemeral and physical nature of man. Edmond Jacob, in his *Theology of the Old Testament*, writes:

> Opposition between body and soul is not to be found in the Old Testament nor even a trichotomy (body, soul, and spirit). Man is a psycho-physical being and physical functions are bound so closely to his physical nature that they are all localized in bodily organs which themselves only draw their life from the vital force that animates them. (p. 157)

As opposed to the contemporary American Christian emphasis on the spiritualized individual mind/soul who engages in choice and is responsible in an existen-

tialist manner, a Hebraic anthropology has a very different emphasis. Here, the individual is viewed within the context of the family, tribe, or race; with a recognition of the importance of the group in defining and influencing the individual, behaviorally and otherwise.

In the Old Testament, man is distinguished from God in that he is but flesh. Yet here, the distinction is not in terms of matter-spirit dualism but of a contrast between strength and weakness. Edmond Jacob develops this point when interpreting the passage.

> God (*Yahweh Elohim*) formed man of the dust of the ground and breathed into his nostrils the breath of life; and man became a living soul (*nephesh chayyah*). (Gen. 2:7)

Here the term *nephesh chayyah*, which is applied to man and animals (Gen. 2:19), characterizes man as the final physical result of divinely inspired creative activism, not as an ethereal soul deposited into a body.

Even in the New Testament, when dealing with resurrection life, of which Jesus Christ is our first model, we see a physical body which has found completion and perfection in its divinely inspired design (Luke 24:36–43).

As it presently stands, however, mind/soul is a widely used explanatory concept; and it is only as the Christian church begins to better understand the cultural basis, as opposed to the biblical basis of the construct, that its importance in a biblical view of man can really be assessed.

Christianity and the Nature of Will

The notion of will is another important explanatory concept for the Christian when dealing with human behavior. A person's will, which is usually said to be "free," is one of those nebulous concepts, the effects of which are usually only apparent in a person's choices (i.e. behavior). When asked where the will resides, however, it is usually considered to be a faculty of the soul or mind, and thus an eternal aspect of the person. Behavioral psychology of course, does not appeal to the will as causal in human behavior. It prefers instead to deal with environmental determinants, either immediate or within the learning history of the person. The effects of these environmental influences are mediated through the physiology of the individual, which is largely of genetic origin.

Skinner, in his book entitled *About Behaviorism*, states that,

> Operant theory moved the purpose which seemed to be displayed by human action from antecedent intention or plan to subsequent selection by contingencies of reinforcement. A person disposed to act because he has been reinforced for acting may feel the condition of his body at such a time and call it "felt purpose," but what behaviorism rejects is the causal efficacy of the feeling. (p. 246)

Possibly more forceful illustrations of this point are occasions when we behave in direct opposition to our stated or felt purpose. The apostle Paul, for example, noted that "For that which I am doing, I do not understand; for I am not practicing what I would like to do, but I am doing the very thing I hate," (Romans 7:15, NAS). He then goes on to ascribe these tendencies to the sin that dwells within him (v. 20).

If we were to more concretely define sinful nature at this point, a reasonable definition might be that it consists of that aspect of man which mediates environmental influences in deterministic and behaviorally destructive ways. It is that aspect which, for example, allows such things as nicotine, alcohol, food, sexual stimulation, and physical aggression to influence the behavior of many in a potentially abusive way; oftentimes in direct opposition to that which they would "will" to do. It is perhaps the most tragic of all aspects of the fallen human condition that people are so amenable to such potentially destructive and enslaving influences.

Professor Boivin completed his M.A. in 1978 and his Ph.D. in 1980 in the Experimental Analysis of Behavior program at Western Michigan University. He has been teaching full-time for Spring Arbor College since 1980, and also teaches at the State Prison of Southern Michigan in Jackson, Michigan. He has presented research in the area of complex measures of choice as well as the therapeutic effects of pets with the elderly. At present, Professor Boivin is attempting to develop theoretical perspectives which would allow Christian scholars to better integrate contemporary psycho-neurological findings with a Biblical model of human function and nature. Professor Boivin, his lovely wife Grace, and their two children, Monique and Daniel, presently reside in Jackson, Michigan.

Christ himself recognized this aspect of the human condition, and suggested the following, "If your hand or your foot causes you to sin, cut it off and throw it away . . . and if your eye causes you to sin, pluck it out and throw it away," (Matthew 18:8–9, RSV). His suggestion here is an interesting one, for it can easily be interpreted to mean that we must take drastic action against such potentially hazardous influences in our life because of their strongly deterministic nature. If a certain situation occasions inappropriate or sinful habits, avoid those situations entirely. Don't consider yourself impervious to such environmental influences simply through your "strength of will."

Solomon, as well, recognized the deterministic influences of our social environment in particular. "He who walks with wise men shall become wise, but the companion of fools will suffer harm," (Proverbs 13:20, RSV). From this as well as numerous other passages in the book of Proverbs, we must conclude that Solomon recognized the important effects of social modeling and observational learning, something that is well documented within behavioral psychology. Responsible Christian living, therefore, involves responsible environmental structuring and a healthy appreciation for its effects on the Christian's behavior.

Unfortunately, people have frequently been counselled within the church to deal with behavior problems within their lives by "willing" to change, without the help of responsible environmental structuring or behavior management. Though these individuals may very much want to change, they lack the personal and therapeutic resources to do so; and subsequently find themselves reverting back into destructive behavior patterns despite the fact that they have "willed" otherwise. When this happens, these individuals are said to lack willpower; the implication being that if only they could get more of it, their problems would be solved. The problem is that it is never really made clear where one can get more willpower; and any concrete suggestions strongly resemble a proposed behavior modification program.

Take, for example, the suggestions made by Aubrey Andelin in his book, *Man of Steel and Velvet*. According to Dr. Andelin, one of the characteristics of a man of God is that he acquires self-mastery through three disciplines: prayer, fasting, and *training of the will*. He goes on to explain that one trains the will by continual effort in small steps with respect to one's behavior. This is accomplished by such behavior techniques as structuring the day according to a rigid schedule, depriving oneself of certain reinforcers, and engaging in certain behaviors one normally doesn't want to do in order to "strengthen the will." Such endeavors, he suggests, will eventually fortify the will, and lead to enduring change.

What Dr. Andelin is doing is taking a popular cultural notion, that of will, positing it as causal in volitional behavior, and then suggesting a host of behavior change strategies in order to change the causal construct of will. In this sense, "will" is nothing more than the capacity to achieve desired behavior change.

Responsible Christian living therefore, involves responsible environmental structuring and a healthy appreciation for its effects on the Christian's behavior.

In fact, Dr. Andelin's man of steel and velvet could probably "fortify his will" a bit more effectively if he were to deprive himself of some pleasantries in order that they might be used to reinforce desired behavior changes such as adhering to the schedule for that day. Such reinforcers might also be systematically presented contingent upon the person engaging in the more aversive, yet necessary activities. These tangible positive reinforcements would probably lead to more effectively "strengthening the will" than the cognitive incentive of saying to oneself, "I will deliberately overcome the pull of the flesh," that Dr. Andelin suggests. Cognitive incentives work fine for the self-disciplined who have learned to respond to such verbal cues, but they usually aren't helpful for those very individuals who most need help in achieving desired behavior change.

Sometimes, Christians are encouraged not to attempt to change their own behavior but to instead rely on the transforming power of the Holy Spirit to supernaturally accomplish the change. Praying for divine intervention in the hope of resolving behavioral problems, as well as medical problems, is scriptural (James 1:5, 5:14) and should be the initial course of action for the Christian. Relying exclusively on divine intervention, however, to the exclusion of other available treatments, is perhaps as unwise behaviorally as it is medically. Surely the healing power of God can work through the scientifically-based techniques of the physician or therapist as well as through more supernatural ways.

Will and Moral Responsibility

Despite the fact that reliance upon will for effective behavior change can often lead to failure, guilt and discouragement, many in the Christian community

maintain that free will is a critical concept for a Christian view of the person. When pressed as to why it is such an important concept, it is usually suggested that unless man has a free will, he cannot be held morally accountable for his sinful behavior before a just and sovereign God. If, for example, a person is to suffer eternal damnation for not having chosen Christ as his personal savior, we somehow feel that God is not being as harsh or inhumane if the person can be accused of willfully choosing his terrible fate. Either critical aspects of a person's moral behavior, including their choice for or against Christ, are the result of non-deterministic environmental influences, or else God will judge people for that which they cannot help but do, which intuitively seems unfair. Most Christians, it seems, have opted for the former view, advocating the notion of "free will" as a biblically-based view of man. In fact, though, we find this view a philosophical necessity in light of the biblical notions of divine judgement.

This dilemma is also apparent in a related issue, that of biblical predestination. There are various scriptures which indicate that God is aware of what the eternal fate of individuals will be (Romans 8:29, 11:2–5; I Peter 1:2; Isaiah 49:1, 5). Furthermore, there is the implication that God is directly responsible for creating some vessels unto honor, and some unto dishonor (Romans 9:21–23). When dealing with this very issue in his epistle to the church in Rome, Paul noted "Has the potter no right over the clay?," (Romans 9:21, RSV). We must conclude that indeed He does, and perhaps it is better in developing a biblical view of man to leave such issues unresolved than to invent or adhere to explanatory psychological constructs out of seemingly moral or philosophical necessity.

Behavior Modification and the Distinctives of Man

Some Christians resist a behavioral view of man because they feel that it dehumanizes man; that it is reductionistic and thereby destroys man *qua* man. In responding to this objection, Skinner adapts a quotation by the French philosopher George Sorel to illustrate a point. In the following quotation, the subject of the passage has been changed by Skinner from man to lion.

> The lion at his best, that is, at his most leonine, seeks to fulfill himself, individually and with those close to him, in spontaneous, unended, creative activity, in work that consists of the imposition of his leoninity on a recalcitrant environment. . . . He acts and is not acted upon. He chooses and is not chosen for. . . . He resists every force that seeks to reduce his energy, to rob him of his independence and his dignity, to kill the will, to crush everything in him that struggles for unique self-expression and reduces him to uniformity, unleoninity, monotony, and, ultimately, extinction. (*About Behaviorism*, p. 262)

Were the above passage applied to humans, many humanists and Christians alike would agree that the description provides a romantic glimpse into what it means to be a person. When the stirring language is applied to lions, however, it becomes obvious that such romantic notions really don't describe anything that is uniquely or characteristically human. Such lofty and romantic ideals of the human endeavor sound good, but do not accurately reflect the nature of our daily lives or behavior.

Though our behavioral abilities are more sophisticated and complex than animals, we have no basis for concluding that they are qualitatively different. Only our relationship and responsibility to God makes us qualitatively different from animals. That distinction began when God walked with Adam in the Garden of Eden, a privilege granted to no other creature in the garden; it has ever since been the one critical fact that distinguishes us from all other forms of organic life. A supposed free will, mind, and language is not necessary to distinguish man from animals as many suppose, but rather that he can know God in a way not possible for animals. In fact, attempts to define the humanity of man according to traits or abilities which he uniquely possesses could be simply limited to those traits which he must possess to have an awareness of and interaction with God and his fellow man.

Though Christians would be the first to admit that unregenerate man is not a god, or even an angel, he is still far more than a simple machine as behavioral psychology would make him out to be. This criticism though, is based on a misunderstanding of how contemporary behavioral psychologists in fact view man. Skinner, for example, admits that the mechanical model is useful in conceptualizing certain basic reflexes. Human behavior in its fullest complexity, however, is the sum and product of numerous genetic, historical, and immediate environmental influences which impact on the individual in lawful and probabilistic ways, not according to the rigid, deterministic Newtonian model of causality. When the Christian rejects Behaviorism because it makes man nothing more than a machine, he is rejecting a straw dog which contemporary behaviorists would discard as well.

Christians and the Science of Human Behavior

At this point, the Christian psychologist must ask the question, "If man has an eternal soul, what role does it play in behavior?" Christian thought has traditionally viewed the soul as a homunculus, an inner man that houses the essential ingredients of humanity. During the medieval period, this soul was viewed as being responsible for virtually every aspect of our consciousness, sensory experience, and behavior. The body was basically nothing more than a shell to house the soul.

Beginning with Descartes' notion of "undulatia reflexa" (the human action not mediated by mind but automatic) however, the functions for which the soul is responsible have gradually dwindled, until today with the advent of neuroscience research, we understand the important mediating influence of the brain and nervous system in virtually all aspects of our conscious, perceptual, and cognitive experience. Behavioral psychology now stands at the door as well, suggesting that even human choice and will be removed from the domain of the soul and understood as well on the basis of physical laws and natural processes.

Many Christians have resisted the attempts of a scientific psychology to understand human behavior within a lawful and scientific context. Scientific methodology is all well and good as long as it stays safely tucked away in the domain of chemistry, biology, or medicine. Once it invades the sacred domain of the soul, however, it is to be viewed with distrust and disdain. What these Christians fail to realize however, is that the scientific methodology which allowed alchemy to become chemistry, vitalism to become biology, and astrology to become astronomy, is the very same scientific methodology which will allow psychologists to develop an accurate and effective understanding of those processes at work in our behavior.

Allow me to further illustrate my point with an example. Probably the scientific theory which has caused the greatest furor within the Christian community in the past one hundred years is the theory of evolution. Why is that? My own view is that this theory first marked the intrusion by biology into a realm—the realm of origins—that had traditionally belonged to the church. The proposal of a naturalistic explanation was interpreted by some parts of the church as an outright refusal to recognize the role that God played in the origin of man and the universe. Likewise, a naturalistic account of human behavior is interpreted as an outright refusal to recognize the role that certain theological concepts such as sin, soul, and moral responsibility, play in human behavior and in the human condition in general. The church again feels that a sacred domain has been violated. First secular philosophers equated soul with mind and attempted to describe lawful processes for memory, consciousness, and knowledge. Then secular neuroscientists reduced mind to corresponding neurological processes and events. Finally, behavioral psychologists have arrived and have reduced the basis of human and animal behavior to lawful environmental processes. I do not believe, however, that the intrusion of the scientific method and its accompanying theories into yet another sacred domain must be viewed as a threat. Regarding scientific models of human behavior, some aspects of this approach will doubtless provide a useful supplement to biblical insights regarding the nature of man. Others will not. The church should not though, reject such an approach out-of-hand because it appears to be threatening some of the traditional assumptions within the church regarding why people do what they do. It is time to quit divorcing the area of human behavior from the natural physical order in which man's other biological processes appear to exist. It is time to explore what really are the unique and essential ingredients of humanity, in part by understanding that which can be lawfully accounted for. Such an approach, if carried out with integrity, honesty, and objectivity, can only provide a helpful addition to the biblical insights already available to us. It will also help us better understand those aspects of our theology regarding human behavior which are not accurate, or are of a primarily cultural basis.

A supposed free will, mind, and language is not necessary to distinguish man from animals as many suppose, but rather that he can know God in a way not possible for animals.

Behavior Modification and the Involvement of God

What then, does behavioral psychology have to offer the Christian church? As mentioned at the beginning of this paper, the techniques of behavior modification have already been of use to Christian practitioners in a variety of settings. A volume entitled the *Handbook of Behavior Modification and Behavior Therapy,* edited by Harold Leitenberg, contains a rather comprehensive review of the various therapeutic applications of behavior modification presently in wide use. The treatment of alcoholism, overeating, learned control of physiological disease and function, neuroses, depression, marital counselling, juvenile delinquency, sexual disorder, and classroom disorder, have all been successfully addressed using behavior modification techniques.

Beyond these practical techniques, though, what does behavioral psychology have to offer the Christian church in the way of its theological understanding regarding the nature of man? The apparently lawful interaction between human behavior and the social or physical environment which the efficacy of these techniques suggest simply cannot be ignored. How can they

be effectively integrated, though, into a Christian view of man?

For those who adhere to the Christian faith, there can be no denial that God is involved in the affairs of men, and that the behavior of man is influenced by Him. The question is, however, in what capacity is God involved? Was God simply the originator of various natural laws that determine the configuration of the physical order of which man and his behavior is a part? Or does God play a more direct and immediate role in the course of human events and behavior; intervening to change the hearts of Christians, for example, in ways not subject to scientific investigation?

To go a step further, is man's behavior the result of natural processes which allow us to effectively adapt to the environment without the direct participation of a transcendent and divinely inspired mind? Or is it the direct result of a process that transcends the natural order? I would like to suggest the following possibility. God the creator has set in motion lawful processes within the natural order, of which man's behavior is a part. Typically, the physical order operates according to those lawful and observable processes. On occasion, however, God intervenes directly into that lawful order to initiate rather remarkable physical change. In the Bible, these are referred to as miracles. Likewise, the Holy Spirit, who mediates such divine intervention does so within the life of those individuals who are born again. The Holy Spirit dwells continually within the individual, changing how that person responds to the environmental influences to which he is subjected. The social and physical environment still impact upon that individual to cause lawful behavioral change, but the behavioral outcome of such processes is different, simply because that individual is different (physically and otherwise) by virtue of the indwelling Holy Spirit. Perhaps in this sense, Christians are the only individuals who can be somewhat free from a total behavioral dependence on exclusively environmental determinants, in that the Holy Spirit changes the physiological mediators of those environmental processes. "So if the Son makes you free, you will be free indeed," (John 8:36, RSV). Free from what? From our sinful nature (Romans 6:16), an aspect of this nature being the extent to which this fallen world (environment) interacts with certain aspects of our fallen state (physiologically based tendencies to respond) to produce sinful (personally and socially destructive) behavior. We are set free from the cycle of sin and death in the sense that the lawful processes in our behavior no longer necessarily interact with environmental events in ways which are ultimately destructive to the individual. Furthermore, a seed (the Holy Spirit in the Believer; Matthew 13:31–33; II Corinthians 1:21–22; Ephesians 4:30) is sown which will blossom forth into the physical resurrection of the Christian and of the rest of God's creation (Luke 24:39–43; Isaiah 11:6–9). This resurrection is when the transformation of man, physiologically, environmentally, and therefore behaviorally, is fully completed.

Conclusion

The insights regarding the lawful determinants of certain aspects of man's behavior can be helpful in more fully understanding important biblical concepts regarding the nature of man. Since the Bible does not provide an exhaustive and detailed account of the underlying processes of God's natural order, the church has incorporated culturally-based explanatory concepts, such as the popular notion of mind, in order to provide a theoretical framework for understanding the actions of people. A scientific approach can provide a more accurate account of the underlying processes, and has been largely accepted as the primary means of providing information regarding the underlying processes of God's natural order in virtually every area of His creation except human behavior. It is time for Christians to seriously consider the scientific approach, as exemplified in behavioral psychology, as a means of better understanding human behavior as well. A more accurate understanding of the theories of behavioral psychology, as well as the cultural basis of the popular notion of mind, will reveal that the tensions between a behavioral and biblical view of man are not as great as is commonly supposed.

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Forty Years with the ASA

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The saying goes that life begins at forty. It was exactly forty years ago that Professor Paul Erb of the English department of Goshen College gave me a brochure entitled: "The Story of the American Scientific Affiliation." This interested me greatly with the result that I wrote to Irving A. Cowperthwaite who was listed as Secretary-Treasurer.

I recall that I was impressed with the objectives of this new organization.

1. To integrate and organize the efforts of many individuals desiring to correlate the facts of science and the Holy Scriptures.
2. To promote and encourage the study of the relationship between the facts of science and the Holy Scriptures.
3. To promote the dissemination of the results of such studies.

I was very much surprised when I received a letter from Irving telling me that he had recommended me to the Executive Council for membership in the ASA. Thus it was that I, completely unknown to the Executive Council, was elected a member of the ASA. The members of the Executive Council in 1944 were F. Alton Everest, Irving A. Cowperthwaite, Peter W. Stoner, John P. Van Haitsma and Russell D. Sturgis. The latter two have gone on to their reward. I have had many pleasant exchanges of ideas with the first three.

The First Ten Years

The number 40 seems to have special significance in the Bible. Rain fell 40 days and 40 nights at the time of the flood of Noah, the Children of Israel ate manna 40 years in the wilderness, Moses spent 40 years in the palace of Pharaoh, 40 years in the wilderness in preparation for his great task, and he led the Children of Israel 40 years to the promised land. Moses was up in the mountain 40 days and 40 nights when he received the Ten Commandments, Moses fasted 40 days and 40 nights when he was on the mountain, the spies searched the land of Caanan 40 days, the Children of Israel were forced to wander in the wilderness 40 years, a condemned man was given 40 stripes, Joshua was 40 years old when he went as one of the spies, both David and Solomon reigned 40 years, the good King Josiah reigned 40 years, Jonah preached in Nineveh 40 days, Jesus fasted 40 days and 40 nights, Jesus was seen by his disciples 40 days after the resurrection.

It is interesting that the membership of the ASA in 1944 was slightly greater than 40. I have this list of ASA members in my possession. They then numbered 43. The previous year there were 27 members of the ASA.

World War II was going on during those years with the result that travel was greatly restricted. Hence no national meetings of the ASA took place until 1946 when we met at Wheaton College. I presented a paper there with the title: "A God-Centered Science Course." There I had the delightful experience of meeting a number of ASA members. I well remember Dr. Marion Barnes, then Secretary-Treasurer. He stated that when he heard that I, a Mennonite, was coming, he expected to see a man with a beard. One member who especially impressed me was Walter L. Wilson from Kansas City. I also became acquainted with Russell L. Mixter, Brian P. Sutherland, Roger Voskuyl, George Horner, Allen A. MacRae and Irving A. Cowperthwaite. One of my big disappointments was not being able to meet F. Alton Everest, President of the ASA, who was unable to attend due to the fact that his family had the mumps.

During those early years the chief activity of the ASA was that of preparing the chapters of what was then called the Student's Handbook. I recall how glad we

were when this book appeared in 1948. The title was: "Modern Science and Christian Faith."

I recall how every member was invited to participate by sending in comments and criticisms to F. Alton Everest, who served as editor. Some chapter headings were: A Christian Interpretation of Science, Astronomy and the First Chapter of Genesis, Geology and the Bible, Biology and Creation, Psychology and the Christian Faith, and the Relation of Archaelogy to the Bible. This book of 289 pages was written in order to strengthen the faith of college students.

The second annual ASA meeting was held at Taylor University in 1947. It was there that I first met Al Eckert, who later edited the ASA tract: "Ten Scientists Look at Life" and also Frank Cassel who later served as President of the ASA. The following year I moved with my family to Tucson, Arizona where I studied Astronomy at the University of Arizona. I traveled by train from Tucson to Grand Rapids, Michigan to attend the third annual Convention of the ASA. I remember my conversation with Irving Cowperthwaite as we traveled together from Chicago to Grand Rapids. I will never forget the fine welcome we received at Calvin College from Dr. and Mrs. Monsma and Mr. and Mrs. Karsten. For a number of years these two couples faithfully attended the annual ASA meetings. It was at this meeting that I presented a paper with the title: "The Meaning of Mathematics."

In the spring of 1949, while I was at the University of Arizona, a letter arrived from F. Alton Everest in which he asked me to serve as chairman of the Program Committee for the annual ASA meeting to be held that year in California. I accepted that assignment and thus became more involved in the work of the ASA. It was in California that field trips became a part of many ASA meetings. The program lasted five days, one of which was a delightful trip to Mount Palomar. At the suggestion of Everest I presented a paper at this meeting with the title: "The Hole in the North."

Dr. Paul Bender of Goshen College and I were very much interested in having the next annual meeting of the ASA on the campus of Goshen College. I remember that we brought literature describing Goshen College to be considered by the members of the Executive Council. It seems that Goshen College was not well known by the Executive Council. After some deliberation the decision was made to hold the 1950 annual meeting of the ASA at Goshen College. Soon after the California meeting I was appointed General Chairman of the 1950 meeting. I was ably assisted in my duties by Hendrik Oorthuys, chairman of the Program Committee, and by Paul Bender, chairman of the local Arrangements Committee. Soon after that meeting I was elected a member of the Executive Council and also Secretary-Treasurer of the ASA. Thus began my long tenure of 21 years as an officer of the ASA. I served as Secretary-Treasurer for 5 years, as President for 5 years, followed by 11 years as the first Executive Secretary. In the meantime I had left Goshen College and began teaching at Mankato State College, first in the Physics department and later in the Mathematics department. Under my tenure the national office was moved from Goshen to West Lafayette, Indiana, and then to Mankato, Minnesota.

For some time the Executive Council had been looking for a full-time Executive-Secretary. I continued to teach at Mankato State, though I spent much time in the ASA office. Finally in 1972 Bill Sisterson was hired as the first full-time Executive-Secretary. His title was later changed to Executive-Director. Upon my retirement I was presented with a beautiful bronze plaque at the 1972 meeting held in Toronto.

I now wish to mention some highlights of the annual ASA conventions. The fifth held at Goshen College August 29–September 1, 1950, featured a paper by Delbert Eggenberger with the title: "Methods of dating the earth and the universe." Delbert, now deceased, served as Editor of the Journal ASA 1951–62. The sixth convention was held August 28–31, 1951 at Shelton

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He has served the ASA as Program Chairman, General Chairman, Secretary-Treasurer, President and Executive Secretary. He has also presented a number of papers at the annual ASA meetings. With one exception he has attended every one of the National ASA meetings. Other activities include Science Fair Director, local Sigma Xi Club President, and member of both the Christian Business Men's Committee and the Gideons.

College. At this meeting F. Alton Everest gave a public address: "American Scientific Affiliation—The First Ten Years." I remember the guest speaker, Dr. Gordon H. Clark of Butler University, who spoke on the Philosophy of Science. Several years later Ronald L. Nash edited a book with the title: "The Philosophy of Gordon H. Clark." I wrote a chapter in that book with the title: "Gordon Clark's Philosophy of Science."

After this meeting held in New York City we moved to a rural setting for our next annual ASA meeting. This was at the Wheaton College Science Station in the Black Hills of South Dakota. I recall traveling by automobile to this convention from Goshen, Indiana together with Paul Bender, William Tinkle, William Pletcher and Hendrik Oorthuys.

The eighth annual convention was held at Grace Theological Seminary, Winona Lake, Indiana. At this meeting a spirited discussion followed the paper on Deluge Geology by Henry Morris who is now President of the Institute for Creation Research, El Cajon, California.

The Second Ten Years

A very interesting ASA meeting was held on the campus of Eastern Mennonite College August 24–27, 1954. I remember how Maurice Brackbill made our stay there very enjoyable. He kept promising that we would have turkey eggs for breakfast, but they never appeared. I presented a paper there on the life of Robert A. Millikan.

We had our tenth annual Convention at the Star Ranch of Young Life, Colorado Springs, Colorado. The dates were August 23–26, 1955. This was the first year that I made my President's annual report. An important item of business at that meeting was the decision to sponsor a book on Evolution to appear in 1959. This book: "Evolution and Christian Thought Today" did appear in 1959 under the editorship of Russell L. Mixter.

Ten years after our first meeting there, the ASA met again on the campus of Wheaton College. At this meeting a symposium was held on Extra Sensory Perception. A preliminary report was made by the Darwin Centennial Committee.

The twelfth annual ASA convention was held at Gordon College August 27–29, 1957. It is interesting that this was the first ASA meeting that the idea of theistic evolution was openly discussed and advocated by some. Now it is true, as stated by a number of ASA members, that the ASA does not take a stand on any scientific theory, yet it is also true that a number of papers at previous ASA meetings were rather critical of the theory of evolution and none even mentioned theistic evolution.

In 1958 for the first time in our history the ASA met on the campus of a State University when we met August 26–28 at Iowa State, Ames, Iowa. This took place under the General Chairmanship of Walter R. Hearn, at that time Assistant Professor of Biochemistry at Iowa State. At this meeting there was a special program for wives and George L. Speake presented two of his demonstrations called "Sermons from Science." I recall that he was rather critical of some ideas which I presented in my paper on World Peace.

The fourteenth annual ASA convention was held June 9–11, 1959 at Trinity College in Chicago as a joint meeting with the Evangelical Theological Society. This was the fourth biennial meeting with the theologians. The first joint meeting of the two groups had been held June 21–14, 1955 at Grace Theological Seminary, Winona Lake, Indiana. I remember that I was the first speaker on the program. My topic was: "The ASA, History and Purposes."

The second joint meeting was held June 12–14, 1957 at Wheaton College. At this meeting we had discussions on the flood of Noah by John C. Whitcomb, representing the Evangelical Theological Society, and by Douglas A. Block, representing the ASA. I recall that I spoke on the subject: "The American Scientific Affiliation, an Appraisal of its Achievements in the Light of its Purposes.

The third such meeting was held June 14–16, 1961 at Goshen College. At this meeting we had three papers on the subject: "Science Looks into the Future." James H. Kraakevik of Wheaton College spoke on the Physical Sciences, Paul Peachey of Eastern Mennonite College talked about the Social Sciences and Irving W. Knobloch concluded by discussing the Biological Sciences.

The fifth biennial joint meeting was held June 19–21, 1963 at Asbury College and Seminary, Wilmore, Kentucky. I recall that I served as Chairman of the opening session when G. Douglas Young spoke on "Values and Limitations of Natural Theology" and Robert Fisher, later President of the ASA, spoke on "Presuppositions and Assumptions of Science." In a sense this was an historic meeting since a number of ASA members, under the leadership of Walter Lammerts, decided to have another meeting that year when the Creation Research Society was formed. A number of those who were charter members of CRS later disassociated themselves from the ASA. A few of us are now members of

both organizations. To me it is very sad that this rift had to occur.

The fifteenth annual ASA convention was held August 22–25, 1960 at Seattle Pacific College under the General Chairmanship of Harold T. Wiebe. This was the last year that I served as President of the ASA.

The Christian's Responsibility Toward the Increasing Population of the World was the theme of the 16th annual ASA convention, held August 22–25, 1961 at Houghton College. Robert Luckey served as General Chairman while Henry Weaver was Chairman of the Program Committee. My good friend Irving A. Cowperthwaite presented a review of the history of the ASA on the 20th anniversary of its founding. Irving was one of the founding fathers of the ASA.

Modern Psychology and the Christian was the theme of the 17th convention held August 20–24, 1962 at Bethel College, St. Paul, Minnesota.

The 18th annual ASA convention was held August 19–23, 1963 at Westmont College, Santa Barbara, CA. It was at this meeting that Richard H. Bube gave an evening address on the subject: "The Encounter Between Christianity and Science." Later he edited a book bearing the same title. This book, written mainly by members of the ASA, was somewhat controversial, and thus did not appear as an official ASA publication.

The Third Ten Years

Panorama of the Past was the theme of the 19th annual ASA convention held August 24–27, 1984 at John Brown University, Siloam Springs, Ark. Some highlights of this meeting were the fine work of Irvin A. Wills who served as Chairman of the Local Arrangements Committee and the banquet address by V. Elving Anderson, President of the ASA, who spoke about: "The New High School Science Curricula—Some Implications for the ASA."

The 20th annual convention was held August 23–27, 1965 at the King's College Briarcliff, New York. This was a joint meeting with InterVarsity Christian Fellowship. I remember the evening address by John Alexander, General Director IVCF, who spoke on: "Christian Witness on a Secular University."

The 21st annual ASA convention was held August 22–26, 1966 at North Park College, Chicago. It was a joint meeting with the Evangelical Theological Society. As I recall this was the last joint meeting of the ASA and the ETS. At this meeting I led a discussion on: "The Future of the ASA" and F. Alton Everest our first President, was the speaker at the banquet when we celebrated the 25th Anniversary of the ASA.

The theme of the 22nd annual ASA convention was: "A Christian Approach to Human Responsibility: A Psychological and Biological Discussion." The meeting was held August 28–31, 1967 on the beautiful campus of Stanford University. Here Richard H. Bube acted as our host. He also led a discussion on: "The Relationship between the ASA and the Scientific Community."

The ASA returned to Calvin College for its 23rd annual convention held August 20–23, 1968. The program at this convention was unique in that each of the five Commissions had a part. These were Biological Sciences, History and Philosophy of Science, Physical Science, Psychology, and Social Science. A retreat dealing with the purposes of the ASA was held on Monday preceding the formal opening of the convention. This was the last convention at which the following statement appeared on the cover of the official program: "A group of Christian scientific men, devoting themselves to the task of reviewing, preparing and distributing information on the authenticity, historicity, and scientific aspects of the Holy Scriptures in order that the faith of many in Jesus Christ may be firmly established."

Starting with the official program in 1969 when we met at Gordon College, this statement was changed to: "The American Scientific Affiliation is an association of men and women who have made a personal commitment of themselves and their lives to Jesus Christ as Lord and Savior, and who have made a personal commitment of themselves and their lives to a scientific understanding of the world." Preceding the convention in 1969 a special workshop on Science and Religion in the High School classroom was held for High School science teachers. The special speaker at the annual banquet was William E. Pannell, black evangelist from Detroit, who spoke on the subject: "My Friend, the Enemy."

The 25th convention of the ASA was held August 17–20, 1970 on the new campus of Bethel College, St. Paul, MN. In his presidential address Charles Hatfield praised God for the gift of Mathematics. At least that was the way that Walt Hearn, editor of the Newsletter, described the speech with the title: "Men, Models, and Mathematics." I was happy to have Hazel Fetherhuff, faithful office secretary, to be present for the annual banquet. She was so faithful, that when the ASA office moved from Manakto to Elgin, she moved with it and served as the office secretary until the time of her death in 1973.

In order to give more publicity to the ASA I attended the International Congress on Evangelism in Ottawa. I

traveled by bus and sent several boxes of ASA material ahead on another bus. What I did not know was that it was necessary that I be present with my materials to get through customs. The material never did get through so that all I had was with me in my briefcase. I was still able to make a number of contacts for the ASA.

"Man and His Environment" was the theme for the 26th convention held August 17–20, 1972 at Whitworth College, Spokane, Washington under the chairmanship of Edwin A. Olson. At this convention I presented a paper entitled: "The American Scientific Affiliation—30 Years." For some time the ASA had been looking for a full-time Executive Secretary. I remember how John McIntyre and I spent considerable time together thinking of various possibilities for this position. Before the next annual meeting we had contacted Bill Sisterson who agreed to serve as Executive-Secretary starting with the annual convention in 1972.

The first time the ASA met in Canada was in 1972. We met on the campus of York University, Downsview, Ontario. The theme of this meeting was: "Presuppositions of Science—A Christian Response." Harry Leith was the speaker at the banquet. The title of his address was: "Galileo and the Church—Tensions with a Message for Today."

The 28th annual ASA meeting was held at Geneva College, Beaver Falls, Pa. The dates were August 20–23, 1973. The theme of the meeting was: "Creation, Evolution and Molecular Biology." William D. Sisterson, the newly appointed Executive-Secretary, served as General Chairman. I felt a great relief, after serving in that capacity for 11 years. I well remember the opening address by David L. Willis who used as his subject: "Creation and/or Evolution."

The Fourth Ten Years

At the next annual convention held August 19–22, 1974 on the campus of Bethany Nazarene College, Bethany, Oklahoma, Charles Hatfield gave the opening address. He spoke on "Perspectives on Time." The film "Footprints in Stone" was shown and a panel discussion followed.

The 30th annual convention was held August 15–18, 1975 on the San Diego campus of the University of California. "What is Man?" taken from Psalm 8 was the theme of the meeting. An innovation that year was that the meeting started on Friday evening and concluded Monday afternoon. Having the meetings over the week-end enables a number of ASA members to speak in area churches and thus spread the word about the ASA. This has been continued on a number of occasions. Another innovation was the introduction of concurrent sessions.

Starting with the 31st ASA meeting, held August 20–23, 1976 at Wheaton College we have had special speakers give a number of addresses. The first was Donald MacKay from Keele University, England. He spoke on "A Basic Interpretation of Science and Christianity." At the annual dinner our President, Claude Stipe spoke on "Does the ASA take a Position on Controversial Issues"?

The 32nd annual ASA meeting was held August 12–13, 1977 at Nyack College, Nyack, N.Y. Kenneth Pike of the Summer Institute of Linguistics was our special speaker. His topics were: "Conscience and Culture," "Incarnation in a Culture," and "On the Relation of the Absolute to the Relative."

Upon my retirement from teaching at Mankato State in 1976 I spent most of the following year on a lecture tour using as my theme: "Science and the Bible." I spoke on this experience at the 32nd annual meeting. Clark Pinnock of McMaster Divinity College was the featured speaker at the 33rd annual meeting held August 11–14, 1978 at Hope College. The theme of this convention was: "A Christian Stewardship of Natural Resources." Jerry Bergman of Bowling Green University, an active participant in the current Creation-Evolution controversy, spoke on the subject: "The Attitude of College Students Toward the Creation-Evolution Controversy." He has since been dismissed from his teaching position at Bowling Green University.

The year 1979 was a year of tragedy for the ASA. Fire destroyed the building in Elgin in which our office was located. Most of our records and stock of books and Journals was destroyed. Bill Sisterson was allowed little time to remove some of the ASA possessions. The insurance company partly reimbursed us but the fire left the ASA in a precarious financial situation.

We returned to Stanford University for our 34th annual Meeting. Dick Bube was the featured speaker who gave the opening address with the title: "How Simple Life Would Be if Only Things Weren't so Complicated." Of special note was the Presidential address of A. Kurt Weiss who spoke on: "The Weisses Who Escaped the Holocaust: Grace that is Greater Than All Our Sins."

The 35th annual ASA meeting was held April 8–11, 1980 at Taylor University, Upland, Indiana. Our special speaker was Walter R. Thorson of the University of Alberta. His subject for the opening address was: "Reflections on the Practice of Outworn Creeds." It was at

this meeting that the announcement was made of the resignation of William Sisterson as Executive-Director. President Weiss and other members of the Executive Council spent some time at this meeting searching for an interim Executive Director. We were fortunate to find Harry Lubansky Jr. who was willing to take over this part time job while he continued teaching at Judson College. Our present Executive Director Robert L. Herrmann assumed this responsibility the following year.

It is interesting to note that beginning with this meeting the word chair was used in place of chairman to designate the person in charge of a given session. At this meeting I presented a paper with the title: "Creation, Conflict, Commitment."

In the summer of 1981 I had a heart attack and thus was unable to be present at the 36th annual meeting held August 14–17 at Eastern College, St. Davids, Penn. This was a great disappointment to me, especially since Owen Gingerich of Harvard University was the invited speaker and the theme of the meeting was: "The Heavens Declare the Glory of God." He had been a student of mine at Goshen College. Nevertheless I was able to present my paper. "Science of the Reformers" by videotape. I also sent an audiotape which was used when Owen Gingerich was introduced. Thus my attendance record of perfect attendance at annual ASA meetings was broken. I did feel greatly encouraged when I received a wonderful greeting signed by many of my ASA friends. All I can say is thank you, thank you and may God's name be praised.

We returned to Calvin College for the 37th annual ASA meeting. A special feature was a Biology workshop which took place one day preceding the opening session. We were very happy to have V. Elving Anderson, former ASA President, as the special speaker. The title of his opening address was: "Design for Development." Other titles were: "The Design of the Design" and "Man the Redesigner." At this meeting we had Wilbert H. Rusch with us who spoke on: "History and Aims of the Creation Research Society." This preceded my paper entitled: "The Relationship between the American Scientific Affiliation and the Creation Research Society." To me it is interesting that Robert L. Herrmann who had been the President of the ASA in 1981 was now Executive Director. He gave up his Professorship at Oral Roberts University in order to serve the ASA.

The theme of the 38th annual ASA meeting held August 5–8, 1983 was: "North American Resources and World Needs." The meeting was held at George Fox College Newberg, Oregon. The featured speaker was Loren Wilkinson of Regent College. The titles of his addresses were: "The Natural World as a Frontier to be Developed," "The Natural World as a Wilderness to be Preserved," and "The Natural World as a Garden to be Tended." A special feature of this meeting was a salmon bake held at a rural setting on property owned by the college.

ASA's Publications

The ASA has always been concerned with publication. As previously stated we published "Modern Science and Christian Faith" in 1948. This was followed by "Evolution and Christian Thought Today." In 1970 Gary Collins edited an ASA sponsored book with the title: "Our Society in Turmoil." We have also published three monographs: "Christian Theism and the Empirical Sciences" by Cornelius Jaarsma, "Creation and Evolution" by Russell L. Mixter, and "The Eye as an Optical Instrument" by Frank Allen.

The *Journal of the American Scientific Affiliation* (first called the *American Scientific Affiliation Bulletin*) under the editorship of Marion D. Barnes, first appeared in January 1949. This is a quarterly journal dealing with a wide variety of subjects in the general area of science and the Bible. After volume 3, Delbert Eggenberger was designated Editor. He served from 1950 to 1961, followed by David Moberg 1962–64. Russell L. Mixter edited the Journal 1965–68 followed by Richard Bube 1969–83. The present editor is Wilbur Bullock.

A number of years ago the ASA sponsored a Tract edited by Alfred Eckert and published by Goodnews Publishers. In this Tract a number of ASA members gave their personal testimony for the Lord Jesus Christ. They were George K. Schweitzer, Walter R. Hearn, Russell L. Mixter, Walter L. Starkey, Robert B. Fisher, Brian P. Sutherland, John R. Brobeck, Stanley W. Olson, Edward J. Matson and Kenneth Pike.

One of the most interesting publications of the ASA is the Newsletter published bimonthly since 1959. F. Alton Everest served as editor from Feb. 1959 to Sep. 1969. Walt Hearn has very capably handled this job beginning with the December 1969 issue. I wish to personally thank both Alton and Walt for a job well done. I remember how Hazel and I did the mimeographing of the Newsletter as long as the office remained in Mankato. Now I understand that the Newsletter is being printed by a commercial printer.

This reminds me of the fact that the American Scientific Affiliation has a sister organization in Canada called The Canadian Scientific and Christian Affiliation. The two groups work together in many activities

so that since Apr. 1976 the Newsletter includes the heading: American Scientific Affiliation–Canadian Scientific and Christian Affiliation.

The small booklet: "The Story of the ASA" has gone through several editions. This pioneer publication gave a brief history and presented the goals of the ASA. More recently a number of brochures have been published which have served as publicity material for the ASA.

As previously stated one of the first ASA Directories, containing the names of 43 members, appeared in 1944. It seems that very few Directories appeared until 1961 when the first one appeared from the Mankato office. Others have been published from the same office in 1965, 1967 and 1972. One appeared from the Elgin office in 1974. The most recent Directory was published in 1983. The membership numbered 805 in 1962, 1394 in 1965, 1547 in 1967, 1720 in 1972, 2189 in 1974 and 2517 in 1983.

I now wish to add this testimony of what the ASA has meant to me. While in the hospital in Mankato in the summer of 1981 after suffering a heart attack I sent the following message by tape to the members assembled for the annual meeting "I must frankly tell you that the American Scientific Affiliation has meant very much to me over a period of years. It has been a great inspiration to me to be able to attend the meetings, both local and national. I feel that I am treading on Holy Ground when I have such wonderful Christian Fellowship with so many fine Christians all of whom are engaged in some scientific area, who love the Lord and His Word and are so much concerned that others learn to know Him."

I wish to conclude with a quotation from the Scientist's Psalm written by my good friend Walter R. Hearn.

Praise the Lord, Created thing.
Let all space with praises ring.
Space itself, Hosanna sing
Unto God, Jehovah, King.
Particles in smallest cracks,
Known but by emulsion tracks;
Let all mesons praise Messiah.
Songs of Praise mount ever higher.
Alpha, Beta, Gamma rays:
Join the chorus of His praise.
Be ye ultimate or not,
All created, all begot
Parity's been overthrown—
Something He had always known
Antimatter, fragments odd,
Quantum jumps to praise of God.
However far space does extend
From beginning unto end
Praise the God who does transcend.
Every knee before him bend.
God of whom these words are penned
Against thee only have we sinned.
Almighty Author of Creation
Visit us with thy salvation.

Finally from the Prayer of Saint Francis of Assissi.

Lord, make me an instrument of your peace
Where there is hatred, let me sow love; Where there is injury, pardon; Where there is doubt, faith; Where there is despair, hope; Where there is darkness, light; Where there is sadness, joy; O Divine Master, grant that I may seek not so much to be consoled, as to console; To be understood as to understand; To be loved, as to love; For it is in giving that we receive, it is in pardoning that we are pardoned, and it is in dying that we are born to eternal life.

"The improvement in city conditions by the general adoption of the motor car can hardly be overestimated. Streets clean, dustless and odorless, with light rubber tired vehicles moving swiftly and noiselessly over their smooth expanse would eliminate a greater part of the nervousness, distraction and strain of modern life."

Scientific American, July 1899

Communications

The Potential of Christianity to Rehabilitate Criminals

Dimensions of the Problem

A significant proportion of American adults are criminals. Currently about 200,000 are in jail and over 400,000 are in prison. A quarter of a million persons are on parole and over five times that number are on probation. The total number of adult criminals either incarcerated or in a supervised status is approximately one percent of our population.[1]

The cost of crime is staggering. About thirty billion dollars a year is required simply to operate our criminal justice system,[2] plus many more billions lost to individuals, businesses, and society as a result of crime.

Many crimes are committed by "repeaters." A very high percentage, most estimates range from one-half to two-thirds, of persons arrested or convicted are repeaters.[3] A significant segment of the criminal population, five to ten percent, are "career criminals," each of whom will commit many crimes when not incarcerated.[4] Thus, rehabilitation of criminals is an important social issue because it is a way of preventing crimes.

Failure of Secular Rehabilitation

In dealing with criminals the criminal justice system has two primary goals. At least in theory, one goal of the criminal justice system is justice.[5] A second and more prominent goal is to prevent future crimes by 1). incapacitation of the criminal (i.e., removing the criminal from society by incarceration or execution), 2). deterrence (i.e., by the example of what is done to one convicted of a crime), and 3). rehabilitation. In this sense, "rehabilitation" is any process employed by the criminal justice system which causes a criminal not to commit future crimes. Thus, rehabilitative efforts include probation and parole supervision of the offender in the community as well as education, therapy, behavioral modification, etc. In essence, rehabilitation becomes prevention of "recidivism," where "recidivism" refers to a criminal committing more crimes after being caught, convicted and sentenced.

A wide variety of rehabilitation programs have been tried on criminals during the past several decades. These have included improved classification programs, use of community institutions, education and training programs, many kinds of counseling programs and related therapies, recreational and social skills training, and even such approaches as "nutritional therapy."[6] Many of these endeavors have been acclaimed as successful by correctional officials, their proponents, and participants. However, in those cases where rehabilitation programs have been examined rigorously (e.g., employment of a control group), the conclusion has been that "nothing works" to reduce recidivism.[7] In general, recidivism rates are not affected by:[8]

—the size or character of the institution, whether community-based or the more traditional jail or prison
—the use of probation (and level of supervision) instead of incarceration
—the kind of program (or lack of program).

However, some programs "work" for selected populations. Their success depends upon careful screening and selection of "quality" participants, participant motivation, helping resources available, and luck. A critical factor in the rehabilitation problem is our lack of understanding about the causes of crime.[9]

Christianity and Rehabilitation

Christians have been involved with prisoners since the New Testament era.[10] Formally organized ministry to prisoners began in 1488 when the Order of Misericordin ("Beheading of St. John") was formed for its members to "assist and console criminals condemned to death."[11] English Reformers established similar ministries for prisoners during the sixteenth century.[12] The roots of the modern American Christian ministry to prisoners under the leadership of correctional chaplains lie in the eighteenth century origins of Methodism. In fact, the very term "Methodists" was initially given to the Wesley brothers and their associates because of their *systematic* visitation of condemned felons housed in Oxford Castle.[13] When imprisonment as a form of punishment replaced flogging, mutilation, or execution, Christian ministry to prisoners played a major role in the development of penological ideology. Quaker leadership in Pennsylvania established the "penitentiary" at the end of the eighteenth century. The idea was to give the convict an opportunity to do "penance."[14] The early nineteenth century saw a prison in Millbank, England, designed to keep religion at the center of its operations.[15] Unfortunately, neither of these endeavors achieved the goals intended by their founders and were later abandoned as approaches to rehabilitation. However, Christians ministering to prisoners continued to be an innovative force in penology and generally are credited with pioneering in all aspects of penal reform, including nearly every form of rehabilitation that has been tried in American correctional institutions.[16]

The present question is not, however, the history of Christian involvement with prisoners or its impact upon the criminal justice system. Instead the question is simply, Can Christianity rehabilitate criminals? The secular rehabilita-

tion programs that grew out of Christian ministry to prisoners have not been able to reduce recidivism rates. Can Christianity do it?

It should be noted that rehabilitation is not the primary goal of Christianity.[17] The primary goal of Christians is to be faithful to God and to bring glory to Him by their godly lives.[18] In doing this, Christians will seek to evangelize all men and to edify and disciple fellow believers.[19] As they do these things, criminals will be among those who are converted and transformed by the power of Jesus Christ.[20] Rehabilitation will be a by-product of Christian ministry to prisoners.

Three topics are addressed in this paper. First, what kind of criminals can be changed by Christ? Second, does Christianity change enough criminals to affect recidivism rates? And third, what factors determine whether or not a converted criminal is likely to be rehabilitated?

Who Can Christ Change?

The power of Jesus Christ is great enough to save and transform anyone, no matter what that person has done. This truth is captured by the verse that contains the Gospel in a nutshell, John 3:16: "For God so loved the world that He gave His one and only Son, that whoever believes in Him shall not perish but have eternal life," (New International Version). Salvation is open to all, to criminals as well as to "decent" men and women. The result of this salvation is a new beginning: "Therefore, if anyone is in Christ, he is a new creature; the old has gone, the new has come," (II Corinthians 5:17, New International Version).[21] Many at Corinth had been involved in wicked lives prior to their conversion.[22] There are many contemporary examples of criminals whose lives have been transformed by Christ, men and women who collectively have committed every kind of crime.[23]

Thus, the answer to the above question is, Christ can save anyone—no matter what he or she may have done. This is the GOOD NEWS that is the Gospel of Jesus Christ.

Does Christian Conversion Reduce Recidivism?

Secular rehabilitation programs have been found wanting. They do not reduce recidivism rates. Does Christianity? This question can not be answered at this time. First, there are inadequate data from which to draw conclusions statistically about the impact of Christianity upon recidivism. This is one of the conclusions of Richard and Mary Knudten after the most extensive review extant of the literature on the relationship between religion and crime.[24] Second, it may be difficult to know which criminals have in fact been converted. Consequently, statistical correlation of conversion and subsequent criminal behavior would contain the possibility of errors even if the sociological data were available. The difficulty in identifying converts can be seen by the fact that even ministers can be unconverted. Two centuries ago, Gilbert Tennent preached a fiery sermon entitled "The Danger of an Unconverted Ministry." That problem still exists. Conversion is primarily a matter of one's spiritual relationship with Jesus Christ and determines one's eternal destiny, whereas rehabilitation is predominantly a matter of ethical and moral behavior.[25]

Factors Affecting Rehabilitation of Converts

In order to understand what factors impact rehabilitation in the individual convert, a paradigm of conversion is needed. The tripartite description of man as body, soul, and spirit provides this paradigm.[26] In this paradigm, the spirit of man is dead prior to conversion and alive after conversion.[27] This change from death to life is the essence of regeneration. The spirit is the key to one's eternal destiny. One who dies physically with a dead spirit goes to the place of eternal death (hell). The one who dies physically with a living spirit goes to the place of eternal life (heaven).

The soul (*psyche* in Greek) is man's personality: intellect, volition, sensibilities. Rehabilitation is primarily concerned with the soul. Here are one's thought patterns, attitudes, habits, and knowledge. Some people are blessed with "good" souls. They are the gems of humanity: stable, bright, compassionate.[28] Others have crippled souls, just as some have crippled bodies. In some cases, the crippling is genetic; in other cases it is the result of life events.

The body is the material aspect of man. Because man is a unified whole, each aspect of man affects the other. As one's physical condition (the state of the body, such as being exhausted) can affect one's mental situation (his soul), so one's attitude (a matter of the soul) can affect one's physical condition.[29] However, just as conversion, the change from a dead spirit to a living spirit, does not necessarily correct problems in the body (such as poor eyesight, crippled limbs, or decayed teeth), so conversion does not *automatically* correct problems in the soul (such as bad habits or low IQ). It is for this reason that some converted criminals are not rehabilitated. However, Christianity offers criminals three resources that facilitate rehabilitation: motivation, guidance, and power.

Many criminals suffer from low self-esteem and a sense of doom because they feel inadequate as persons. Consequently, they have no incentive to try to change their lives. They believe they can not. Examples of converted criminals who have been changed provide part of the motivation needed for a criminal to try to change his life. Such examples can give a criminal hope that perhaps he too can change. Without such hope, most criminals will not even try to change. This is one reason that most effective ministries to prisoners such as Chaplain Ray Hoekstra's *International Prison Ministry* or Chuck Colson's *Prison Fellowship* use many converted ex-convicts to share their testimonies. The New Testament offer of salvation to all men is another source of motivation for criminals to try to change, ("Whosoever" in John 3:16, "If anyone be in Christ" in I Corinthians 5:17, "Whosoever shall call upon the name of the Lord shall be saved" in Romans 10:13, etc.). As the Holy Spirit works in the mind of the criminal, faith is developed which contains the hope that God may work in that man's life to transform him. From this motivation, a criminal may start the process that will change (and ultimately rehabilitate) him.

The second resource that Christianity offers criminals is guidance. This guidance comes in two basic forms. One is biblical instruction and counsel for wise living, whether directly from the Bible or from books written from a biblical perspective or from ministers, teachers, and counselors. Such instruction involves more than simply "biblical doctrine." It should help the criminal, either converted or unconverted, to understand himself and other people better as well as to understand ways to cope successfully with life's problems. Thus, this instruction may include such topics as how to be a good worker so that one can keep a decent job. As such wisdom is incorporated into a criminal's life, his attitude and actions begin to change. Unfortunately, the church does not do as good a job as one might wish in providing materials that are focused for inmate and ex-offender audiences. Nor do most programs behind bars offer the kind of practical guidance that is needed to assist Christian inmates to cope with the pressures and problems peculiar to their situation.

The second form of guidance that Christianity offers criminals is the fellowship of a concerned community, the church. This community can provide positive peer pressure toward godly living, examples of how to live, and the encouragement and assistance of its camaraderie. Unfortunately, however, many congregations fail to live up to the ideals presented in the New Testament and are cold to ex-offenders and their families, prejudiced, and at times hypocritical and judgmental. In general, ex-offenders and inmate families have special needs. They often have more problems than many others in the church; thus, they need more attention. Converts who were the objects of a great deal of attention from religious workers while behind bars may feel neglected when treated just as the others in most congregations. Unfortunately, many congregations have not given adequate thought to this problem to enable them to minister effectively to the needs of converted criminals and inmate families.

The third resource that Christianity offers the criminal is the power to live a new life. Conversion brings new life.[30] A living spirit replaces a dead spirit.[31] The Holy Spirit, in fact the entire Trinity, comes to dwell in the convert.[32] This power makes it possible for the criminal to break free of past habits, to control himself, and to desire good things for his life instead of evil ones.[33] However, the convert starts his new life as a spiritual babe and needs nurturing if he is to mature into spiritual adulthood with the ability to withstand the many temptations to return to his old ways that he will face.[34] Basically, the convert needs discipleship. Unfortunately, many religious programs behind bars concentrate upon converting inmates, but few provide effective discipleship training.[35]

Even though recidivism rates are not significantly affected by the character of the institution, the progress of individuals toward rehabilitation is affected. Christianity offers personnel involved in the criminal justice system the same opportunities for conversion and godly living that it offers inmates. Converted correctional officers can play a major role in encouraging inmates to consider Christianity as an option, both by their verbal witness and by their compassionate and humane treatment of inmates as individuals whom God loves. Likewise, converted administrative officials can facilitate effective religious programs in their institutions.[36] In addition to Christianity's impact on criminal justice system personnel, the Christian community should serve as a "conscience" for the criminal justice system, encouraging it to employ an ideology and procedures that are compatible with biblical concepts of justice and human dignity.[37] Thus, it is pertinent to address Christianity's impact upon the entire system. Christian ministry behind bars can provide mechanisms for relief of tension within the institution and ameliorate the alienation among those in correctional institutions. This is a valuable function even if it does not reduce recidivism because it makes correctional institutions safer for both staff and inmates as well as less expensive to operate.[38]

Concluding Comments

Christianity has the potential to rehabilitate anyone because Christ has all power (authority) on earth as well as in heaven.[39] With Him, all things are possible.[40] Unfortunately, inadequate data exist to demonstrate that Christian conversion can reduce recidivism. The Christian community has not given criminal society the attention it needs. Christian academics are not addressing the criminal justice system sufficiently to have a major impact on its current ideology or to provide definitive studies about the root cause of crime (i.e., man's sinful nature) and its treatment in a way that can stand the sceptical and sometimes cynical scrutiny of secular professionals. Christian educators have not developed either the materials needed to effectively train converted criminals in godly living or the materials needed to prepare churches for effective ministry to ex-offenders and inmate families. And churches have not provided adequate funds or personnel to minister fully to prisoners.[41]

God holds His people accountable for ministering to the least of His brethren, including those in prison.[42] American Christianity has the material resources to study ministry within the criminal justice system adequately, to produce the training materials needed, and to staff ministry behind bars. The question is, Will we?

References

[1]U.S. Department of Justice, *Bureau of Justice Statistics Bulletin: Probation and Parole 1982*, and U.S. Department of Commerce Bureau of the Census, *Statistical Abstract of the United States 1984* (104th edition).

[2]U.S. Department of Commerce, *op. cit.*

[3]From the 1920s to the 1950s, about half of those sent to prison had been in prison previously. George B. Vold, "Does the Prison Reform?," *The ANNALS of the American Academy of Political and Social Science*, Volume 293, May 1954, pp. 42–50. Other estimates place the current recidivism rate at 70–80%, which is more in keeping with the results of various longitudinal studies such as that by Samuel B. Guze, *Criminality and Psychiatric Disorders*, Oxford University Press, 1976.

[4]In 1946, 5% of those committed to prison had three or more previous prison commitments; Vold, *op. cit.* Studies by Sheldon and Eleanor Glueck, Marvin Wolfgang, and Peter Greenwood span the past four decades and come to the same conclusion: a large proportion of crime is committed by a relatively small percentage of criminals. This fact is the prime reason that the idea of "selective incapacitation/incarceration" keeps arising within the criminal justice community; but no universally accepted method has yet been devised for predicting who should be incarcerated *prior* to conviction of a criminal act, keeping this topic a continuing subject of debate within the criminal justice community.

[5]Leslie T. Wilkins, "Equity and Republican Justice," *The Annals of the American Academy of Political and Social Science*, Volume 423, January 1976.

[6]Nutritional therapy is one of the approaches to rehabilitation described in Leonard J. Hippchen (editor), *Holistic Approaches to Offender Rehabilitation*, Charles C. Thomas Publisher, 1982.

[7]For example, Douglas Lipton, Robert Martinson, and Judith Wilks, *Effectiveness of Correctional Treatment: A Survey of Treatment Evaluation Studies*, Praeger Press, 1975.

[8]Andrew von Hirsch, *Doing Justice: The Choice of Punishments*, Hill and Wang, 1976, Chapter 2.

[9]*Ibid*, p. 16. While biblical theologians can identify man's sinful nature as the root cause for crime, even the greatest scholars have not explicated the factors which cause the sin nature in some men to lead them to crime while that does not occur in other men.

[10]Matthew 25:31–46; Philippians 2:25–30; II Timothy 1:16–18; and Hebrews 13:3 in the New Testament.

[11]F.C. Keuther, "Religion and the Chaplain," *Contemporary Correction*, Paul W. Tappan (editor), McGraw-Hill, 1951, p. 255.

[12]John T. McNeill, *A History of the Cure of Souls*, Harper Torchbooks, 1951, pp. 223–224; R.R. Korn and L.W. McCorkle, *Criminology and Penology*, Holt, Rinehardt, & Winston, 1959, p. 406.

[13]J. Arthur Hoyles, *Religion in Prison*, London: Epworth Press, 1955, pp. 3ff.

[14]Dale K. Pace, *A Christian's Guide to Effective Jail & Prison Ministries*, Revell, 1976, p. 76.

[15]Hoyles, *op. cit.*, p. 25.

[16]This is the conclusion of Max Grunhut, *Penal Reform: A Comparative Study*, Oxford-Clarendon Press, 1948. Myrl Alexander, former director of the U.S. Bureau of Prisons, noted that it was a clergyman, Dr. E.C. Wines, who was the "moving spirit" of the First National Congress on Penitentiary and Reform Discipline in 1870; Pace, *op. cit.*, p. 17. "Before the day of organized treatment, chaplains developed schools, wheedled gifts of books and recreation equipment, and worked with prisoners' families." Elmer H. Johnson, *Crime, Correction, and Society*, Homewood, Illinois: Dorsey Press, 1964, p. 615.

[17]Christian creeds and confessions differ in their explication of Christian man's primary goal. Perhaps the most familiar is the well known pronouncement of the Westminster Shorter Catechism that "man's chief end is to glorify God and to enjoy him forever."

[18]Matthew 5:16, Titus 3:8.

[19]Matthew 28:18–20.

[20]This was the situation with Onesimus, the runaway slave (see the New Testament book of Philemon).

[21]This translation follows a better textual reading, as do most modern translations, than that of the King James Version for this verse.

[22]I Corinthians 6:9–11.

[23]Examples of criminals whose lives were transformed by the power of Christ may be found in Chuck Colson's *Born Again*, Ray Hoekstra's *God's Prison Gang*, Gene Neill's *I'm Gonna Bury You!*, and numerous other biographical works about the lives of inmate converts.

[24]Richard D. Knudten and Mary S. Knudten, "Juvenile Delinquency, Crime and Religion," *Review of Religious Research*, Vol. 12, No. 3 (Spring, 1971), pp. 130–152. The nearly 200 references of this article make it the most extensive review of this subject extant. The conclusions which it reaches have not been changed by materials published since. For example, see Dale K. Pace, "Religion and Rehabiliation" in Leonard J. Hippchen (editor), *Holistic Approaches to Offender Rehabilitation*, Charles C. Thomas Publisher, 1982, pp. 387-412.

[25]Matthew 7:21–23 illustrates the possibility of a person believing that things are right between himself and God when, in fact, he is rejected by God. This emphasizes the danger that some may believe they are converted, but still be lost. The question of how to tell *on earth* who are the "elect" is one that has perplexed theologians for centuries. A serious discussion of this issue may be found in G.C. Berkouwer's chapter on "Election and the Certainty of Salvation" in his book, *Divine Election* (Eerdmans, 1960).

[26]It is not necessary to enter the debate over man's nature, whether he is tripartite or bipartite. The trichotomic view of man was common among Church fathers of the second and third century, but lost favor as Christianity became the official religion of the Roman Empire. It only began to reappear in the middle of last century. At this time, Evangelicals are about evenly split between a view of man as a dichotomy and one of him as a trichotomy. While the Scriptures maintain the perspective of man's unity, it makes a clear distinction between man's body and the non-body part of him. A variety of terms (soul, spirit, mind, etc.) are used for the non-body part of man, as can be easily seen with a concordance or lexicon. Many of these terms are used interchangeably at times and with overlapping connotations at other times. However, in I Thessalonians 5:23, the Scripture makes a distinction between "spirit" and "soul." It is this distinction that provides the paradigm used in this paper to discuss conversion and rehabilitation.

[27]For example, see Ephesians 2:1–7.

[28]Many in prison have crippled personalities. Often they come from homes which denied them love and security as youngsters, producing insecure and anxious adults. They may have limited intellectual capabilities and also have developed habits of immature emotional responses to many kinds of situations. In addition, they may have damaged their brains by alcohol and drug abuse. The picture painted by Guze, *op. cit.*, indicates that the vast majority of convicted felons suffer from one or more of the above problems. Even after conversion, many criminals will still be severely crippled in their souls.

[29]The relationship between man's body and his non-material aspects is one that the contemporary emphasis upon *holistic* medicine and therapy recognizes. Works such as Morton Kelsey's *Healing and Christianity* (Harper and Row, 1973) or Howard and Martha Lewis' *Psychosomatics* (Viking, 1972) provide ample examples of both positive and negative aspects of the body-soul/spirit interactions.

[30]See John 3:3, I Corinthians 5:17.

[31]See Ephesians 2:1, 5; Luke 15:24, 32.

[32]See John 14:23; 15:5; I Corinthians 6:19.

[33]See Romans 6.

[34]Hebrews 5:11–14 describes how the maturing process teaches one to choose good instead of evil.

[35]An example of a serious discipleship program behind bars can be found in the articles by Gerald C. Adams in the *Association of Evangelical Institutional Chaplains Journal*, "Discipleship Training in a Jail" (No. 1, 1976, pp. 14–21) and "Modifications to a Jail Discipleship Training Program" (No. 4, 1977, pp. 18–25).

[36]The potential of a supportive and interested staff to facilitate effective religious programs is indicated in articles such as D.K. Pace, "Religious Programs in Jails," *Corrections Today*, (April 1982, pp. 46–49, 76), and E. Preston Sharp, "An Administrator's Perspective on the Chaplain and Religious Programs," *Association of Evangelical Institutional Chaplains Journal*, (No. 4, 1977, pp. 26–30).

[37]The Christian academic community has not addressed the ideology of the criminal justice system sufficiently in recent years to have the same impact as it enjoyed previously when the writings of Christians about justice and penology were dominant molders of contemporary ideology.

[38]A significant portion of the operational costs of correctional institutions involves replacement of materials destroyed by inmates and extra personnel costs during times of tension or crisis. An effective ministry within a correctional institution helps to reduce these costs.

[39]Matthew 28:18.

[40]Matthew 19:26.

[41]For examples, many correctional institutions have very limited, and in some cases no, religious programs. Most state and federal prisons have chaplains paid by the institutions. Less than 20% of other correctional institutions have chaplains when such have to be financed by the church; Dale K. Pace, *A Christian's Guide to Effective Jail & Prison Ministries*, (Revell, 1976), pp. 21–22.

[42]Matthew 25:31–46.

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A Biologist Examines the Book of Mormon

I have thoroughly enjoyed my many Mormon friends. It is so refreshing to be around people who will stand up for their

convictions. So, it is not with malice but with deep love and respect that I point out a few of the numerous scientific problems in the Book of Mormon.

Language Problems

I. Nephi 1:2 and Mosiah 1:4 assert that the native language of the Hebrews between 600 B.C. and 91 B.C. was Egyptian. Mormon 9:32 differs in saying that it was Reformed Egyptian around 400 A.D. However, it is well established that in 600 B.C. the Hebrews spoke Hebrew. As a result of the Babylonian captivity (560 B.C.–538 B.C.) Hebrew was reduced to the language of the scribes, priests, and rabbis. Aramaic became the language of the Hebrews. Then in 70 A.D. Titus forced the Hebrews out of Palestine, and they acquired the languages of the nations to which they were scattered. The Hebrews had not spoken Egyptian since Moses led the Hebrews out of Egypt many centuries earlier.

In consulting with professors of Semitic languages at the University of California and elsewhere I could find no evidence of the existence of "Reformed Egyptian," nor for the claim that the following words are Egyptian or Semitic at all: Shazer (I. Nephi 16:13, 14), Irreantum (I. Nephi 17:5), deseret (for "bee" in Ether 2:3), Liahona (Alma 37:44), or the numerous names that are unique to the Book of Mormon.

Geographical Problems

I. Nephi 17:5 is an interesting description of Arabia which is "called Bountiful, because of its much fruit and also wild honey." Arabia is bountiful in sunshine, petroleum, sand, heat, and fresh air, but certainly not in "much fruit and also wild honey," nor has it been since Pleistocene times.

I. Nephi 18:1 indicates that the Jews made a ship from the ample timber of Arabia. The same objection above applies here also.

I. Nephi 2:6–9 speaks of an abundant Arabian river named Laman that flows continually into the Red Sea! There has been no river whatever in Arabia since the Pleistocene.

I. Nephi 17:26–27 speaks of the crossing of the Red Sea and the drowning of the Egyptians. Any good Bible dictionary will point out that the KJV translators did not know their geography. The Israelites crossed the Reed or Marsh Sea, not the Red Sea. Yet, Mormons insist that while the Bible may have errors of translation, there are no such errors of translation for the Book of Mormon.

Amazingly, the numerous and detailed descriptions of North America cannot be correlated with any distinct geographic features such as the Great Lakes, Gulf of Mexico, Rockies, Niagara Falls, Appalachians, or any rivers.

Botanical Problems

According to the Book of Mormon, God led Nephi and other faithful Jews to leave the "land of Jerusalem" (*sic*) to go to the Promised Land of North America. We are faced at once with some serious botanical problems, for in I. Nephi 18:24 (591 B.C.) we read that upon arrival the Jews planted the numerous seeds that they had brought, and that the seeds "did grow exceedingly, wherefore, we were blessed in abundance." As is well known, the dominant crops of the Near East were grapes, olives, wheat, barley, figs, dates, flax, onions, leeks, garlic, certain kinds of beans, pomegranates, and sycamore figs, certain melons, various oranges, lemons, and peaches. Crops from the Americas such as potatoes, tobacco, blueberries, cranberries, eggplants, and maize (or what we Americans call "corn"), were unkown in the Old World until modern times.

There is no evidence whatever that the Near Eastern crops ever "did grow exceedingly . . . in abundance" until modern Europeans brought them to the Americas. Admittedly, while modern European colonists did find grapes in the Americas, they are distinct from the Old World species.

Other botanical problems are encountered when III. Nephi 18:18 speaks of wheat in the Americas in 34 A.D. I. Nephi 13:7, Alma 1:29 and 4:6, Helaman 6:13, and Ether 10:24 speak of linen (cloth made from flax). Barley is mentioned in Mosiah 9:9; figs in III. Nephi 14:16, and olives in Jacob 5, I. Nephi 17:14, 15:7, 12, 16. None of these existed here at that time. "Neas" and "sheum" are mentioned in Mosiah 9:9 as two food plants that were prominent, and grew in abundance. Yet, if they were so prominent and important, why are there no references to them in Old World literature, and why have they not survived?

Plant grafting is mentioned in I. Nephi 15:16 and Jacob 5, yet there is no evidence that Indians practiced this in 600 B.C. to 421 A.D. Pruning is mentioned in II. Nephi 15:6, and faces a similar problem. To describe seed and plant growth as "swelling" (Alma 32:28–34 and 33:23) is naive and grossly inaccurate. It reflects the error of preformationism.

Zoological Problems

Contrary to what I. Nephi 18:25 asserts, North America had no cows, oxen, asses, horses, or goats "for the use of man" between 600 B.C. and the time European colonists brought them.

II. Nephi 21:6–8 plagiarize the KJV of Isaiah 11:6–8, and applies it to North America. (See also II. Nephi 30:12–14.) But, North America had no sheep, lions, leopards, or the two snakes (asps and cockatrices) at that time.

Ether 2:2–3 and 5:4 explain that Jared and his family captured the birds, fish, and bees, and gathered seeds with which they populated North America. But American birds and fish are distinctly different from Old World species. Honey bees were first introduced by Europeans. Ether 6:1 claims that Jared and his small family kept alive for 344 days in the aquaria all of the species of fish that now inhabit the Americas.

Ether 9:18 and 19 contains several problems. First, it lists domestic cattle, oxen, and cows as separate species! Second, these did not exist in the Americas at that time. Third,

domestic swine did not exist here then. Fourth, Jews would certainly not relish swine as "useful to man"! Fifth, horses, asses, and elephants did not exist in the Americas at that time. Prehistoric forms became extinct much earlier, and were not "useful to man." Sixth, "cureloms" and "cumoms" are not identified by Mormon scholars. Yet, it would be most unlikely for such supposedly useful and common domestic animals to go extinct.

There are some serious problems in the description of the behavior related to poisonous snakes, etc. in Ether 9:30–34. First, the notion that snakes increase as a drought increases is contradicted by the fact the reptiles are particularly sensitive to heat and lack of water, and would die off faster than other animals. Second, even with the large population of modern North America, only about twenty people die yearly by snake bite. It is certainly not realistic for Ether to claim that numerous people and animals were exterminated by snakes. Third, it is totally unlike sheep for all of them in the country to flee in one direction. Fourth, it would not be realistic for the sheep to be driven to the south by poisonous snakes as there are much fewer snakes in the north. Fifth, snakes never cooperate with each other in driving animals in any direction. Sixth, it would be impossible for people to have eaten in such few days the countless animals that had been killed by the snakes. Seventh, it is forbidden to Jews to eat animals that have died like that. Eighth, Ether 10:21, etc. tells us that the land was densely covered with people, while Ether 10:19 says that "the land was covered with animals of the forests." Ether 10:12 speaks of raising much grain. All of this simply does not square with the idea of an epidemic of poisonous snakes. People, farming, and numerous predatory animals will not allow snakes to become numerous.

Satyrs (II. Nephi 22:21) and dragons (II. Nephi 22:22; 8:9; and 23:22) are mentioned as literal creatures, not figurative. Chickens (III. Nephi 10:4–6), and dogs (Alma 16:10, Mosiah 12:2, and III. Nephi 7:8) were nonexistent here at that time. In III. Nephi 20:16 and 21:12 lions are described as "beasts of the forests." Contrary to popular opinion and the Book of Mormon, lions do not live in forests or jungles. They live in savannahs (few scattered trees). And, lions never inhabited the Americas.

Silk is erroneously mentioned as being produced in the Americas at that time (I Nephi 13:7; Alma 4:6; and Ether 9:17 and 10:24). But, silkworm moths had not yet been introduced from Asia. Clothes moths are mentioned in III. Nephi 13:19, 20 and 27:32, yet there were no woolen garments for moths to attack as sheep had not yet been introduced. Needless to say, clothes moths had not yet been introduced to North America.

II. Nephi 17:15 lists two foods at that time, butter and honey. But Indians had no milk animals or honey bees. Candles are made either of bees' wax, beef tallow, or paraffin so that a reference to candles in III. Nephi 8:21 is unacceptable.

Microbiological Problems

Alma 46:40 specifically attributes "the cause of disease to . . . the nature of the climate," instead of to filth, poor diet, or microorganisms. Alma 16:1 tells us that the stench of those killed in one battle was so strong that "the people did not go in to possess the land of Ammonihah for many years," "and their lands remained desolate." Action of bacteria, fungi, worms, insects, vultures, etc. would require no more than a few weeks at very most to dispose of these carcasses and their odors—not "many years"!

III. Nephi 17:7 mentions leprosy in 34 A.D., yet the first known case in the Americas was in 1758.

Physiological Problems

Ether 14:2 specifically says that "every man kept the hilt of the sword in his right hand," and yet a distinct minority of Jews and Indians is left-handed. Alma 57:25 asserts that all in an army of 2,060 received many wounds, yet none died.

The implied reproduction rate in the Book of Mormon is astronomical. The story starts in 600 B.C. and extends to 421 A.D. It involves a mere handful of people who supposedly travel from "the land of Jerusalem" (*sic*) to the Promised Land of America. Every four or five years or so there are devastating wars that kill many thousands of people (Alma 28:2, etc.), or as Ether 15:2, says, "nearly two millions of mighty men" in addition to their wives and children. For this to be so it would be necessary for each couple to have scores of children, and for them to reach maturity in three or so years throughout the supposed period between 600 B.C. and 421 A.D.

The description of the resurrection body in Alma 40:23 is astounding to say the least. It says that nothing shall be lost, not even a hair. In light of the fact that we shed a few score body and head hairs every week, and we "de-commission" countless blood, skin, and other cells weekly it is unrealistic to assert that all of these lost parts will be returned to us.

Physical and Chemical Problems

Ether 2:20 says that the Lord instructed Jared to make a hole in the top and one "in the bottom" of each barge! What was the hole "in the bottom" for—to let water and wastes out? Ether 2:23 explains that if windows were put in the barges, the barges would be dashed to pieces (*sic*).

In describing Christ's crucifixion III. Nephi 8:20–23 says that the darkness was so great for three days (*sic*) that the candles and torches could not give off light! Why not?

Alma 24:16 speaks of burying swords in the earth to keep them bright. On the contrary this would speed their rusting.

Technological Problems

It is erroneous for a book supposedly written in North America at that time to mention bellows (I. Nephi 17:11), fine steel bow (I. Nephi 16:18), swords (II. Nephi 1:18, etc.) scimitars (Alma 2:12), sackcloth (II. Nephi 13:24), carts (II. Nephi 15:18, 28), chariots (Alma 18:12; 20:6; III. Nephi 21:14), numerous large buildings (Ether 10:5, etc.) many highways (Helaman 14:24), cement (Helaman 3:7, 9, 11),

forts (Alma 48:8, 9; 51:27; etc.), javelin (Alma 51:34), bushel (III. Nephi 12:15), breastplates (Mosiah 8:10 and Alma 46:13), headplate and armor for the loins (Alma 46:13), compass (Alma 37:38, 44, etc), spindles and spinning (Alma 37:40; Helaman 6:13), sickles, yoke (I. Nephi 13:5), strong cords (Alma 26:29), trumpet (III. Nephi 13:2), street corners (III. Nephi 13:5), chains (II. Nephi 1:13; 28:19; etc.), hoe (Ether 10:25), harp (II. Nephi 15:12), viol (II. Nephi 15:12), tabret (II. Nephi 15:12), plow (Ether 10:25), fuller's soap (III. Nephi 24:2), barns (III. Nephi 13:26), and candles (III. Nephi 8:21).

Anthropological Problems

The Book of Mormon was supposedly written during the period in question, but there is no evidence that Indians had anything other than simple pictorial writing at that time. They wrote no books. It is not appropriate to find references to many official records (Helaman 3:15), jot and tittle (III. Nephi 12:18), scroll (Mormon 5:23, 9:2), and Alpha and Omega (III. Nephi 9:18).

Other cultural problems include references to mammon (III. Nephi 13:24), lawyers and judges (Alma 10:14, 15; and III. Nephi 6:1), acre (II. Nephi 15:10), "south-southeast direction" (I. Nephi 16:13), synagogues (III. Nephi 24:2), Gentiles (I. Nephi 13:19), rending of clothes, wearing sackcloth, salt trodden under foot, etc.

The Book of Mormon consistently and frequently refers to the "heart" in the sense of soul, yet Indians varied in their terminology from lungs, kidneys, liver, intestines, to heart.

II. Nephi 26:33 divides humanity into "black and white" and "Jew and Gentile"—most unrealistic for the Americas at that time.

The Book of Mormon teaches that Indians originated from Jewish settlers in the Americas that wandered away from the Lord. I. Nephi 12:11 says that as the Jews wandered away in unbelief, "they became a dark, and loathsome, and a filthy people." I. Nephi 13:15 praises future Americans as being "white, and exceeding fair and beautiful, like unto my people before they were slain." But Palestinian Jews did not have pale skin like the British. II. Nephi 5:21, Jacob 3:3–9, and Mormon 5:15–17 say that God cursed the Indians with a dark skin. II. Nephi 5:23 and Alma 3:6–10 say that anyone who marries an Indian "shall be cursed with the same cursing." If this were true, why do people who are only part Indian not look full Indian?

II. Nephi 30:5–7 predicts that when Indians accept the Mormon Gospel, that they will again become "a white and delightsome people." III. Nephi 2:15 gives supposed examples of this. II. Nephi 13:24 says that punishment from sin shall include "instead of well set hair, baldness," yet baldness is much more common among Caucasians.

Instead of Semitic origin, Indians are distinctly Mongoloid, having straight and black hair, brown eyes, high cheekbones, skin pigmentation, occasional Mongoloid blue spot, certain blood traits, etc. Dark skin, instead of being a curse, is a protection against skin cancer. And, Indians are not innately more filthy, loathsome, or ugly than any other people.

Other Problems

Numerous historical and archaeological problems exist. The first editions of the Book of Mormon contained numerous grammatical and spelling errors. There are many contradictions between the Book of Mormon and other Mormon writings. And, the Book of Mormon contradicts the Bible in many places. Lack of space prohibits a listing of examples of the above problems.

Conclusion

It is hoped that this paper will help my Mormon friends and other seekers after truth for as Moroni 10:4 well says,

> And when ye shall receive these things, I would exhort you that ye would ask God, the Eternal Father, in the name of Christ, if these things are not true; and if ye shall ask with a sincere heart, with real intent, having faith in Christ, he will manifest the truth of it unto you, by the power of the Holy Ghost.

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Kelvin, Humble Christian

Although William Thomson (1824-1907) was born in Belfast, he became Scottish when his father James became Professor of Mathematics at the University of Glasgow. He himself matriculated there at ten. Top of his class in mathematics, he received many prizes. At sixteen he became fascinated with Fourier's "Théorie analytique de la chaleur" (1822) after his introduction to natural philosophy (the Scottish term for physics). A year later he entered St. Peter's College, Cambridge, where he played the French horn and was a member of the rowing crew. He received his B.A. in four years and the first Smith prize (based on originality in mathematics), but achieved only second place as Senior Wrangler. He spent the summer in Paris, particularly in the laboratory of Henri Victor Regnault. If he had left Cambridge an accomplished mathematician, he returned an enthusiastic physicist. He was interested now in developing mathematical methods rather than new mathematics. He received his M.A. after being a fellow of his college for two years. (He was made a fellow for life in 1872). At twenty-two he was called to be Professor of Natural Philosophy at the University of Glasgow; at eighty he became its Chancellor.

Thomson was responsible for establishing (1850) the first college teaching laboratory in Great Britain—in a wine cellar. In 1896 a three-day Jubilee was celebrated in recognition of his teaching at the University. One of his notable

achievements was the epoch-making "Treatise on Natural Philosophy," published in 1867 with Peter Guthrie Tait of the University of Edinburgh—a complementary pair; the latter, methodical and restrained, the former, discursive and vehement. Thomson did, however, insist upon clear-cut physical concepts, precise definitions. He had an uncanny "ability to translate real facts into mathematical equations and to reduce the latter to a precise and pure expression of the laws of phenomena." "Every equation should have a physical meaning and you should always try to realize it." "He had wonderfully lucid explanations of difficult subjects"—expressed with great eagerness and charm. He was a true Newtonian (buried alongside Newton in Westminster Abbey). When he retired from the University in 1899, he registered there as a "research student."

He excelled in scientific research following in the steps of Michael Faraday whom he regarded as "an inspiring influence throughout my life." He had a similar simple intuition. "Many of his discoveries were made by demonstrating to his students." His interests were quite broad as evident in the twenty-five books published, including the celebrated twenty 1884 "Baltimore Lectures on Molecular Dynamics and the Wave Theory of Light" (1904); 661 scientific communications and addresses were printed (at 80 he presented two papers at the annual meeting of the British Association for the Advancement of Science)—plus seventy patents. His research involved chemistry, engineering, and geology—as well as mathematics and physics. They ranged from the size of the atom to the age of the earth, from the laws of thermodynamics to crystal structure, from thermoelectric phenomena to the porous-plug experiment, and the measurement of electric and magnetic quantities. Practical results appeared in Atlantic telegraphy and in navigation (a mariner's compass, a tidal gauge, soundings.) At his last Friday evening (1900) lecture at the Royal Institution he called attention to two clouds on the scientific horizon—phenomena that portended the relativity theory and the quantum theory. And yet, at his Jubilee he confessed, "One word characterizes the most strenuous of the efforts for the advancement of science that I have made perseveringly during fifty-five years; that word is failure. I know no more of electric and magnetic force, or of the ether, electricity, and ponderable matter than I tried to teach my students of natural philosophy fifty years ago in my first session as Professor." (He was often stubborn in his opinions; for example, there was a three year delay in accepting Joule's mechanical equivalent of heat and a thirty year hesitation to be in complete agreement with Maxwell's theory of light.)

Nevertheless, this man received twenty-one honorary degrees (eight different kinds), including Ll. D. from Columbia, Princeton, Yale, and nine prizes. He was a member of eighty-seven societies throughout the world, including the U.S. National Academy of Sciences (1883); he was President of the British Association, the Glasgow Philosophical Society, the Royal Society of Edinburgh, the Royal Society of London, the Mathematical Society of London, the Institution of Electrical Engineers, the Glasgow Geological Society, the Physical Society of London, the Faraday Society. He was knighted (1846), made Baron Kelvin of Largs (1882)—after the river in the grove at the foot of the new University buildings, and given the new Order of Merit (1902). Three times he expressed disinterest in the prestigious Cavendish professorship at Cambridge. He was a firm believer in the benefits to be gained in science through cooperative research. He was single-minded for promoting knowledge. From 1860 he served on forty-one committees.

His knighthood motto was: "Honesty is the best policy;" his baronial one, "Honesty without fear." Although famous, he shunned being lionized or courted by wealthy parvenus; he was quite modest. He had a kindliness for younger men and fellow workers. Though childless, (married twice), he liked children. He approved vivisection only in so far as it might extend knowledge. He himself was considerate and gentle, punctilious in acknowledging courtesies. He regarded war as a relic of barbarism. "One of the main uses of a University was to form character"—primarily through personal contact with the teacher. At the Glasgow University dinner in honor of his peerage, Kelvin insisted that universities "ought not to be merely a means of advancing toward a profession and earning a livelihood—they should do more, they should give a passion for life that rust could not corrode, nor moths eat, nor thieves break through and steal." He himself exemplified modesty and simplicity of character, a passionate earnestness and deep reverence. "His was a unique personality; a genius of the highest order, coupled with sound judgment and practical ability."

Scotland was never in favor of godless education; it insisted that it be based on the Bible. Kelvin liked neither secularism nor denominationalism in schools. To be sure, he had been brought up in the established Church of Scotland. As an undergraduate at Cambridge he subscribed to the 39 Anglican Articles, and upon becoming a Glasgow Professor did so to the Church of Scotland. He attended the University Chapel regularly. At Largs he attended the Free Church, where the minister was the brother of his deeply religious first wife. He was, however, not a rigid Sabbatarian; nor was he wont to parade his religious views. Nevertheless, in his customary first lecture in the "Introductory Course of Natural Philosophy" he said, "We feel that the power of investigating the laws established by the Creator for maintaining the harmony and permanence of His works is the noblest privilege which He has granted to our intellectual state." He concluded: "As the depth of our insight into the wonderful works of God increases, the stronger are our feelings of awe and veneration in contemplating them and in endeavoring to approach their Author . . . So will he [the earnest student] by his studies and successive acquirements be led through nature up to nature's God." In 1871 he ended his British Association presidential address: "Overpoweringly strong proofs of intelligent and benevolent design lie all around us and if ever perplexities, whether metaphysical or scientific, turn us away from them for a time, they come back upon us with irresistible force, showing to us our nature, the influence of free will, and teaching us that all living beings depend on one ever-acting Creator and Ruler" (in line with William Paley's "Natural Theology"). "His close study of the phenomena of nature, his constant discovery of new marvels, seemed to bring him near and nearer to God, and he could never understand anyone treating science with any other feeling than reverence." "The deeper he delved into Science and the more he studied its mysteries, the greater his veneration for the Maker of it all." "We only know God in

His works, but we are forced by science to admit and to believe with absolute confidence in a Directive Power—in an influence other than physical, or dynamical, or electrical forces," he claimed.

Although he was a biological evolutionist, he was not a universal evolutionist; he saw life as a thing apart from the physical forces it controlled (and requiring in itself a creative act.) He concluded his 1897 address to the Victoria Institute, "We must pause, face to face with the mystery and miracle of the creation of living creatures." He believed that evolution per se could not explain the great mystery of nature and creation.

Kelvin accepted the Scottish antipathy to a godless education and their insistence upon instruction in the Bible. He reverenced the Bible and studied it diligently. From 1903 till his death he was President of Largs and Fairlie Auxiliary of the National Bible Society of Scotland. He always began his college lecture with prayer, viz., the Church of England third Collect for Grace. His favorite prayer was: "Lighten our darkness, we beseech thee, O Lord!"

Kelvin was a Christian, a follower of Christ, rather than a mere churchman, a contributor to a church. He never expressed disapproval of the Unitarianism of some of his nephews and nieces. His tolerance is further shown in his remarks about the death of the self-styled agnostic Thomas Henry Huxley in his annual report (1895) as President of the Royal Society: "If religion means strenuousness in doing right and trying to do right, who has earned the title of a religious man better than Huxley?"

In her book on *Kelvin the Man* (1925) Agnes Gardner King, daughter of his sister Elizabeth, concluded, "Kelvin had walked through life a humble Christian."

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This is the eleventh in a series on religious scientists.

Maxwell, Devout Inquirer

James Clerk Maxwell (1831-79), born in Edinburgh, was the son of a Scottish Laird, an advocate, whose small farm-estate was called Glenlair. Fascinated by symmetry, at thirteen while at the Edinburgh Academy he made pasteboard models of Euclid's regular solids. Two years later he devised a simple method for drawing ovals. The next year he entered the University of Edinburgh; his father used to take him to meetings of the Royal Society of Edinburgh and the Edinburgh Society of Arts. At nineteen he entered Peterhouse, Cambridge, but transferred after the first term to Trinity (William Whewell, Master), where he subsequently received a scholarship. He attended lectures by George G. Stokes. In 1854 he was second wrangler and was awarded the Smith prize jointly with E.J. Routh. About this time he developed his life interest in color phenomena, e.g., the three primary lights, blue, green, and red, which comprised his first lecture at the Royal Institution (1861). Having received a B.A. in 1854 he obtained a fellowship at Trinity the next year.

In 1856 Maxwell became Professor of Natural Philosophy at Marischal College, Aberdeen, where he continued his Cambridge practice of giving lectures for working men. Unfortunately, he was not retained when the college merged. In 1860 he was made Professor of Natural Philosophy at King's College, London; here mandatory evening lectures were included! He performed his own experiments in the garret of his Kensington residence. Meanwhile, in 1859, he had won the St. John's College (Cambridge) Adams Prize for his essay on "The Structure of Saturn's Rings," (said to have been "a remarkable application of mathematics to physical thought"). His father having died in 1856, Maxwell resigned from King's College in 1865 and returned to Glenlair. In 1871, however, he was appointed to the new chair of Experimental Physics at Trinity, where a search had been made for "a mathematician who has actual experience in experimenting in physical science;" his primary duties were to encourage physics research, and to design and superintend the building of the new Cavendish Laboratory (completed 1874, furnished 1877). Under Maxwell's influence there was a revival of physical science at Cambridge and the Cavendish eventually became world famous.

In his inaugural lecture he noted, "We may find illustrations [of physical phenomena] in games and gymnastics, in traveling by land and by water, in storms of the air and of the sea, wherever there is matter and motion." Later he published a delightful small volume on *Matter and Motion* (1877), which is so simple as to seem easily understandable, but is actually quite profound. He himself was fascinated by his dynamical top. Meanwhile, his concern for the stability of Saturn's Rings had aroused his interest in D. Bernoulli's (1738) kinetic theory of matter. He realized that owing to collisions all the molecules of a gas could not maintain the same speed; he formulated the distribution law (1859) and developed the theory for the transfer of matter (diffusion), momentum (viscosity), and heat (1860-66).

While at London he had the early good fortune to make the acquaintanceship of Michael Faraday. In 1856 he realized that the latter's concept of electric and magnetic fields of force in a medium can be readily translated into mathematical language, summarized in Maxwell's famous electromagnetic equations, in which spatial action takes place over time from point to point—no so-called action at a distance. "A Dynamical Theory of the Electromagnetic Field" was presented in 1865, completed two years later, and immortalized in his classical "Treatise on Electricity and Magnetism" (1873). Earlier he had noted that the ratio of the electromagnetic unit of charge to the electrostatic unit is numerically equal to the speed of light. He was led to predict the existence of electromagnetic waves that would behave like light, e.g.,

be refrangible in material media (confirmed experimentally by H.R. Hertz (1888)), and would exert radiation pressure (confirmed by P.N. Lebedev (1900)). Maxwell spent his last years editing "An Account of the Electrical Researches of the Honourable Henry Cavendish F.R.S." (1879). He died at the early age of thirty-eight. This brilliant scientist was buried in the churchyard of the Parton Kirk, where he had been an elder. He had been honored with the Rumford (1868) and Volta (1878) medals. He was a member of the American Academy of Arts and Sciences (1874), the American Philosophical Society (1875), the Royal Society of Sciences of Göttingen (1875), the Royal Academy of Science of Amsterdam (1877), the Imperial Academy of Sciences of Vienna (1877). He had received an Ll. D. (Edinburgh (1870), D.C.L. (Oxford 1876), and Dr. Phs. Sc. (Pavia 1878).

There was a single-heartedness to Maxwell, a depth of unity in his life as a whole, a unity of his nature. He exhibited not only scientific industriousness, but also basic poetic feeling and imagination. He was profoundly sincere. At the same time he had an overflowing humor; there was elasticity in his step, a sparkle in his eye. He was an avid reader, particularly of English literature. It was said there was "not a single subject on which he cannot talk and talk well." He had a retentive memory and a facility for versification. His marriage to Katherine M. Dewar, daughter of the Principal of Marischal, was a happy one; together they read the English classics. He was devoted to her; his dying glance was fixed on her—a sort of mystical marriage. He rode with her; he walked with his dog. He had a tenderness for all living things.

Maxwell had an extensive and minute knowledge of the Scriptures from his childhood. It is said that he knew the chapter and verse of almost any quotation from the Psalms (by age eight he had memorized Ps. 119). As a schoolboy he had attended St. Andrews Sunday mornings and the Episcopal Chapel in the afternoons. Although his hereditary piety and historical interest was in Calvinism, he never identified himself with any particular religious opinion. He had an innate reverence for sacred things. To be sure, he had an interest in things more than in people, in theology more than in anthropology. In him there was a blending of Presbyterian and Episcopalian. He read and thought much on religious subjects. Although orthodox, he was tolerant of unbelievers such as W.K. Clifford. A favorite book was Thomas Browne's "Religio Medici"; a favorite author, George Herbert.

"There was deep humility before his God, reverent submission to His will, and hearty belief in the love and atonement of that Divine Saviour." He was a regular communicant at the College Chapel, regular in his church attendance, charitable. At Glenlair he would visit the sick, read and pray with them. There were daily prayers in his household. For example, "Teach us to study the work of Thy hands that we may subdue the earth to our uses, and strengthen our reason for Thy service; and so rescue Thy blessed Word, that we may believe on Him whom Thou hast sent to give us the knowledge of salvation and the remission of our sins." He read the Scriptures each night with his wife. In his letters to her he was wont to discuss Scriptural passages, e.g., Is. 51, Mk. 12:38, I Cor. 13, II Cor. 12, Gal. 5, Eph. 3:19, Eph. 6, Phil. 3, I John 4. A favorite quotation was R. Baxter's hymn:

> Lord, it belongs not to my care
> Whether I die or live;
> To love and serve Thee is my share,
> And that Thy guard must give.

In 1875 he remarked, "I think that men of science as well as other men need to learn from Christ, and I think that Christians whose minds are scientific are bound to study science that this view of the glory of God may be as extensive as their being is capable of."

In his early twenties he had noted, "Happy is the man who can recognize in the work of Today a connected portion of the work of life, and an embodiment of the work of Eternity." Finally, at twenty-seven he had concluded, "The more we enter into Christ's work He will have more room to work His work in us. For He always desires us to be one with us. Our worship is social, and Christ will be where two or three are gathered together in His name."

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This is the twelfth in a series on religious scientists.

Kepler, Peaceful Protestant

Johannes Kepler (1571-1630) was a rare and strange man whose life was fraught with vicissitudes stemming from the Diet of Augsburg (1555) with its principle "cuius regio, eius religio" to the devastating Thirty Years War (1618-1648). He was born of Lutheran parents (father a soldier, mother daughter of an innkeeper) in Weil der Stadt, Württemberg. At seven he was sent to a cloister Latin school and at thirteen to a seminary, from which he received a B.A. Two years later he was awarded an M.A. from the protestant University of Tübingen, which he had entered at eighteen to become a Lutheran priest. In the middle of the third year of his subsequent theological preparation the faculty recommended him to be teacher of mathematics and astronomy at the protestant seminary in Graz, Austria, where he was also appointed District Mathematician. (He married at twenty-six.) At twenty-eight he met the Danish astronomer Tycho Brahe (1546-1601) at Prague. Not being a Catholic, he was banished the following year. At thirty he began collaborating with Brahe on the Rudolphine Tables. In that very year, however, Brahe died; Rudolph II appointed Kepler to succeed him as Imperial Mathematician. Only his wife's income saved him from the embarassment of uncertain salary payments. Upon the Emperor's forced abdication in 1612 and his own refusal to become a Catholic, he had to seek employment elsewhere again, this time as District Mathematician in

Linz. (His wife having died, he remarried—a happier venture.) Here, too, war developed so that at fifty-five he had to seek protection from Gen. Albrecht Wallenstein, who supported him in Sagan, Poland. On a journey in 1630 he died at Regensburg. His burial place and the entire church graveyard were destroyed shortly by war. His second wife died at forty-seven virtually in poverty.

Kepler had many intellectual interests and wide knowledge. His industry and perseverance were prodigious, e.g., he was not satisfied with an 8′ minute discrepancy between his calculated result of Mars and the careful observation by Brahe. He had an inventive genius, e.g., his insertion of Euclid's five perfect solids within the spheres of the six orbiting planets (cf. the 1596 "Mysterium Cosmographicum"; he himself noted two of the four possible star polyhedra). His outstanding characteristic, however, was his integrity resulting in sincere and frank behaviour. He was conscientious; agreeing with the new Gregorian calendar (1582), he did not side with the protestant opposition, which lasted until about 1700. Despite his personal political problems he never resorted to religious agitation; he was always urging peace. Himself modest, he recommended that jealous observers share their observations of an eclipse. He had a noble spirit; he was deeply religious.

Kepler's fascination for the "heavens in their mysterious beauty" began with the comet his mother pointed out when he was six and with the eclipse his father showed him at nine. He became a careful observer (despite weak eyes), an industrious computer, and an imaginative theorist, seeking symmetries and analogies. It is not surprising that he noted the (super)nova in Ophuichus (1604) (cf. Brahe's [super]nova in Cassiopeia [1572]). It was not until 1627 that he completed the Rudolphine Tables. Meanwhile he used Brahe's excellent data to seek simple planetary orbits. Regarding the earth's motion itself as nonuniform he was led to the fact that the radius vector connecting the sun and a planet sweeps out equal areas in equal times and, indeed, that the orbit is an ellipse. These two laws were announced in his "Astronomia Nova" (1609). No more is one concerned with kinematics, circular motions, epicycles, fictional centers, and oscillations; the sun at one focus, is the origin of an attractive force (magnetic?)—the beginning of celestial mechanics. Two years later in his "Dioptrice" he laid the foundations of modern geometrical optics (the correct refraction law was not discovered until ten years later by Snell). It was not until 1619 that he was able to announce the third Kepler law, which relates a planet's period T to its mean distance r from the sun ($T^2 \propto r^3$), in the "Harmonices Mundi."

A Platonist, Kepler was a mathematical mystic. He believed that "everything in nature is arranged according to measure and number." He was convinced that "the geometrical natures of things have provided the Creator the model for decorating the whole world." (He investigated the regularity of the six angles of a snowflake in "Strena" (1611).) His axiom was that "nothing in the world was created by God without a plan"; he sought it diligently.

Kepler's official duties included preparation of ephemerides and calendars, involving weather predictions and astrological notes. He was the first to place the birth of Jesus at 4 B.C. He himself kept weather data for twenty years. As for any influences of the stars, he exercised restraint and caution—he recognized their general psychic effects, but avoided specific predictions. He seized the opportunity to give moral admonitions, to urge peaceful practices.

Kepler wrote occasional papers on theology, but he never claimed to be a theologian. He regarded himself as a layman who was a mathematician, a (natural) philosopher, a historian. And yet, he was probably the scientist who par excellence regarded science and religion as different aspects of an integrated world—not an artificial, academic bifurcation. The goal of science, he believed, is to bring man to God; the principle of his scientific work is praise of God. "We astronomers are priests of the highest God in regard to the book of nature." "God is the beginning and end of scientific research and striving"—the keynote of his thought, the basis of his purpose, the "life-giving soil of his feeling." For him, "geometry is unique and eternal, a reflection of the mind of God. That mankind shows in it is because man is an image of God."

Kepler regarded the Copernican theory as literally true—not a convenient fiction. With respect to questionable Biblical passages (e.g. Josh. 10:12, Ps. 104, Job 34), he noted, "It is not the purpose of the Holy Scriptures to instruct men in natural things."

Despite his exemplary life, he was denied communion by his own Lutheran church, first at Graz, finally by Tübingen in answer to his formal petition. Although he subscribed wholeheartedly to the Augsburg Confession (1530), he could not quite endorse the Book of Concord (1580) because of its doctrine of the omnipresence of Christ (e.g., in the sacrament). He preferred the Calvinistic emphasis upon remembrance, but could not accept its complementary insistence upon predestination. He regarded himself as a catholic (including Lutherans and Calvinists, as well as Roman Catholics), but he could not agree with the Papacy (e.g., its Mariolatry, saints, et al.).

Kepler's scientific writings are interspersed with pertinent religious comments. The "Harmonices," his favorite work, begins and ends with an appropriate prayer, (it contains also explanations about Jesus Christ). The conclusion begins, "O Thou, who by the light of nature increases in us the desire for the light of Thy mercy in order to be led by this to Thy glory, to Thee I offer thanks, Creator, God, because Thou hast given me pleasure in what Thou hast created and I rejoice in Thy handiwork."

His dying words were: "Only the merits of our saviour Jesus Christ. It is in Him, as I steadfastly testify, that there rest all my retreat, all my consolation, all my hope."

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This is the thirteenth in a series on religious scientists.

Scientific Creationism and its Critics

DARWINISM DEFENDED: A GUIDE TO THE EVOLUTION CONTROVERSIES by Michael Ruse. Reading, Mass., Addison-Wesley, 1982, xvii + 356 pp., $12.50 (pb).

THE MONKEY BUSINESS: A SCIENTIST LOOKS AT CREATIONISM by Niles Eldredge. New York, Washington Square Press, 1982, 157 pp., $2.95 (pb).

CREATIONS: THE QUEST FOR ORIGINS IN STORY AND SCIENCE Ed. by Isaac Asimov, George Zebrowski and Martin Greenberg. New York, Crown, 1983, xii + 351 pp., $23.95 (Cdn).

ABUSING SCIENCE: THE CASE AGAINST CREATIONISM by Philip Kitcher. Cambridge, Mass./London, MIT Press, 1982, x + 213 pp., $15.00 (1983 pb ed., $6.95).

Scientists have sniffed the air, perceived danger, and risen to meet the threat that dares to speak its name: "scientific creationism." Though you wouldn't know it from a reading of Henry Morris et al., eds., *Creation: The Cutting Edge* (Creation-Life Publ., 1982), Carl F.H. Henry, *God, Revelation and Authority*, vol. VI (Word, 1983), Nigel M. de S. Cameron, *Evolution and the Authority of the Bible* (Paternoster, 1983), or even Morris, *Creation and its Critics* (CLP, 1982), there are more and more difficulties with the recent-creationist position. Just as works sympathetic to that program at the levels of science (Francis Hitching, *The Neck of the Giraffe: Darwin, Evolution, and the New Biology*, Ticknor & Fields, 1982) and of worldview (Donald Chittick, *The Controversy: Roots of the Creation-Evolution Conflict*, Multnomah, 1983) assume a less strident and inflammatory, almost accomodating tone, they are confronted by a bibliographic barrage as uncompromising as it is comprehensive.[1] What follows is a brief review of a small sampling of the burgeoning literature critical of so-called "creation-science."

Ruse's *Darwinism Defended*

"I love and cherish Darwinian evolutionary theory," writes Michael Ruse, whose "whole essay is intended to be a refutation of the Creationist position" (pp. 329, 303). "Darwin's case for evolution is definitive" and "overwhelming." Indeed, "Evolution is a fact, *fact*, FACT!" (pp. 57, 58). *Darwinism Defended* is vigorous apologetics with a devotional air. For Ruse, Darwinism "touches at chords and beliefs of the most fundamental kind." It is "stirring" intellectually, while embodying a social philosophy "dear to the heart of all civilized people" (pp. 281–282).

A prolific philosopher of biology, Ruse has written a book much like himself: informative, opinionated, cheeky, exclamatory and entertaining, with an honestly passionate though cavalier concern for history. The book comes adorned with period paintings, photographs, maps, charts, drawings and diagrams. The first nine chapters (Parts I–III) cover Darwinism yesterday, today, and tomorrow. While "singing the praises of Darwin" (p. 30) the author includes technical discussions of subjects ranging from genetics to population ecology. He defends Darwinian orthodoxy against challenges from punctuated equilibria paleontology and cladistics, both of which he likens to passing fads. With more than a hint of triumphalism, Ruse concludes that neodarwinism is "a theory with a proud past, a secure present, and prospects of an even more glorious future" (p. 226). Part IV contains three enthusiastic chapters on human evolution, sociobiology and ethics. Chapters thirteen and fourteen make up the fifth and last part of the book, a soldier's-eye view of the creationist war on Darwin.

Ruse's motivations in writing become clear in Part V where he repeatedly charges creationists with dishonesty (pp. 303, 304, 310, 321, 322, 324). His credo is laid down in black and white: "I believe Creationism is wrong: totally, utterly, and absolutely wrong . . . Creationism is not just wrong: it is ludicrously implausible. It is a grotesque parody of human thought, and a downright misuse of human intelligence . . . it is an insult to God" (p. 303). This last point seems a trifle

excessive, coming from one not well-known in pious circles. But like Thomas Henry Huxley, Ruse fights for Truth.

Also like Huxley, Ruse writes in the best positivist tradition of evolution-and-religion historiography. The past, like the present, is populated with good guys and bad guys—people who from our modern vantage point were "right" or "wrong." Not as philosophically simplistic as Eldredge (see below), Ruse nevertheless tries to preserve the purity of Darwin and Darwinism, portraying both as free from the sin of illiberal ideology. Ruse's view of religion can also be Huxleyan, as when he writes that "traditional Christian" belief affirms a "God who intervenes constantly in His creation" (p. 27) and that scientific claims—unlike those of religion—"reflect, and somehow can be checked against, empirical experience" (p. 132). I must also object to Ruse's claim that Darwin was a "professional scientist." One only has to compare their respective *Beagle* and *Rattlesnake* narratives to see the difference between the outlooks of a naturalist (Darwin) and a scientist (Huxley). James Moore has convincingly argued that Darwin can be even more accurately classified: see his "Darwin of Down: The Evolutionist as Squarson-Naturalist," in Davis Kohn, ed., *The Darwinian Heritage* (Princeton U.P., 1984).

This reference to Moore brings to mind another problem I have with Ruse: he neglects the finest scholarship on Darwinism and scientific naturalism. One looks in vain for traces of Moore, Ospovat, Manier, Kohn, Turner, Greene, Young, Jacyna and Durant. Not even Gillespie, whose interpretation of Darwin is so congenial to Ruse, is cited in the bibliography. In seeking to demolish, if not understand creationism, Ruse has thoroughly grounded *Darwinism Defended* in the scientific and creationist literature. But what about the historiography not only of Darwinism, but of fundamentalism, and natural theology? If you liked Ruse's earlier *Darwinian Revolution* (1979), you will love this book. And if you didn't, you won't.

Eldredge's *The Monkey Business*

Niles Eldredge is the co-author with Stephen Jay Gould of two landmark papers on "Punctuated Equilibria," in T.J.M. Schopf, ed., *Models in Paleobiology* (1972) and in *Paleobiology*, 3 (1977), 115–151. This work has been misrepresented by many creationists, whose resurgence is attributed in *The Monkey Business* to an upsurge of American "neopopulism" (p. 17). Commendably, Eldredge is sensitive to the political, religious and ideological dimensions of creationism, but unfortunately denies *any* value to the creationists' critique of evolutionary biology. Part of this is due to conceptually constricted views of religion, science, and the relation—or rather *lack* of relation—between the two. Not surprising in a short treatment by a scientist, *The Monkey Business* contains no discussion of orthodox beliefs concerning creation, though theistic evolution is sympathetically mentioned (p. 81). For Eldredge, religion has to do with the "supernatural" and with "spiritual well-being" (pp. 10, 143, 146). The ideological purity of fact-laden science is defended. Religion and science are "completely" and "utterly different," they are "pursued for different reasons, and serve different functions" (p. 18). Religion is about beliefs, but "of course, science is *not* a belief system" (author's emphasis, p. 27; see also pp. 32, 145–146). But, of course, science *is*.

Chapter two of the book discusses the nature of science, specifically the notions of fact, theory, and prediction, and chapter three is an introduction to the fossil record. Chapter four rushes the reader from Victorian evolutionism through the neodarwinian synthesis, revisiting the problem of evolution's "tempo and mode." The really controversial ground is covered in chapters five and six which evaluate creationist positions on chance and design, thermodynamics, geological dating, the origin of life, paleontological "gaps," *Archaeopteryx*, human evolution, and the infamous Paluxy "footprints." Relying on Laurie Godfrey's article, "The Flood of Evolutionism," *Natural History*, 90 (June 1981), 4–10, Eldredge labels the creationists as liars and mudslingers. Amazingly enough he seems completely unaware of the Bible of creationism, Henry Morris' *Scientific Creationism* (1974).

Two other lapses may be mentioned. Poor old James Ussher, Archbishop of Armagh, is once again blamed for claiming "that the earth was created on October 26, 4004 B.C. at 9:00 in the morning" (p. 19). The creation-*year* of 4004 B.C. was calculated by Ussher in 1654 and made famous in this century by its inclusion in the notes of the *Scofield Reference Bible* (1909). However, the precise time of creation—usually dated October 23—is normally (and erroneously) attributed to another seventeenth-century divine, Dr. John Lightfoot. 9:00 a.m. as the time of the day for the creation of Adam (*not* the earth) was indeed offered—as a lighthearted conjecture—by Lightfoot, but that's another story. The other lapse is also historical. Virtually all of the critics of creationism refer to their enemies as "fundamentalists." Fair enough. But the term "fundamentalist" did *not* originate in a document called the "Five Fundamentals" (concerning biblical inerrancy, and the virgin birth, miraculous power, substitutionary atonement and historical resurrection of Christ) issued in 1895 by the Niagara Bible Conference. This popular folklore is recycled by both Ruse (p. 287) and Eldredge (p. 18) and is traceable to an erroneous passage in Stewart Cole's *History of Fundamentalism* (New York, 1931), p. 34. In fact, the Niagara Creed was written in 1878 and comprised fourteen articles; and the only five-point fundamentalist declaration was adopted by the U.S. Presbyterian General Assembly in 1910. The term "Fundamentalist" itself was coined in a convention report by Curtis Lee Laws, editor of the Baptist *Watchman-Examiner* (see vol. 8, 1 July 1920, p. 834).

The Monkey Business is a convenient source for the familiar arguments for evolution and against creationism. Its popular style and small price make it ideal for high-school level students and teachers. However, for this sort of thing I much prefer Toronto paleontologist Chris McGowan's *In the Beginning . . . A Scientist Shows Why the Creationists are Wrong* (Macmillan, 1983). Though more expensive and less well-known, it is as readable as *The Monkey Business* but covers the issues in greater detail and with a puckish sense of humour.

Asimov's *Creations*

Isaac Asimov's is the dominant editorial voice in *Creations*, a stimulating anthology of science fiction and cosmological

explanation organised in four parts: the origin and nature of the universe, of the solar system, of life on earth, and of humankind. Each major section begins with a reading from *Genesis* (NEB); there are twenty-seven readings in all—complete articles and short stories, as well as book excerpts—written from the 1920s to the present.

There are two main reasons for believing that the purpose of this unusual collection goes beyond simple education and entertainment. The first is found in the introductory notes which Asimov has supplied for every section, and each individual reading. The second is found in the essay, also written by Asimov, located at the physical and spiritual centre of the book. The notes attempt to contrast scientifically-based wonder with religiously-based "superstition" (e.g., p. 147). Naming what it considers to be the real enemy, the central essay concerns itself with "The Threat of Creationism." It originally appeared in *The New York Times Magazine*, 14 June 1981, 90–101; in that year, with that article, and with his book *In the Beginning* (Crown, 1981), Asimov emerged as a leading public critic of creationism. In *Beginning* he offered a verse-by-verse commentary on *Genesis* 1–11, scientifically refuting a hyperliteral reading of the text. Though it is not obvious (given his consistently primitive hermeneutics), perhaps Asimov was only meeting creationists on their own turf. Yet, in treating scripture as if ancient myth and sacred history were intended to convey modern physical and biological knowledge, Asimov seemed to exhibit a scientific fundamentalism as breathtakingly wrongheaded as the religious version he sought to discredit.

As reprinted in *Creations*, Asimov's argument against creationism proceeds on two fronts, exposing the intellectual emptiness of the attacks on evolution, and warning of the dire consequences of undermining science education in public schools. Conventional, heartfelt stuff, to be sure. However, for all his familiarity with biblical narrative (see *Asimov's Guide to the Bible*, 2 vols., 1971), this scientist's case is theologically somewhat careless. Asimov confuses the venerable argument from design (or at least a caricature of it) and the practically universal belief in a Creator—both of which admittedly are adduced as confirming evidence in the creationist literature—with the essential contention of creationism: that the details of the *Genesis* story represent an alternative account of the history of nature and therefore legitimately deserve an equal place in textbooks alongside evolutionary science. Asimov acknowledges that not all believers are fundamentalists in their understanding of either the Bible or science, but by merging the two issues just mentioned he implies that all theists—even Teilhard de Chardin?—are "creationists" in the current unorthodox, right-wing sense. This misunderstanding contributes nothing to the political debate on the place of religion in general, and creationism in particular, in American public schools. For its popular science and provocative science fiction, *Creations* is worth reading. But its Sagan-like scientism is irritating.

Kitcher's *Abusing Science*

Philip Kitcher's *Abusing Science* is a cogently written work that, within a year, became an alternate selection of the Religious Book Club. A concise yet thorough analysis of the "science" of creationism, it is well-suited as a textbook for undergraduate courses in evolutionary theory or philosophy of science. For Kitcher, the creationists are not so much reprehensible deceivers as victims of self-delusion who misunderstand more than distort modern science. The standard bones of contention are elegantly examined: the Piltdown Hoax, the second thermodynamic law, the "tautology" of natural selection, Popperian falsifiability, the meanings of "chance," the techniques of radiometric dating, and the implications of the apparent lack of transitional fossil forms. After this careful presentation, the impressively technical and statistical arguments of the leading creationists (Gish, Morris, Wysong et al.) come across as illogical and confused.

As a scientifically-informed philosophical critique of creationism, *Abusing Science* has been praised by reviewers as incisive, even devastating. But from an historical perspective there are some disappointments. Rather naively, Kitcher persists in portraying Huxley as the paragon of virtuous reason. Once again—gratuitously—Darwin's Bulldog "demolishes" that ignorant obscurantist, Bishop Samuel Wilberforce (pp. 1, 200). Quite apart from the fact that Huxley *qua* scientist was no Darwinian, this use of the 1860 Oxford incident is tiresome. After such studies as J.R. Lucas, "Wilberforce and Huxley: A Legendary Encounter," *Historical Journal*, 22 (1979), 313–330, and Sheridan Gilley, "The Huxley-Wilberforce Debate: A Reconsideration" in Keith Robbins, ed., *Religion and Humanism* (Oxford, 1981), it is historically unjustifiable. Latter-day creationists, for all their inexplicable neglect of history, sometimes deploy evidence and arguments identical to those of such nineteenth-century scientists as St. George Mivart, the Catholic biologist who wrote *On the Genesis of Species* (1871) against Darwin's version of evolution. But suggestions of an actual continuity of "creationist" theory in this case (pp. 117, 119) is dubious and apt to mislead. It would have been most helpful if Kitcher had included some consideration of the historical shifts in the meaning of *creation* in geology and biology. To his credit, Kitcher does acknowledge the creationism of such naturalists as Buckland, Sedgwick, and Agassiz as scientifically legitimate in their respective contexts (pp. 125–126).

In *The Remarkable Birth of Planet Earth* (CLP, 1972, p. 75) Henry Morris wrote: "Evolution is the root of atheism, of communism, nazism, behaviorism, racism, economic imperialism, militarism, libertinism, anarchism, and all manner of anti-Christian systems of belief and practice." In this catholic litany we find the heart of modern antievolutionism; its vehemence stems from an anxious perception that science—in its ideological more than its theoretical or factual mode—gravely threatens cherished social, religious, and moral convictions. The final chapter of *Abusing Science*, cowritten by Patricia Kitcher, attempts to argue that this should not be the case. I found the discussion inadequate in several respects. Some account of the relevant theological and sociological literature would have made the chapter more convincing. Unconcerned with the social and political provenance of fundamentalism, the Kitchers do not explain how American creationists came to desire and acquire such secular clout. Nor is the glaringly inconsistent social Darwinism of the antidarwinian Religious Right explicated.

Finally, for Kitcher as for Ruse (another philosopher of

science) creationism is "pseudoscience." Historians and sociologists of science, with good reason, increasingly regard this category with suspicion. Without considering this issue in any detail (see Roy Wallis, ed., *On the Margins of Science: The Social Construction of Rejected Knowledge*, Keele, 1979), it is at least worth wondering what ideological interests are being served by maintaining a rigid science-pseudoscience distinction. But, various concerns aside, readers looking for a tight rational repudiation of creationism as an intellectual system will be well served by *Abusing Science*.

Indeed, I am beginning to think readers are now a little too well served by the scientific critics of creationism. The strategy of painstaking refutation has now passed the point of diminishing returns, something perhaps inadvertently demonstrated with relentlessly Talmudic efficiency by Robert Moore in "The Impossible Voyage of Noah's Ark," *Creation/Evolution* XI (vol. 4, Winter 1983), 1–43. With theological critiques now complementing evolutionist onslaughts, creationism as a rational enterprise has been overkilled. This is not to disparage the humane reason of Stephen Jay Gould's "Evolution as Fact and Theory," *Discover* (May 1981), 34–37. But different things now need to be said.

One intimation of new perspectives on creationism was Robert Young's analysis of "The Darwin Debate," *Marxism Today* (April 1982), 20–22, which suggested that faithful Marxists could find in creationists allies of sorts in the ongoing struggle against a scientific establishment tainted with militarist, capitalist, racist and sexist sins. Other articles that begin to transcend the usual polemics and heresy trials by the contextual sensitivity of their interpretations include Langdon Gilkey, "Creationism: the Roots of the Conflict," *Christianity and Crisis*, 42 (16 April 1982), 112–113; Richard Berry, "The Beginning," *Theology Today*, 39 (October 1982), 249–259; Lenn Goodman and Madeleine Goodman, "Creation and Evolution: Another Round in an Ancient Struggle," *Zygon*, 18 (March 1983), 3–43; Conrad Hyers, "Genesis Knows Nothing of Scientific Creationism: Interpreting and Misinterpreting the Biblical Texts," *Creation/Evolution* XII (vol. 4, Spring 1983), 1–21; and Walter P. Carvin, "Creation and Scientific Explanation," *Scottish Journal of Theology*, 36 (1983), 289–307. Two recent essays by historians of science are especially valuable: Ronald Numbers, "Creationism in 20th-Century America," *Science*, 218 (5 November 1982), 538–544, and James Moore, "Interpreting the new Creationism," *Michigan Quarterly Review*, 22 (1983), 321–334. The opening of the Evolution/Creation Archives at the Iowa State University Library should also assist scholarly understanding of the issues at stake.

About Natural Theologies

I want to end by reflecting on James Moore's call for the undermining of "the natural theologies of our day" (*op. cit.*, p. 333). It is a task in which Christians, socialists, and creationists alike could find themselves united, for the natural theology referred to is no misguided attempt to repristinate Paley, but the attitude expressed by Herbert Spencer when he wrote "that which sundry precepts of the current religion embody—that which ethical systems . . . equally urge, is also that which Biology . . . dictates" (*The Study of Sociology*, 4th ed., Henry S. King, 1875, p. 350). What Spencer's father observed about his son in 1860 applied to any number of other Victorian scientific naturalists: "the laws of nature are to him what revealed religion is to us" (quoted in David Wiltshire, *The Social and Political Thought of Herbert Spencer*, O.U.P. 1978, p. 61). A new priesthood of unbelievers exalted Nature into God. And more than a century later many evolutionists are still purveying their post-Darwinian natural theology. The trouble is that over the years "Biology" as ideology, as a substitute religion, as a "scientific" basis for ethics, has too often dictated that women or blacks or the poor or the handicapped were "naturally" inferior, justifying less-than-equal treatment.

The character of natural theology is usually misunderstood. Historically, it comprised much more than inferences concerning God's existence, attributes and intentions drawn from apparent design in nature. Rather, it functioned as a comprehensive cosmology or worldview. With their "natural peity" and theodicies, natural theologians sought reverently to reconcile people to the ways of Nature, and to find justification for religious, moral, and political beliefs and hopes in data produced by whatever passed for science at the time. In the traditional view, the heyday of natural theology came in the eighteenth century; to this Darwin delivered the deathblow in 1859. I would argue instead that "natural theology" is a perennial activity of scientists. Others suspect that this is so. The midtwentieth century evolutionary ideology of George Gaylord Simpson and Julian Huxley which purported to discover in biology answers to ultimate (and hence religious) questions of human duty and destiny, of meaning and value, of social order and struggle, has been correctly identified as natural theology by John Greene in his *Science, Ideology and World View* (University of California Press, 1981), pp. 162–163. Most of the applications of sociobiology to humankind represent secular theologising pure and simple. On E.O. Wilson's Bridgewater Treatise, *On Human Nature* (1978) see J. Robert Nelson, "A Theologian's Response to Wilson's 'On Human Nature,'" *Zygon*, 15 (1980), 397–405, and James Gustafson's review in *The Hastings Center Report*, 9 (1979), 44–45. Similarly, I think, we see in the popular writings of "exobiologists" expressions of thinly-veiled and unconsciously-held religious commitments and aspirations. Members of Carl Sagan's "Planetary Society"—if they can manage to avoid the apocalypse of nuclear winter—are promised that the successful completion of the Search for Extra-Terrestrial Intelligence (SETI: the new Tetragrammaton!) will usher in a millennium of knowledge, peace, and prosperity for all.

As in the past, "the natural theologies of our day" present no preface to the proclamation of Christ's world-inverting, world-redeeming gospel of love and human liberation. In defending the naturalness and inevitability of prevailing values and unjust hierarchies, natural theology in its various guises is a typically oppressing legitimation not of the new creation, but of the fallen creation. It assumes the goodness and rightness of the socially constructed world *as it is*—which is, of course, also how it "ought" to be. Those of us who are dismayed by the antievolutionist program, and who believe it may be an evolutionary universe that the Creator continuously lures, would be wise not to replace "scientific creationism" with something far worse.

NOTES

[1]Looking for an historical "handbook of doubts about Darwinism" (as Brian Leith subtitled his *Descent of Darwin*, Collins, 1982), antievolutionists might seek out promising titles like Barry Gale's *Evolution without Evidence* (Harvester, 1982) Niles Eldredge and Ian Tattersall's *Myths of Human Evolution* (Columbia U.P., 1982) and Peter Bowler's *Eclipse of Darwinism* (Johns Hopkins U.P., 1983). But upon examination these works offer no hope but subversion to the creationist cause. As if to add insult to injury, editor David B. Wilson mockingly asks *Did the Devil Make Darwin Do It?* (Iowa State U.P., 1983). Righteously indignant contributors to the journal dissect the latest creationist claims line-by-line in *Creation/Evolution*. Richard K. Bambach reviews six negative "Responses to Creationism" in *Science* (20 May 1983, pp. 851–3). *Science and Creationism: A View from the National Academy of Sciences* (1983) and *Evolutionists Confront Creationism* (1983), from the Pacific Division of the AAAS are two in a long series of "official" statements. Among the more valuable of the anticreationist symposia in print are those found in *Science, Technology & Human Values*, 7 (Summer 1982) and the Federation of American Societies for Experimental Biology *Proceedings*, 42 (October 1983). In the wake of her *Science Textbook Controversies and the Politics of Equal Time* (MIT, 1977), the sociologist Dorothy Nelkin re-enters the fray with *The Creation Controversy. Science or Scripture in the Schools* (Norton, 1982). It is interesting to compare such works as Nelkin's and *Science on Trial* by Douglas Futuyama (Pantheon, 1982) with artifacts from an earlier war, such as Henry Fairfield Osborn, *Evolution and Religion in Education: Politics of the Fundamentalist Controversy of 1922 to 1926* (Scribner's 1926) and Arthur Keith, *Darwinism and Its Critics* (Watts, [1935]). Two of the many anthologies worth noting are Laurie Godfrey, ed., *Scientists Confront Creationism* (Norton, 1983) and Ashley Montagu, ed., *Science and Creationism* (O.U.P., 1984). Clearly, the critics of creationism are running out of original titles. Editor Marcel La Follette provides almost everything you ever wanted to know about the Arkansas case in *Creationism, Science and the Law* (MIT, 1983). I won't cite any of the literature on the Scopes Trial by way of comparison, except to rescue S.J. Holmes' "Proposed Laws Against the Teaching of Evolution," *Bulletin of the American Association of University Professors*, 13 (December 1927), 549–554, from obscurity.

Perhaps most dismaying for many creationists is the lack of help even from evangelical scientists. The respected geneticist V. Elving Anderson in "Evolution, Yes; but Creation, too," *Christianity Today* (8 October 1982), 38–40, sounds suspiciously like a theistic evolutionist. The geologist Davis A. Young doesn't, but in his *Christianity and the Age of the Earth* (Zondervan, 1982), and in "Genesis: Neither More nor Less," *Eternity* (May 1982), 14–19, and "An Ancient Earth is not a Problem; Evolutionary Man Is," *Christianity Today* (8 October 1982), 41–45, he sounds like a heterodox creationist at best. Rubbing theological salt in wounds opened by scientific scalpels, Conrad Hyers in "Biblical Literalism: Constricting the Cosmic Dance," *Christian Century* (4–11 August 1982), 823–827 and Roland Mushat Frye in "So-Called 'Creation-Science' and Mainstream Christian Rejections," *Proceedings of the American Philosophical Society*, 127 (1983), 61–70, show how antievolutionists have no apparent grasp of the doctrine of creation in its orthodox sense. Frye has also edited a volume in which creationism is systematically weighed and found wanting by Jewish, Catholic and Protestant theologians: *Is God a Creationist? The Religious Case Against Creation-Science* (Scribner's, 1983).

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A great many popular blue prints for a Christian society are merely what the Elizabethans called "eggs in moonshine" because they assume that the whole society is Christian or that Christians are in control. This is not so in most contemporary States. Even if it were, our rulers would still be fallen men, and, therefore, neither very wise nor very good. As it is, they will usually be unbelievers. And since wisdom and virtue are not the only or the commonest qualifications for a place in government, they will not often be even the best unbelievers.

The practical problem of Christian politics is not that of drawing up schemes for a Christian society, but that of living as innocently as we can with unbelieving fellow-subjects under unbelieving rulers who will never be perfectly wise and good and who will sometimes be very wicked and very foolish.

C.S. Lewis, "The Humanitarian Theory of Punishment," in *God in the Dock*, Eerdmans, 1970.

Book Reviews

DISCOVERING JERUSALEM by Nahman Avigad, New York: Thomas Nelson Publishers, 1983, hardback, 270 pages, $24.95.

The original Hebrew edition of this book was published in Israel in 1980. This is its first American printing and I hope it has great success because it is an important topic dealt with in an interesting and informative way. It is the kind of book you would be proud to display on your coffee table for your guests to browse through. A good deal of the impact comes from the many diagrams, maps, drawings and photographs, some of which are produced in color. Although the price for this book in on the high side, it is well worth it when compared to books of comparable production qualities. The pages are large (7.5 by 10 inches) and the paper is high quality.

This is not a book just for scholars or archaeologists, although they have received it enthusiastically. They will benefit from the chronological table of 5,000 years of Jerusalem's history and the selected bibliography which contains sources in Hebrew as well as English. But the informed layman can profit from this work too because extensive knowledge is not a prerequisite for following the unfolding story of Jerusalem as revealed through these excavations. The treatment is chronological and covers the first temple, second temple, Byzantine Jerusalem, and Jerusalem in the Middle Ages.

The author, Nahman Avigad, is trained in architecture and archaeology and has been active in the latter field for the past fifty years. His discovery of Jerusalem's Upper City, which is recounted in this book, is considered his crowning achievement. Some of the important artifacts and sites uncovered included the "burnt house" which shows the effects of the destruction of Jerusalem in A.D. 70 by the Romans, the "cardio maximus" which is a colonnaded street from the Byzantine era, the New Church built by Justinian in A.D. 543, and materials from a Jewish glass factory. These discoveries were made over a ten year period of excavation and work by Avigad and his crew.

Perhaps the most interesting discovery was the burnt house which was a result of the destruction of Jerusalem by Titus and his forces. Inside this house were found the bones of an arm of a young girl, dated coins issued by both the Jewish insurgents and the Romans, ashes, soot and charred wood, scorched stone vessels, and other artifacts pointing to the conclusion that this house was indeed destroyed in A.D. 70. Found among the rubble was even a stone bearing in Hebrew the name of the probable owner of the house.

The excavations which provided the information for this book were begun in 1969. This book recounts the finds through 1980, some of which were put on display in 1976 in the Israel Museum in Jerusalem. The digging continues at the archaeological excavations in the Jewish Quarter of the Old City of Jerusalem and it is anticipated that some of the areas will eventually be open to the public.

This is a fascinating, intelligent, stimulating, and helpful book. It provides information about many of the events and structures recorded in history but heretofore not confirmed by archaeological evidence. The accuracy of records left by historians Josephus and Procopius are verified by the spade of the archaeologist. This book is beautifully produced. The buyer who lays down his money for it will be purchasing hours of cognitive and visual stimulation.

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

JERUSALEM: WHERE EMPIRES DIE by Lester Sumrall, New York: Thomas Nelson Publishers, 1984, 125 pages, paperback, $4.95.

This book, as the title implies, is about the city of Jerusalem. It covers the history of Israel from its earliest days as well as its future as based on a premillennial interpretation of scripture. The approach to the topic is factual, devotional, personal and biblical.

Lester Sumrall is very fond of Jerusalem, having visited it over fifty times. On one occasion, in order to better understand the city and its people, he moved his family there for nearly seven months. He was in the city during the 1956 Sinai War and the 1973 Yom Kippur War. He has walked its streets, talked to its people, studied its past, present and future. Sumrall, therefore, writes from a background of knowledge and affection for Jerusalem.

Sumrall develops the premise that every empire that has controlled the world has sought to conquer Jerusalem. The opposite, he contends, has happened and the would-be conqueror has been conquered. As illustrations he uses the ancient empires of Assyria, Babylon, Persia, Greece and Rome. He predicts that Russia will meet its doom in Jerusalem.

In other chapters of this book, Sumrall discusses Jerusalem as it relates to the Jews, Jesus, the church, and the antichrist. Particularly helpful is his concise presentation on the formation and history of modern day Israel. In addition he discusses the eight gates of the city wall, the Christian holy places, and the names of the city. A concise two-page chronology of events in Jerusalem is given beginning with David's conquest in 996 B.C. and ending with Israel's recapture of the Old City in the Six-Day War in 1967.

The last chapter addresses the question, "Will America Die at Jerusalem?" Sumrall's answer appears to be "yes" based on the absence of a significant American role in the end times, America's waning support for Israel, and America's inability to solve an accumulation of internal and external problems. He calls America to repentance so that God's blessings may continue.

I enjoyed reading this book and recommend it to Christians who want a brief, readable summary of events and people connected with the city of Jerusalem. Since, as Sumrall says, God loves Jerusalem in a special way, perhaps Christians should, too. This book will help Christians take the initial step of becoming better acquainted with this very old and important city.

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

WHEN THE KING COMES MARCHING IN: ISAIAH AND THE NEW JERUSALEM, by Richard J. Mouw, Wm. B. Eerdmans Pub. Co., Grand Rapids, 1983, $3.95, 96 pages.

Richard Mouw picks up some images from Isaiah 60 and develops from them an interesting book about cultural transformation. Commerce, politics, the arts and other human activities will not cease in the future kingdom, but will all be subject to God. They will not be annihilated but rather restored to their proper functions. Diversity will be maintained as "every tribe and nation will bring its . . . unique cultural riches, into the transformed City" (p. 54).

Mouw draws parallels between Isaiah 60 and other passages, especially Revelation's depiction of the Holy City. The light mentioned in Isaiah is seen to be Jesus, the Lamb who was slain. "The redemptive ministry which Jesus accomplished by his life, death, and resurrection constitutes a crucial transaction which has added something to the power, the authority, and . . . the illuminative attractiveness of the Son of God" (p. 60). He will "draw all of the works of culture, and all rulers and peoples to himself," while he is also "the *judge* over the filling of the universe" and "the *healer* of the cultures and nations and peoples of the earth" (p. 66–67).

Mouw expects cultural change at the end, when Christ brings full transformation. But he does not foresee broad cultural transformation accomplished by the church in the present age. "We are called to *await* the coming transformation. But we should wait actively, not passively. We must *seek* the City which is to come" (p. 75). This calls for involvement in racial justice, healing, loving, feeding. The result will not be the triumph of God's people over evil, but rather "suffering abuse outside the camp" (p. 76), while waiting for Christ's final triumph.

Reviewed by Joseph M. Martin, Prof. of Missions, Edward Lane Bible Institute, Patrocinio, M.G. Brasil.

THE MYSTERY OF LIFE'S ORIGIN: REASSESSING CURRENT THEORIES by Charles B. Thaxton, Walter L. Bradley, and Roger L. Olsen, Philosophical Library, New York, 1984, 228 pp., ISBN 8022-2447-4, $8.50, (pb).

This book is a critical scientific review of the history and present status of chemical evolution. The main thesis is that chemical evolution as presently understood is impossible, because it is too improbable and because it violates the Second Law of Thermodynamics.

Although the authors end with discussion of the Creator and Special Creation, the book is not the usual creationist book against evolution: 1). All of the main chapters are free of mention of the Bible and other religious materials. 2). The concept of a creator is discussed only in an epilogue, where the implications of the thesis are explored for their impact on alternative views of the origin of life. 3). The authors (apparently) accept the concept of a universe billions of years old. 4). Issues concerning probability and thermodynamics are discussed more penetratingly than in most creationist literature. 5). The authors are (apparently) more familiar than many creationist authors with the wide range of both scientific and philosophic literature on chemical evolution.

The book contains solid scholarship and deserves wide exposure. The problems explored must be faced by workers in the field. For Christians interested in the subject of creation, science, and the Bible, the authors provide a lucid discussion and refreshing depth of analysis of chemical evolution from a scientific point of view. Those who have been dissatisfied by treatment of chemical evolution within the context of the science-religion debate so far will find this book a welcome and helpful contribution. We may expect the book's impact to be wide and noticeable.

The authors describe chemical evolution and its historical developments, revealing how its key concepts have been advanced on the the basis of both experiments and speculation about the early earth. How the supposed chemical compositions of the early earth's atmosphere and ocean have affected prebiotic earth simulation experiments is treated at length, especially the impact of recent opinion that the early atmosphere was not reducing but contained enough oxygen to perhaps generate an ozone shield. The authors conclude after lengthy analysis that a prebiotic soup favorable for chemical evolution is a myth.

Probability calculations are pursued in readable manner to the usual conclusion, that life has a vanishingly small chance of having developed by random processes. One is tempted to say that each creature, living now, is just as improbable as the first life. The distinction is made between mere order as in crystals, and that constrained configurational irregularity in proteins and genes which constitutes information. Passing to thermodynamics, the authors calculate both thermal and configurational energies of formation for typical proteins and nucleotide sequences. Isolated, closed, and open systems are defined and discussed. Mere energy input to the earth is seen as inadequate for reversing entropy increase under the second law and producing the high information content of living systems.

The authors emphasize a distinction between origin science and operation science. Operation science, the investigation of recurring phenomena, produces claims which are falsifiable, whereas origin science, concerned with unique past events, produces claims which can only be judged for their plausibility on the basis of uniformitarianism.

But isn't their distinction between origin science and operation science somewhat artificial? The origin vs. operation distinction is based on the claim that only in origin science is falsification impossible. However, scientific theories or models do not totally consist of elements which can be falsified, even those classified as operation science. Moreover, some philosophers of science claim that science gives us only a workable view of nature, not one that is necessarily true; this is called instrumentalism and functions to a degree even among realists when working with abstract and highly mathematical theories. Under instrumentalism, does the distinction between origin science and operation science make any difference?

The distinction seems to lead to deism (where God originally created but is no longer involved in nature.) In contrast, the Bible says that God controls the weather, and that the resurrection of Jesus, and other miracles as seen even today, are evidence of God's direct intervention. Is operation science possible in God's ongoing activity in manipulating the weather or causing miracles?

The authors claim that in operation science, God has been excluded because there is "no need of that hypothesis," to quote Laplace, and the appeal to God stifles further inquiry into the natural realm. God is required only for the supernatural action, not the regular action called natural. They seem not to object to this exclusion of God from operation science, and go on to argue that origin science is a different case, where the exclusion of God is not legitimate. Notice that the exclusion of God from operation science, however, is based on a faulty conception of natural law—that the law has been "given," and once given, it is devoid of a need for God.

Natural laws are the codification of precedents (MacKay), not the immutable regimen inherent in nature (a Greek idea). The Greek notion of natural law leads inevitably to the clockwork conception of nature, with God but the prime cause and now removed, except for occasional supernatural actions in which natural law is suspended. The Bible teaches not the Greek conception, but the conception that God is involved in all the acts and behaviors of nature. He is free to arrange the course of events in the usual and regular way (leading us to see precedents and to codify these as natural law, even with the notion of probability where appropriate), or to move the course of events in the less usual and perhaps unique ways (which we call Providence or miracles). Either way, God is the doer. The only problem which arises in this conception is, as noted by Poythress (1983 JASA 35:2), the problem of evil, because God is at once claimed to be directly involved in the acts and behaviors of men, many of which are evil. (This is not to say that God performs evil, but insomuch as man may employ natural phenomena in evil behavior, and God is thought in this conception to be sustaining the natural realm, God is thereby necessarily involved in sustaining courses of events which are employed for evil.)

Our philosophical view should flow from the fuller, more correct, conception of creation, that God is both immanent and transcendent, sustaining creation, yet not part of it. The implications of this view for operation science and its pursuit have yet to be explored. A corollary investigation of the implications for origin science would follow.

Perhaps we are dealing, as some believe, with a problem of levels, or hierarchy, where operation science deals with the physical, and metaphysics and faith deal with the spiritual.

No doubt other questions will arise as well, especially from the authors' epilogue. For one, can events of creation be described scientifically, even those events where the Bible makes clear the creative activity was ex nihilo? Also, the book apparently admits an old earth. Are we to suppose the authors have decided how long the days are in Genesis 1? Therefore, would the authors call themselves theistic evolutionists? Or progressive creationists?

Finally, how can we distinguish aspects of origins amenable to ordinary scientific study from those which even in their scientific explanation require the concept of the Creator? Conversely, how do we avoid a God of the gaps in origin science? Where does science stop and faith or metaphysics begin? The scientist usually says he cannot tell, and proceeds to study everything by science, presuming there is no limit to the power of science to explain.

The satisfactory answers to all these questions are way beyond the purpose of *Mystery of Life's Origin*. However, that such questions arise quickly is a testimony to the book's effective persuasion that chemical evolution is hardly likely, and that explanations of life which exclude God fall short.

The format, figures, and organization of the book are excellent. Each chapter has a complete set of references. The expression is smooth and satisfying, and typographical errors are few and trivial.

This worthy book is enjoyable and stimulating, and serviceable as a sourcebook, background for teaching, or springboard to scientific and philosophic debate.

Reviewed by John C. Munday, Jr., Professor of Natural Sciences, School of Public Policy, CBN University, Virginia Beach, Virginia 23463.

THE COSMIC ADVENTURE: SCIENCE, RELIGION AND THE QUEST FOR PURPOSE by John F. Haught, Paulist Press, New York (1984), paperback, 184 pp., $6.95.

The author, an Associate Professor of Theology at Georgetown University, addresses himself to the fundamental question of whether the universe has any purpose. From the perspective that "the central core of religious consciousness is a fundamental trust, primordially expressed in symbols and stories, that reality is ultimately caring," he asks the question, "Is this intuition of cosmic care consistent with the findings of

modern science? and if so, how?"

In his consideration of these questions, the author seeks to refute scientific materialism, and by building on the thought of Michael Polanyi and Alfred North Whitehead to provide a framework within which to consider these issues, he attempts to show that "being a Christian is an acceptable way of endorsing and fostering the scientific discoveries of modernity."

There are many insights provided by this book that are helpful to the Christian. The relationship of what are called "chance" events to the emergence of novelty in the world; the explication of a hierarchical view of the universe in which lower levels are essential for the existence of higher levels, but in which the properties of the higher levels emerge from the specific interactions of lower levels in such a way that higher levels cannot be comprehended in terms of lower levels only; the concept of the "beauty" of creation as a critical balance between chaos on one side and triviality and monotony on the other, providing aesthetic criteria for evaluating the concept of purpose in the universe—these and other insights may profitably be integrated into the worldview and philosophical perspective of the evangelical Christian.

Unfortunately the author does not provide us these helpful insights within the framework of biblical evangelical Christianity. In almost half of the book he is reluctant to use the term, "God," preferring instead such circumlocutions as a "morphogenetic field," and he does not specifically refer to Christian thought until his final chapter. Although the Subject Index has an entry for Buddhism, it has no entry for Christianity. By the time the final chapter is reached, it is clear that the author, following also Teilhard de Chardin, has no place for biblical concepts of sin and evil. Indeed, he is anxious to replace an "ethical" view of the universe by an "aesthetic" view on the grounds that the presence of purpose can be defended on the latter basis whereas it cannot on the former. Jesus of Nazareth becomes "the primary symbol through which the ultimate meaning of the universe becomes transparent to the believer." Jesus is such a symbol, not because of His ethical teachings, but because of "his relativizing of the ethical by his proclamation of a higher goodness that embraces both good and evil, the moral and the immoral."

When the model of a hierarchical structure is carried to an extreme so as to include the attributes of God as the emergent properties of the highest level of such a structure, we have the limited God of process theology. Still, even here, the reader can be touched and even learn from Haught's vision of the "crucified God" as an essential point in the biblical message that is often passed over by the Christian in the effort to defend an omnipotent, transcendent God.

It is frustrating to have so many good ideas so mingled with concepts that violate the biblical perspective and are not really essential for the argument being advanced. Certainly we can agree with the author when he summarizes by saying, "Science is a mode of knowing adequate to grasp what lies below consciousness in the hierarchy . . . Religion, on the other hand, complements science by relating us to fields, dimensions or levels that lie above, or deeper than, consciousness in the cosmic hierarchy."

This is a good book for discriminating and mature theological students to read and discuss together. It represents a mode of thought and an approach that is certainly a common one for people who take modern science seriously as an insight into truth and at the same time wish to maintain the relevance and authenticity of a religious perspective.

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

(Prepared initially for the Theological Students Fellowship Bulletin. *Reprinted by permission of TSF.)*

STAYING WELL by Richard E. Ecker, InterVarsity Press, Downers Grove, Illinois, 1984, 140 pp., $4.95, paperback.

Staying Well is a useful, refreshingly accurate book. Ecker points out that vitamin deficiency is *not* America's most significant health problem, discerning that "Some efforts to peddle unnecessary vitamins to uninformed customers borders on the immoral." Our health deteriorates when our adaptive mechanisms eventually break down under consistent abuse from living the "good life," i.e., too little physical activity, excessive caloric intake selected on the basis of taste and convenience, cigarette smoking, alcohol consumption, and increased social life full of uncertainties. Excess fat puts over one third of Americans in danger of several life-shortening diseases. Death from heart disease, diabetes, lung cancer, and other degenerative diseases have replaced infectious diseases as leading causes of death.

Ecker, a Ph.D. in microbiology and biophysics, once practiced this unhealthful lifestyle. Unlike many who reform, he does not leap to the other extreme and make us captive to a complicated set of idiosyncratic health rules. Instead, he gives us clear, common-sense, Christian, and scientific principles to make *our own* healthful lifestyle changes for responsible management of the body God has entrusted to us. Although we can do little about inherited susceptibility to cardiovascular disease, diabetes, and alcoholism, we *can* choose a lifestyle that resists or prevents development of these diseases.

Chapters four and five focus on diet and our personal responsibility for the causes and prevention of overweight and diet-related diseases. He does a good job of cautioning against several inappropriate practices and suggests sound alternatives. Speculative or tentative ideas are differentiated from well-established information. His discussions are specific enough to give understanding yet do not overwhelm us with excessive detail. Rarely will you find, in a paperback book on health, such clear insights, moderation, and objective treatment when discussing sugar, cholesterol, weight loss, and fiber. An appendix contains brief nutritional information for 59 food groups.

Chapter six concerns damage to our bodies when alcohol,

tobacco, and large amounts of caffeine force our body's adaptive mechanisms beyond their normal limits. He considers *any* smoking as an addiction and an abuse that should be stopped. Chapter seven describes both the increased health risks from physical inactivity and the healthful benefits of aerobic activity.

Perhaps the best chapter is on stress. Ecker considers excessive stress to be an important contributing factor to substance abuse and dietary practices promoting degenerative diseases. He states that "We do not always choose what events will happen to us. But we do choose how we will respond to those events. And it is the response that can cause excess stress, not the events."

Ecker believes that we respond stressfully to our environment when we interpret an event as a threat to our self-image. Because we choose both our self-image and the way we respond to events, we need to change the way we establish our self-image and identity. Once we fully realize that regardless of our appearance or performance, we are *somebody* made in God's image and refuse to accept a flawed self-image from anyone, including ourselves, this undesirable stress will be eliminated.

The book concludes with spiritual perspectives for staying well, focusing on the need for a firm, often difficult, commitment to change our lifestyle. Although taking a vitamin pill is much easier than confronting the lifestyle choices actually responsible for diminished health or unwanted stress, stepping out in faith for a healthful lifestyle becomes easier when we let Jesus help bear our burdens. We are to invite God to actively participate in our choices, giving us strength to resist temptations and His peace intead of anxiety and stress.

Reviewed by L. Duane Thurman, Oral Roberts University, Tulsa, Oklahoma 74105.

A HUNGER FOR MEANING by Calvin Miller, Downers Grove, Illinois: InterVarsity Press, 1984, paperback, 126, $3.95.

Calvin Miller is one of the most prolific Christian writers of our time. He has written many books including some with such stimulating titles as *Transcendental Hesitation, Star Riders of Ren*, and *Burning Bushes and Moon Walks*. This book is his most recent, and while it is short on length, it packs a lot of punch. Parts of this book first appeared in Miller's 1973 book entitled *A Thirst for Meaning*. The author is a graduate of Midwestern Baptist Seminary and currently a pastor in Omaha, Nebraska.

The thirteen chapters in this volume contain essays on disparate topics. Of course, they are bound together in that they are related to the Christian faith, but they are not progressive and can be read in any order. They contain reflective and penetrating thoughts on a number of relevant subjects including meaning, reason, miracles, demons, and truth.

Miller attempts to accomplish three objectives in this book: challenge Christians to a bold new level of Christian thinking; help seekers find an intelligent confidence in Christianity; and challenge Christians not only to believe but to demonstrate their faith. Of course, the degree to which these goals are realized is related to the level of thinking the reader brings to the book with him.

Miller's writing style reminds me a lot of the styles of Thomas Howard, Kirk Kilpatrick and C.S. Lewis. It is characterized by passion, metaphor, intellect, and challenge. I enjoyed reading this book and think you will too. The chapters are short and each can be read in about fifteen minutes.

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

GOLD IN THE MAKING by Ron Lee Davis, New York: Thomas Nelson Publishers, 1983, paperback, 159 pages, $4.95.

This is one of the latest in a spate of books that has come forth on the topic of suffering. Among the recent titles are *When Bad Things Happen to Good People, Where is God When it Hurts, A Loving God and a Suffering World*, and *Destined for Glory*. A book by C.S. Lewis entitled *The Problem of Pain* contains most of the ideas found in these books. The value of each of them is as a testimony and reaffirmation of faith in the goodness and wisdom of God. This book is very personal. It tells about some of the suffering the author has gone through, much of it related to the death and sickness of friends and family. Included also to illustrate the points are stories of suffering gleaned from books and the Bible. The illustrations lend realism and relevance and make the book more than just a dry, theoretical discussion.

Anyone who has thought or read much in this area will not learn much cognitively from this book. However, the reader will have his emotions aroused as he identifies with the suffering recounted. A rehearsal of the reasons for pain, and what the proper Christian attitude toward it should be, summarizes the book's contents pretty well.

The author tries to steer clear of any pat answers or cliches for fellow-sufferers. Through experience he has become aware of the damage easy advice can do. Rather, he presents some ideas on suffering from a biblical perspective and seeks to lead the reader to become a healing agent of God rather than one who goes through life bruised and confused and in need of chronic attention.

Ron Lee Davis is pastor of the First Presbyterian Church in Fresno, California, and some of the thoughts he has preached there are shared in this book. He has written a helpful and worthwhile book and it is recommended for all who suffer, and that includes everyone sooner or later.

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

PSYCHOLOGICAL SEDUCTION by William Kirk Kilpatrick, Nashville: Nelson, 1983, 239 pp., $5.95.

There is a certain genre of books where psychology is condemned by those of the Christian faith. J. Roland Fleck and John Carter term this approach the "psychology against theology" viewpoint.

At first glance *Psychological Seduction* appears to belong to this genre. And perhaps it does. Yet in many respects it is distinct from other books of the "down on psychology" persuasion.

Kilpatrick teaches educational psychology at Boston College and holds degrees from Harvard and Purdue. This background affects both the quality of his analysis (high) and the qualifications he makes to his conclusions (e.g. "What I have to say . . . does not apply equally to all areas of psychology").

He is clearly against much psychological thinking, particularly its influence as a social force. The concern with society's values ("The American Spirit"), in contrast with those of Christianity, becomes a strong theme especially in the second half of the book. A Francis Schaeffer-like disdain for secular humanism is woven into the discourse using the rationale that ours is basically a psychology oriented society.

The strongest theme of the book is the subject of self esteem, which is given four chapters and alluded to in nearly every other chapter. Kilpatrick believes that much of the psychological thinking on self esteem contrasts sharply with the Christian view. He takes up themes reminiscent of Paul Vitz in *Psychology as Religion: The Cult of Self Worship*, suggesting that self acceptance can readily become acceptance of sin, and that God must be the basis for our value as persons. Veiled references are made to Bob Schuller and the deficiencies of his self esteem theology.

Values clarification and moral reasoning (apparently referring to Kohlberg) are considered in a subsequent chapter. Values clarification, with its non-judgmental approach, is believed to undermine character. "The idea that all things are open to discussion and all values are welcome in the classroom is a subtle form of conditioning that deprives us of our inbred repugnance of vice or debased values." Moral reasoning, with the use of moral dilemmas is a bit less repugnant. "Before students begin to think about the qualifications, exceptions, and fine points that surround difficult cases they will seldom meet, they need to build . . . character." In contrast, the more traditional approach of using moralistic stories and direct training of values is encouraged. The importance of life as a story is a theme Kilpatrick repeatedly returns to later in the book.

The book takes a more philosophical turn in a chapter on the faulty perception of reality held by secularists. The false values of subjectivism, reductionism, and "naturalism" are considered in another chapter (although the third value is redefined).

The book concludes with helpful chapters on suffering, love, and becoming more like children. The final chapter, as well as the first two chapters, summarize the author's view of psychology from a Christian viewpoint.

Psychological Seduction is a seductive book. In an entertaining and knowledgeable manner the author outlines a number of dangers easily ignored by Christians (in psychology and otherwise). Secular psychology and its corollary secular values *can* easily dominate Christian values, both in society and in the Christian who works in the social sciences. We need to be aware of this danger and occasionally examine ourselves to be certain that Christ, not psychology, is our Lord. A Christian foundation can erode by sheer neglect and become little more than a facade.

Yet it would seem that Kilpatrick minimizes the constructive value of psychology for the Christian. Although he occasionally hints that psychology can be helpful, I wish he had spent more time with telling us *how* it can help. Is psychology not a valuable tool for those in the church to use? Is not the research behind certain psychological concepts derived from God's natural revelation?

Some will find fault with his heavy use of metaphors. Others will fault hints of the author's Catholic background. Although a Protestant, I find both to be valuable assets enhancing both his presentation and perspective.

This is a book well worth reading. It certainly will bring reactions from Christian psychologists, but while we may react to some of Kilpatrick's conclusions we must not overlook the valuable critique he has made. A quick rejection of his critique *might* be a defensive reaction to genuine weaknesses that have been uncovered.

Reviewed by Donald Ratcliff, Department of Psychology and Sociology, Toccoa Falls College, Toccoa Falls, Georgia.

SPIRITUAL DIMENSIONS OF MENTAL HEALTH, by Judith Allen Shelly, et. al., Downers Grove, Illinois, InterVarsity Press, 1983, 178 pages, paperback, $5.95.

This is the seventh book in The Spiritual Perspectives in Nursing series. It contains nineteen chapters written by thirteen people. The chapters are grouped into generic categories of mental health, spiritual care and personal sanity. Trappings include endnotes, subject and scripture index, and a foreword written by the writer of the last chapter. Ostensibly written for Christian nurses, the book's cover shows a nurse walking a hospital corridor.

The two main contributors are Judith Allen Shelly, associate director of resource development for Nurses' Christian Fellowship, and Sandra D. John, family therapist at the Center for Experiential Theology in Berkeley, each of whom writes five chapters. The book is a product of the Nurses Christian Fellowship Mental Health Task Force.

The premise upon which the articles in this book are tied

together is that health consists of physical, mental and spiritual components but that spiritual care is often neglected. One reason is because those who deal with clients are rarely taught how to minister to this need. This book aims to show Christians who work with psychiatric patients how to address their spiritual needs.

Topics included in this book are: mental health, spiritual needs, religious beliefs, prayer, scripture, burnout, the clergy, and colleagues. The articles average eight pages in length so they obviously do not delve deeply. However, for most of the topics covered, the treatment is adequate to introduce the reader into the essence of the issue. The endnotes provide references to additional sources.

The writing is in magazine style with each chapter starting off with a case study to introduce the topic. There are many illustrations and biblical references included. For the neophyte person working with psychiatric clients, this book may serve as a satisfactory introduction to the spiritual dimensions of mental health.

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

THE GROWTH OF LOVE AND SEX by Jack Dominian, Grand Rapids, Michigan: Eerdmans Publishing Company, 1984, paperback, 91 pages.

This book was originally published in England in 1982 and is based on talks given by the author at the annual lecture to the Convocation of the National Children's Home. Jack Dominian is Senior Consultant Psychiatrist at the Central Middlesex Hospital and Director of the Marriage Research Centre, both of which are located in England.

The author writes as a Christian and although he does not sprinkle the book with proof texts, he does integrate Christian thought and references into his presentation. The thirteen chapters include a description of personality and sexual growth through childhood with reference to both Freud's and Erikson's developmental schemes.

In addition to personality development, Dominian discusses such topics as love, marriage, premarital sex, contraception, abortion, homosexuality, and sado-masochism, all in a cursory way. Dominian writes in a lucid, caring, and interesting fashion, and I was able to read the book in just over an hour.

This is the quotation which best captures the position the author has about sex and love: "I believe that erotic activity and intercourse, isolated from personal love, is in human terms an incomplete experience and its unacceptability for Christians is based on the requirements for authenticity and integrity in the human encounter."

Some other positions the author takes: masturbation is not a sin, sexual intercourse is only for the married, abortion is not a Christian option nor is living together before marriage. Oral and anal intercourse, cross-dressing and minor forms of sado-masochism are acceptable in marriage, conscience permitting. Homosexuality is not a sinful state and the church should accept persons with this orientation.

This book affirms some traditional Christian values, opens up avenues of discussion on a few contemporary issues, and provides the reader with a reasoned approach to arriving at conclusions on topics crucial to love and sex.

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

POLITICS AND THE BIBLICAL DRAMA, by Richard J. Mouw. Baker Book House, Grand Rapids, 1983, $5.95, 143 pp.

Richard Mouw's stated purpose in this stimulating little book is to encourage *mindful activism*. By this he means to avoid both dead orthodoxy and unreflecting orthopraxy. He envisions Christian participation in political processes in all of their dimensions, but wants this participation to be grounded in biblical theology.

Mouw's analysis deals with politics in four stages of the world's history: the fall, the fallen world, redemption, and the future age.

In dealing with creation, Mouw concludes that politics did not enter the world because of sin, but is a necessary part of the world as God created it. He agrees with Abraham Kuyper's position that "Political life in its entirety would have evolved after a partriarchal fashion, from the life of the family" (quoted on p. 34), while disagreeing with Kuyper on some minor issues. He defends this position against Gordon Clark's arguments to the contrary.

Given the fact of sin, however, political realities which might otherwise have been healthy and good become corrupt and destructive. While accepting selfishness as sinful, Mouw rejects psychological egoism as an adequate explanation of human behavior, and selfishness as an adequate portrayal of sin. Having dealt with some political aspects of sin, he goes on to advocate maximizing relationships which are non-manipulative and spontaneous.

In considering the church as God's redeemed society, the author gives an optimistic view of the church's mission. He believes that the church can have an effective role in the world, though it must carefully avoid domination and triumphalism in carrying out this role. He mentions verbal articulation, servanthood and the altering of "the structures of the larger human community" as aspects of this mission, (p. 70).

A concluding section on politics and the coming kingdom includes criticism of both dispensational and "radical Christian" approaches to the world and the kingdom—the former for seeing politics as irrevelant, except in the case of Israel; the

latter for too close identification of the United States with the Babylon of Revelation.

In addition to the chapters mentioned above, one stands out as particularly helpful. It discusses the meaning of the biblical term "powers." In it Mouw presents and analyzes at length the ideas of John Howard Yoder and Hendrikus Berkhof, as well as quoting a number of other writers on the subject. He concludes that "If Reformed Christians, and their political fellow-travelers among the faithful, are going to emphasize the legitimacy of Christian involvement in political structures, it must be with an Anabaptist type conviction that the Christian disciple must walk in a new and better way, (p. 116).

After reading the book I feel encouraged to be more active, and am certainly equipped to do it more thoughtfully.

Reviewed by Joseph M. Martin, Professor of Missions, Edward Lane Bible Institute, Patrocinio, M.G. Brasil.

APARTHEID IS A HERESY, Edited by John W. DeGruchy and Charles Villa-Vicencio, William B. Eerdmans Publishing Company, Grand Rapids, Michigan, 1983, 184 pp., paperback, $5.95.

Americans may well read this book impatiently wondering how the churches could still be exercised by what now appears so manifest. The arguments bring us back to King, Abernathy, Young, and others who forced American churches to confront their complicity in racism. And yet while I write South Africans have taken refuge in the British embassy in Durban, racial strife continues to reject divisions by color, and Bishop Desmond Tutu, one of the contributors to this volume has just won the Nobel Peace Prize. The issue of apartheid is so modern and so ancient.

In 1982 the World Alliance of Reformed Churches declared apartheid sinful. They called attempts to justify it theologically and morally a heresy, a religious decision with distinctive political overtones.

That declaration was the Reformed Churches' attempt to resolve a problem which first surfaced in 1855. At that time members of the Reformed Church in South Africa requested separate communion services for whites and blacks that would be in all ways equal. Church efforts at compromise failed and eventually in 1862 whites formed their own church to guarantee the racial purity of the table they had wrested from the Lord.

Defenders of apartheid have supported their views with a selective use of the Scriptures. This volume includes two essays on the Bible and apartheid; other authors draw extensively upon biblical sources in their critique of apartheid. But it is apartheid not the Bible which really divides the Church. Bishop Desmond Tutu concludes his essay, "Real peace and unity will come to our beloved land only when apartheid has been dismantled." South Africa still searches for that elusive peace.

Apartheid of the past is not the sole focus of the authors. They also highlight more subtle but no less destructive contemporary injustices. DeGruchy points out that "the struggle against apartheid is part of, as well as symbolic of, the struggle for justice between affluent first world countries (the 'north') and poor third world countries (the 'south')." That assertion is clarified by Villa-Vicencio's description of the consequences of apartheid as a "sub-human form of existence in resettlement camps and ghettos." Desmond Tutu cites the Japanese theologian Koyama's opinion that apartheid is "pornographic because it exalted a particular biological attribute (other than sexual) out of all proportion and removed it from a context where it was properly significant."

Of particular value is the appendix which inlcudes fourteen church statements on apartheid dating from 1957 to 1982. They document the debate which is the subject of this volume.

Reviewed by William J. Sullivan, Department of Religious Studies, St. John Fisher College, Rochester, New York.

WEALTH & POVERTY: FOUR CHRISTIAN VIEWS OF ECONOMICS, Robert G. Clouse, ed., InterVarsity Press, Downers Grove, Illinois, 1984, $5.95, 228 pp.

I was greatly interested when I saw the advertisement for InterVarsity Press's new book, *Wealth & Poverty: Four Christian Views of Economics,* edited by Robert Clouse. I have read works by two of the contributors to this volume (North & Gish), and was very interested to see their presentations in an interactive work such as this. Clouse has previously edited *War: Four Christian Views,* and *The Meaning of the Millennium: Four Christian Views,* which have used the same format. Following an introductory chapter on the history of capitalism from medieval Europe to the present (written by Clouse), the book consists of four essays and responses from each of the other contributors to each essay. This element of interaction turns what could be a rather dull survey of the range of Christians' attitudes toward economics into a lively debate. The four contributors and their topics are: Gary North, Free Market Capitalism; William E. Diehl, The Guided Market System; Art Gish, Decentralist Economics; and John Gladwin, Centralist Economics. For the purposes of this short review, I will make a few comments about the four positions before summarizing the work as a whole.

The first essay (North) is a defense of free market capitalism. As a theonomist, North believes that the Law given to Israel (particularly the civil law) is a representation of God's character and therefore constitutes a universal, invariant norm for human governments. In the field of economics, this means that the covenant of God with Israel in Deuteronomy chapters 8 and 28 should be our economic norm today. Most of North's discussion attempts to show that these two chapters mandate free market capitalism by showing that any other

system produces unethical restrictions of individual rights. All three of the other contributors noticed a distinct lack of consideration in North's essay for the existence of the New Testament and the fulfillment of God's revelation in Christ. North's views are made more clear in his response to Gish's essay, in which North states, "The New Testament is a *commentary* on the Old Testament, not its negation," (p. 162, emphasis his). In addition to this unusual assertion, North claims repeatedly that taxation in excess of the tithe (10% of gross income) is theft according to God's law, (I Sam. 8). These substantial leaps of logic are, unfortunately, characteristic of North's essay as a whole.

The second essay (Diehl) discusses the guided market system as exemplified by the U.S. economy of the 1980's. Using Scripture as a general norm, Diehl attempts to analyze the U.S. system in terms of its fulfillment of the Biblical goals of freedom, justice, and responsibility. The results of his discussion point out primarily the weakness of his critical method. His conclusion is that "our democratic capitalistic system has done pretty well for us," (p. 92). Nowhere does he discuss the idea that our system may not be doing "pretty well" for others, especially those in countries subject to U.S. military, economic, and political influences, or to minority groups here in this country. Still, his essay is helpful, for it encourages Christians to work to modify the system to reduce injustice, and it encourages us to personally challenge the prevailing materialism of our culture. In this regard, it is Diehl who comes closest to addressing the essential problem of how New Testament Christian morality is to transform our lives while we are working to improve the present system. His support of the U.S. system arises out of recognition of its flexibility, its reasonable economic efficiency, and the freedom that it allows us as Christians to act to change it. Although it is important to recognize that the U.S. system is substantially more just than many currently existing economic systems, one feels that Diehl's support would be more credible if his analysis was more critical.

The third essay (Gish) on decentralist economics is, in many ways, not a discussion of economics at all. It is rather a statement that, "The call for Christians is first to get our own house in order, to begin to conform our own economic lives to the reality of the new age, to live a transformed life," (p. 132). Thus, the essay describes how the Christian community should deal with the problems of private property, providing for the poor, etc., rather than what the system should do about it. Only Gish seems willing to come to terms with the idea that being Christ's disciple involves fundamental changes in all aspects of our lives, including economic relations. Unfortunately, when he discusses economics *per se*, his essay becomes somewhat disjointed and occasionally self-contradictory. Gish's message is important to the Church today, but considerable work must be done before his ideas will form a coherent economic system

The fourth essay (Gladwin) is in support of centralist economics, using contemporary England as an example. He assumes that the Bible contains no explicit structures for economics, that a centralized structure is necessary to help all those in need, and that the size of modern governments cannot be substantially reduced. Noting that the problems of global poverty are too great for voluntary charity to overcome, he calls on Christians to pressure the government to act justly and with compassion. Several points are addressed weakly, however. Specifically: how are we to control a centralized government? (especially since its inertia grows with its size, and since we can never count on being in a majority); how do we deal with the problems of economic inefficiency of centralist systems?; and how do we avoid the abdication of our personal responsibilities in favor of state responsibility? (This is a relevant question with respect to all systems). Gladwin's essay and responses show that he considers this volume to be a preliminary discussion. The essay is thoughtful, but not sufficiently self-critical to be considered a finished product.

In conclusion, I was rather disappointed with the elementary nature of the essays of this volume. The arguments were based on weak assumptions, occasionally faulty logic, and cultural biases. In general, the thinking was neither critical enough nor constructive enough to provide answers to the difficult questions posed by the relation of Christians with secular economic systems. In a more positive light, the book encouraged me to do a great deal of thinking on this subject (as did Clouse's previous volume on war). All four authors provided thought-provoking responses to the other authors' work which I found to be extremely helpful. So even though this volume provides no obvious answers, I recommend it to anyone who wishes to be challenged into thinking about this important topic, and even more so to anyone who would rather avoid being challenged to think about it.

Reviewed by John D. McCalpin, Mesoscale Air-Sea Interaction Group, Meteorology Annex, The Florida State University, Tallahassee, Florida 32306.

THE CASE FOR CHRISTIANITY by Colin Chapman, Grand Rapids, Michigan: Eerdmans Publishing Company, 1983, 313 pages, $12.95, paperback.

This book, originally published in a clothbound edition in 1981 in England and the United States, is now released in a softback edition three years later. It has already gotten considerable press having received favorable reviews in many Christian magazines. And it deserved them all. It is a splendid book, highly recommended, a treasury of concise, useful, stimulating information.

The author, Colin Chapman, is ordained in the Church of England and presently regional Secretary of the International Fellowship of Evangelical Students in Lebanon. He has cast his apologetic for Christianity in terms of answers to relevant human questions rather than answers to abstract philosophical ones. This makes the book much more interesting to read and considerably easier for the lay person to follow. The publisher has spruced up the pages with many photographs, some in beautiful color, and the format of the book makes for easy reading. Chapman draws quotations from over 1,000 persons including many Christians (C.S. Lewis, James Packer, Saint Augustine) as well as many secularists (Woody Allen,

Bertrand Russell, Somerset Maugham).

The material is divided into seven main parts. It concludes with a truncated index and a complete reference section which locates every quotation and scripture verse used in the book. The meat of the book deals with such topics as truth, death, suffering, meaning, assumptions, values and love. There is even a discussion of evolution and creation, as well as a synopsis of the tenets of major religions, thinkers and philosophies.

While the author is a Christian and wants to win the reader to his viewpoint, he is very fair in his presentation and not very preachy. He merely presents the topic with quotations from different perspectives and leaves the reader to draw what he anticipates is the inevitable conclusion that there is indeed a strong case for Christianity.

I can think of several uses for this book. The individual will find many penetrating ideas just by thoughtfully reading through it. But it would also be a welcome addition to a church or college library where it might be used as the basis for individual or group study. A home Bible study group could benefit by going through it. And young Christians who are bothered by perplexing questions will find answers for many of them in this book.

In short, if you have not read a book on apologetics before, this would be a good one to start with. And if you are already familiar with the area, this is an excellent one to add to your bookshelf. It is a winner, helpful to both the Christian and the seeker after Truth. It has received rave reviews for a reason: it is a very good book.

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

A REASONABLE FAITH by Anthony Campolo, Word, 1983, 199 pp.

In a previous generation the theologian H. Richard Niebuhr authored a classic text entitled *Christ and Culture*. In this work Niebuhr examined the history of the various responses the church has had to its surrounding culture, finally arriving at five categories. Within these categories Anthony Campolo's book, *A Reasonable Faith*, affirms a position which is a mixture of the synthesist and conversionist positions. This is in marked contrast to the Christ against culture view held by many present day conservative evangelicals, especially those within the Moral Majority organization. It is the opinion of this reviewer that Campolo's text is a welcome counterbalance to some of the teaching and methods of Rev. Falwell.

On several occasions the author states that the purpose of the book is a defense of the Christian faith against the more extreme elements within secular humanism. Realizing the vagueness of this term, Campolo sets out to give an extended definition—which is the main topic of the book as evidenced by the subtitle "Responding to Secularism." Special emphasis is directed to the sociological and psychological manifestations of secularism. In this review, however, I would like to give greater attention to those sections of the book which pertain to the natural sciences.

The author begins with an examination of the historical background out of which secularism has developed. This history is set forth within a framework given by the nineteenth century positivist, A. Comte. Leaving history behind, Campolo rushes along the central framework for the book. (His tendency to brush lightly over many of the issues he brings up is the weakest aspect of the book.) The theologian Langdon Gilkey several decades ago identified four currents within secularism and Campolo uses these to form the basis of the remaining chapters. These four are: contingency, autonomy, temporality, and relativity.

Contingency refers to the scientific practice of using logic, objectivity, and empirical evidence to establish *all* truth. Consequently, supernatural explanations are replaced by naturalistic ones. This is no more evident than within the field of biological evolution. Campolo, therefore, reviews the controversy surrounding the famous Scopes trial and ends up in favor of theistic evolution over creationism. On the other hand, the author is impatient with those evolutionists who arrive at a philosophical evolutionism presumably only from the biological facts. Their scientism is seen to deny the existence of the deity and is argued to result in the undermining of the teleology of the universe. The emergence of Social Darwinism out of these philosophical aberrations is viewed as particularly evil by Campolo.

Next the author argues on several fronts for a return to human dignity. The Heisenberg Uncertainty Principle is quoted as evidence for human freedom. It is not clear that with the replacement of Newtonian determinism with the probabilistic doctrines of quantum mechanics we arrive at what constitutes human freedom. In this matter it is also noteworthy that Campolo has not cited the important work of Donald MacKay. On a second front, the author considers the implications of scientific cosmology. In this context, the author should have mentioned that besides the cosmological argument for a finite lifetime of the universe there exists, in the opinion of many physicists, an argument based on the second law of thermodynamics.

Yet it is proposed that the social sciences present the most threatening undermining of theism. Here, the deterministic psychology of Skinner is strongly criticized. Next, using ideas of the sociologist George Mead, Campolo claims that our actions are determined as greatly by our perceptions of the future as by our past. Freedom is therefore the process whereby we attach new meanings to our past. Continuing in the field of psychology, Campolo criticizes the Freudians for their preoccupation with sexuality. The studies of the anthropologist Margaret Mead are cited as evidence that Freud was culturally parochial in establishing his theories. Thus whether in the social or natural sciences, the author has attempted in this chapter to give new perspectives to widely held theories in order to harmonize these with ancient Christian doctrines.

In chapter four the second element of secularity, autonomy, is discussed. Autonomy, as the word implies, is the thrust of modern humanity away from any of the restrictions that may be imposed by a belief in God. Campolo considers existentialists, such as Jean Paul Sartre, among those who most strongly advocate such autonomy. Anxiety, meaninglessness, and loss of identity are the effects of the "dizziness of freedom" and the author prescribes for these the healing which results from a commitment. God, the ultimate universal, embodied in Jesus, the Christ, is the object of this commitment. The community of faith, the church, is held responsible for providing the environment that would encourage commitment. The individual, in Campolo's view, who has seen clearly just how this commitment is brought about is Søren Kierkegaard—specifically in his exposition of the three stages of life.

Turning to the question of how autonomy became so prevalent, Campolo blames the scepticism of the secularists. In the field of psychology this is exemplified by the atheism of Freud as he asserts that God is merely the projection of a father figure. The author states that a more serious threat is found in the thought of the sociologist Durkheim who believes that societies create gods which are mere reflections of their own highest values.

The discussion in chapter five centers on a third aspect of secularity—temporality. Temporality means simply the belief that this life is all there is. With this thought, Campolo sets forth an array of topics ranging from the "on death and dying" movement to the problems secularists have in finding meaning for their lives and values to live by. Campolo gives answers to each of these questions by means of a mixture of existential philosophy and Christian religion as set forth by writers as varied as Martin Buber and Paul Tillich. As a physicist, I was very interested in the areas of this chapter concerning time. The author argues that the phenomenon of time dilation from the special theory of relativity lends support to such doctrines as eternal life and predestination.

In chapter six the subject of relativity again emerges but this time the word relativity refers to ethical principles. Here, secularists are said to believe that there exists no moral absolutes and that the basis of law is purely societal consensus. Campolo points out that secularists are fond of citing anthropological studies to lend empirical support to the above assertions. Yet it is correctly noted by the author that there is an amazing amount of agreement between varied peoples on ethical issues. Campolo argues that the privatization and pluralization of religion in America are additional results of relativistic thinking.

The author largely supports the cynical Marxist view that ethics is a product of the societal conditioning of each class. That is, ethical principles develop solely out of the self interests of a class. The affluence of the American church in the face of certain Scriptural passages pertaining to the poor is set forth as a concrete example of how we manage to see to it that we are not made too uncomfortable by what we believe.

In the last chapters of the book, the author gives his own personal theological answers to some of the most pressing questions being asked by secularists. The author leads those seeking genuine humanness to the person who is most human, Jesus of Nazareth. And finally he argues for the importance of making a distinction between power and authority so that unnecessary stumbling blocks for secularists are removed.

As a final appraisal, overall this book is well worth reading. It is full of ideas from many disciplines. Consequently at times it approaches being superficial but the shortcomings do not outweigh the benefits of the book. The occasional anecdote serves to add to the enjoyment. And it has been refreshing to read something written by an evangelical Christian who sees some good in the secularists. For in the words of Nietzsche, "Learning from one's enemies is the best way toward loving them; for it makes us grateful to them." Moreover, Martin Luther teaches us the humbling thought, "The curse of a godless man can sound more pleasant in God's ears than the Hallelujah of the pious."

Reviewed by James Garner, Olivet Nazarene College.

THE PRACTICE OF GODLINESS, by Jerry Bridges, Navpress, Colorado Springs, 1983, 270 pages, $3.95.

The Practice of Godliness is written to encourage and instruct Christians in godliness, which is defined as "devotion to God which results in a life that is pleasing to him," (p. 20). The first four chapters focus on devotion to God, or God-centeredness. The remaining fourteen are studies of Godlike qualities Christians should develop in their lives. Many of these are based on the fruit of the Spirit as named in Galatians 5.

The book is more a training manual than an explanation of ideas. For this reason it will seem repetitious to anyone who sits down and reads it straight through. It should be read slowly, perhaps spending a few days in each chapter, in order to do the recommended reflection and memory work.

The exposition of the godlike qualities emphasizes interpersonal relationships. It debunks the old theory of loving people by an act of the will though disliking them, as well as other rationalizations we use to protect ourselves from the ethical demands of the Scriptures. I was disappointed, however, with the absence of social ethics in the broader sense. The illustrations and examples cited were all in the more personal frame of reference. Another shortcoming is the author's use of masculine pronouns, when inclusive language would have been more appropriate.

The Practice of Godliness is a useful reminder of the need to develop a quality seldom mentioned even in evangelical groups. There is a balanced presentation of the relationship between the Holy Spirit's work and our responsibility. "Godlike character is both the fruit of the Spirit as he works within us and the result of our personal efforts. We are both totally dependent upon his working within us and totally responsible for our own character development," (p. 257). Our part is obedience, nurtured and informed by reading, memorizing

and meditating on the Scriptures. Prayer is also essential, as we seek God in order to be transformed by Him. But in all this we are reminded that even our obedience and prayer are results of the Holy Spirit's work in us.

My fifteen-year old daughter has been reading this book in her daily devotions for about two months. She says: "Every day I learn something. It's not boring at all." I believe other readers will have the same experience if they read it with a desire to grow in the practice of godliness.

Reviewed by Joseph Martin, Presbyterian College, Clinton, South Carolina 29325.

SEX IS A PARENT AFFAIR by Letha Dawson Scanzoni, 1982, Bantam Books, Toronto, 224 pages, $12.95.

This is a practical, current book which would assist parents, teachers or youth workers to teach children of all ages about sex. The unique angle is that the topic is presented from a Biblical perspective which appears to be a conservative evangelical stand.

The tone for the book is set by Scanzoni's statement, (p. 1), "Sex was God's idea! And to God it was a very good idea!"

Since the book is attempting to help parents with sexual education from a Biblical outlook, Scanzoni lays the groundwork with two important chapters. The first discusses general guidelines, i.e. be sensitive, be alert for teaching opportunities, etc. The second deals with helping children establish a Christian sexual ethic. After reviewing some current sexual mores, Scanzoni presents a number of passages from both Old and New Testament on which she bases a Christian view. I Thess. 4:1–8 is developed into 6 principles which flow nicely from the passage and certainly form an excellent base.

The sections on male and female anatomy and physiology are accurate and complete with simple, easy to understand diagrams. As Scanzoni discusses embryology, birth, etc., she introduces an extremely helpful section on how to handle the topic with various age groups from preschoolers to adolescents.

A minor correction to the otherwise clear, factual material needs to be made. On p. 112, it is stated that intercourse can be continued until about 6 weeks prior to the woman's expected date of delivery. Now most obstetrical books state there are no medically valid reasons for prohibiting intercourse during a normal pregnancy, provided the membranes are intact.

Most of the last half of the book is entitled "what if a child asks about." In this section, Scanzoni deals with a number of issues and questions: abortion, circumcision, masturbation, rape, and homosexuality, to name but a few. The illustration used to explain circumcision is particularly clever and would be useful even with preschoolers. Many readers will be fascinated by the section on sex slang which not only translates the expressions but offers suggestions on how to deal with children who try out these words in their homes. Each area is handled in a similar fashion with a clear factual explanation of the topic, with diagrams where appropriate, and then suggestions on how to handle the particular topic with children. If there is Biblical mention or implications of a particular topic, this too is incorporated.

Current bibliographies are included with each chapter. To make the book even more useful, discussion guides are provided at the end of each chapter.

Scanzoni offers many practical suggestions on how to handle this area which many find so difficult. This book would seem to be a "must" on Christian parents' bookshelves.

Reviewed by Professor Bonnie Hartley, Ryerson Polytechnical Institute, Toronto, Ontario, Canada.

FIGHTING FOR LIFE by Melinda Delahoyde, Servant Books, Ann Arbor, 1984, 81 pages, no price stated.

Although there are now many books on the pro-life side of the abortion issue, there are only a few that specifically focus on infanticide. *Fighting For Life* is a short contribution (81 pages) by Melinda Delahoyde, who is former director of education for Americans United for Life. She became the mother of a Down's Syndrome child while already active in this fight for life. I am also the parent of "severely handicapped" children, and I strongly agree with the analysis expressed in this book. I have honestly made an effort to keep this review from becoming a personal tirade.

This is not a technical book; it best serves as a motivational primer. Some may object to the emotional tone of Delahoyde's writing, but without a shocking appeal to our hearts as well as minds, there is little chance of people being convinced or mobilized. The eleven short chapters in the book clearly reflect one extreme of a polarizing controversy. However, considering the ever-growing quality of life ethic and its indoctrination in us through the secular media, it is logical that a resensitization is attempted in books of this kind. Readers are herein confronted with the graphic details of newborn children denied medical treatment, denied nourishment, and in some cases being directly killed by injection or suffocation.

The author seems to develop two essential themes, the "slippery slope" or pro-life version of the domino theory and the need to unmask hidden agendas behind infanticide as it is now rationalized. This thought development is not done in the most orderly fashion. Case studies, statistics, quotes, and the author's commentary weave in and out of the chapters with some redundancy and loose coherence. It is good that the book's structure does not significantly detract from its urgent message.

The slippery slope concept is shown to be the inevitable consequence of a society that has stamped the unborn with the label of subhuman. The same label had been given to black people until an earlier civil rights war was hard fought and eventually won in this country.

If fundamental rights can be withheld from any one category of powerless human, then where will the line be drawn by a sinful society? Children born with various physical/mental defects are also being increasingly considered as unworthy of life. Often the same rationale used in abortion decisions makes these newborns inconvenient, unnecessary intrusions into someone else's life (see chapter 5). Once the Judeo-Christian sanctity of life ethic is officially removed there may be no limit to legalized atrocities. Chapter 10 documents this in Nazi Germany's gradual slide toward the holocaust. First there were the so-called mercy killings of mental patients, then the physically disabled were exterminated, and finally came genocide of a whole people classed as unworthy. The human purge was authorized by an elitist society of politicians, educators, and physicians. Their justification was veiled by the deceit of propaganda's semantics, (p. 69), and secured by public ignorance, fear, and apathy.

The parallels between the Nazi policies and euthanasia-infanticide in the U.S. today are considered by the author in many examples of current attitudes, especially among those in the medical professions that foster a quality of life position in opposition to the sanctity of human life. Today too there is much euphemism distorting the reality of infanticide. The majority of the book goes into exposing the deceit. On the one hand there are those who plead for mercy in letting suffering children die, or that treatment should be withheld from a child who would never be "normal." Too often these children do not have lethal conditions if promptly and appropriately treated. My youngest daughter, born with spina bifida and hydrocephalus, fits this category. She is now a very healthy and intelligent 2½ year old who is mobile with aid of leg braces. In contrast, the infamous Baby Jane Doe case in New York (pp. 7–9) involved a child with nearly identical physical defects who was left untreated because she was judged by some doctors and the media as incapable of a meaningful life. Is this a case of medical judgment or social discrimination? A now famous 1983 quote from the journal *Pediatrics* proposed that a severely handicapped infant is less valuable than a dog or pig. This judgement can only be made when we "put aside the obsolete and erroneous notion of the sanctity of all human life . . . " (p. 12). Here Delahoyde documents the real motivation behind so much of the rhetoric supporting infanticide. Other pertinent examples are found on pages 15, 22, 25, 32, and 48.

I have a couple of final observations from *Fighting For Life*. One is that the discussion of parent's rights in chapter 5 may be an indication of how fickle and inferior our culture has become in abandoning divine moral absolutes. It is a truly irrational situation when parental rights at the same time hold the power of life and death over the unborn and handicapped newborn and yet are so impotent that mother and father are not even allowed to know that their young daughter has had an abortion.

It is a real virtue of this book that its last chapter does not leave us in total frustration. There is something beyond the politics and polemics that we can do to change the present

Books Received and Available for Review

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

Adler, Jaffe & Hull, *Selected Letters of C.G. Jung*, 1909–1961, Princeton

Archer, Feinberg, Moo & Relter, *The Rapture: Pre-, Mid- or Post-Tribulation?*, Academie of Zondervan

R. Banks, *The Tyranny of Time*, IVP

E.M. Blaiklock, *The Archaeology of the New Testament*, Nelson

L.R. Bush, ed., *Classical Readings in Christian Apologetics*, A.D. 100–1800, Academie of Zondervan

W. Dunnett, *The Interpretation of Holy Scripture*, Nelson

S. Ellisen, *Knowing God's Word* (Interpretive Charts and Outlines), Nelson

C. Evans, *Existentialism: The Philosophy of Despair and the Quest for Hope*, Zondervan

Sproul, Gerstner and Lindsley, *Classical Apologetics*, Academie of Zondervan

H. Green, *Turning Fear Into Hope* (Help for Marriages Troubled by Abuse), Nelson

M. Green, *The Empty Cross of Jesus*, IVP

G. Habermas, *Ancient Evidence for the Life of Jesus*, Nelson

A. Holmes, ed., *The Making of a Christian Mind*, IVP

C. Horn, ed., *Whose Values?* (The Battle for Morality in Pluralistic America), Servant

Jeeves, Berry & Atkinson, *Free to be Different*, Eerdmans

C. Johnson, *The Psychology of Biblical Interpretation*, Zondervan

W. Kaiser, Jr., *Toward Old Testament Ethics*, Zondervan

W. Keller, *As a Tree Grows* (Reflections on Growing in the Image of Christ), Servant

B. LaHaye, *Who But a Woman?*, Nelson

L. Lau, *The World at Your Doorstep* (A Handbook for International Student Ministry), IPV

J. Lawson, *Introduction to Christian Doctrine*, Francis Asbury Pub. Co.

A. Lum, *A Hitchhiker's Guide to Missions*, IVP

F. Lyall, *Slaves, Citizens, Sons* (Legal Metaphors in the Epistles), Zondervan

G. Marsden, ed., *Evangelicalism and Modern America*, Eerdmans

C. McIntire & R. Wells, ed., *History and Historical Understanding*, Eerdmans

W. Mills, *Charismatic Religion*, Mercer U. Press

S.B. Narramore, *No Condemnation: Rethinking Guilt Motivation in Counseling, Preaching and Parenting*, Zondervan

R. Nash, *Christian Faith & Historical Understanding*, Zondervan/Probe

R. Nash, *The Concept of God*, Zondervan

S. Neill, *Christian Faith & Other Faiths*, IVP

J. & E. Newby, *Between Peril & Promise* (15 Christian Thinkers Share Their Vision for the Church), Nelson

Radmacher & Preus, eds., *Hermeneutics, Inerrancy and the Bible*, Zondervan

C. Ryrie, *The Miracles of our Lord*, Nelson

Samuel & Sugden, *Sharing Jesus in the Two Thirds World*, Eermans

Schaeffer & Fickett, *A Modest Proposal for Peace, Prosperity & Happiness*, Nelson

C. Sommer, *Schools in Crisis*, Cahill Pub. Co.

P. Toon, *The Ascension of our Lord*, Nelson

T. Weber, *Living in the Shadow of the Second Coming* (American Premillennialism 1875–1922), Zondervan

R. Youngblood, ed., *Evangelicals and Inerrancy*, Nelson

grim situation. Just as crisis pregnancy centers are now offering compassionate alternatives to women often forced into abortion, aid to the handicapped and their families could alleviate the pressure to kill newborns. As one who knows the need, Delahoyde pleads with us (the Church) to give our time to families struggling in the care of handicapped children and adults. In so doing, we become part of the solution and not the problem. Words are cheap.

Reviewed by J.K. Greenberg, Wisconsin Geological and Natural History Survey.

ARE YOU SICK AND TIRED OF FEELING SICK AND TIRED? by Mary Ruth Swope, Whitaker House, Springdale, Penn., 1984, 188 pages.

This book concerns diet and health in a Christian perspective. Swope addresses dietary lifestyle and the overconsumption of meat, fat, sugar, cholesterol, salt, and alcohol. She points out the dangers of obesity and its interrelated diseases (diabetes, cardiovascular disease, hypertension), but also warns against the dangers of "crash" diets and advice from "sensationalists." She disapproves of the millions of dollars wasted on unneeded protein, "health" foods, and megavitamin supplements, but still favors supplements in moderate amounts. Some of the many suggested dietary guidelines include the ranges of safe daily intakes of vitamin and minerals, the basic four food groups, the 1980 Dietary Guidelines for Americans, and "eating the Biblical way." The role of spiritual help in controlling appetite is recommended over the use of willpower alone, which is insufficient in persons with eating problems. The consideration of appropriate eating, exercise, and response to stress in a Christian context is quite useful. The chapter on "The Secret to Perfect Health" focuses on positive attitudes (Phil 4:8), freedom from worry, obedience to God, and the relationship between spiritual and physical health.

On the other hand, Swope overreacts to the point of error when discussing topics such as sugar, refined foods, additives, and fried foods. Her stating that "*Soft drinks are empty calories* that contribute only simple carbohydrates (sugar) to our diets without the addition of a single nutrient," ignores the considerable sodium, phosphorus, and sometimes calcium found in many carbonated soft drinks. BHT, an antioxidant shown to reduce cancer incidence and prolong the lives of cancerous experimental animals, was listed among "dangerous additives." Inclusion of untested foodlore and faddist beliefs further eroded the reliability of this book as the "nutrition sourcebook" claimed on its front cover.

Unfortunately, the many excellent points in this book are blighted by too many errors and overstatements for me to recommend it without serious reservations, in spite of my "endorsement" on the back cover. (Both the publisher and the author assumed that the other had allowed me to read the manuscript, but neither one did. My endorsement applied to a different book, not to this one, which I first saw after publication). There are, however, enough good points to warrant the revision of this book into a reliable help needed for Christians concerned with healthful living.

Reviewed by L. Duane Thurman, Ph.D., Professor of Biology, Oral Roberts University, Tulsa, Oklahoma 74171.

THE RELIGION OF THE FORCE by Norman Geisler and J. Yutaka Mano, (Dallas, Texas: Quest Publications, 1983), 61 pages.

THE GOSPEL ACCORDING TO OUTER SPACE, by Bob Short, (San Francisco: Harper and Row, 1983), 96 pages; $5.95.

Christians must be socially alert and discerning if they hope to wrestle effectively with the forces that shape the modern mind. The shapers of the modern mind in our day are often movie producers; they and others enforce their viewpoints through popular culture, functioning as what sociologist Peter Berger calls "reality policemen." Such viewpoint policing demands a cultural apologetic that pays close attention to popular culture. And what could be more popular than the Star Wars movies or E.T.?

The task of cultural apologetics is to interpret and challenge the ideas of society biblically. It seeks legitimate common ground with culture while spotlighting the antithesis between Christianity and its numerous counterfeits.

The Religion of the Force explains, illustrates, and analyzes "the religion of the force," by referring both to the films and to producer George Lukas's personal comments. The films are shown to be purposely religious, but not Christian. The Force is impersonal and limited in power; God is personal and omnipotent. The Force has a light and dark side; in God there "is no darkness whatsoever." One approaches the Force through feeling not reason; God says "let us reason together." In the religion of the force all are saved (universalism); the Bible highlights the perils of eternal hell. Salvation is found by finding the Force within; the Bible speaks of sin dwelling within. The Force can be controlled; God is without a counselor.

But the authors are not being theological killjoys. The religion of the Force is essentially Eastern pantheism and not Christianity, and the booklet shows a connection between Lukas, his films, and the occult philosophy of Carlos Castaneda. As some of the most popular and successful movies of all time, these films have influenced millions and have created their own culture. They should not be ignored or viewed as simple entertainment. Neither should they be gullibly interpreted as Christian analogies (as does Bob Short in *The Gospel From Outer Space*). Rather they must be subjected to a Christian cultural apolgetic that sharply divides truth from error.

Unfortunately, another attempt at cultural apologetics is not this successful. Robert Short's previous books on the theology of Peanuts charmed us so that we forgave his hints of

theological liberalism. He saw an implicit Christian theology in cartoons and made it explicit. Now he finds theology in the movies Star Wars, Superman, E.T. and others. But the theology he finds often ends up taking precedent over the Bible.

But Short finds more than analogies between the films and Christianity. He sees films like E.T. and Star Wars as theological correctives. E.T. shows us more love than Christians who preach hell. Short embraces the universalism of "the religion of the Force," and says that the doctrine of hell produces atheists (a look at Romans 1 tells us that the atheistic rejection of God merits hell). Short's arguments pack logical errors and biblical misinterpretations tighter than sardines. God is sentimentalized, sin sugar coated, and justice smothered. Despite some of Short's interesting cultural insights, his theology is more preferential (believing what he prefers) than biblical (believing the Bible). His attempt at cultural apologetics thus becomes cultural accommodation. The reality policemen have arrested and jailed him, handcuffing his biblical discernment.

On the contrary, *The Religion of the Force* serves several constructive purposes. First, it gives a simple lesson on how to uncover a film's basic world-view. Many Christian viewers never even reach this stage. (For instance, for all the attention given to the character Yoda in "The Empire Strikes Back" few people realized that he was in essence a Zen-master.) Second, it gives a needed rebuke to Christians whose theology is so weak that they see the religion of the Force as the religion of Jesus Christ. Third, it makes an excellent evangelistic tool—short, simple, and direct. The gospel of Christ is contrasted with the gospel of Lukas.

Although the book is short and aesthetically spartan, it is a good primer on cultural apologetics—like Geisler's similar booklet on Carl Sagan, *Cosmos: Carl Sagan's Religion for the Scientific Mind* (Quest, 1983). As Paul did in Athens, this book confronts false religion with gentleness, wisdom and truth. It disarms and retires one very powerful reality policeman.

Reviewed by Douglas Groothuis, McKenzie Study Center, Eugene, Oregon 97403.

CONTOURS OF A WORLD VIEW by Arthur F. Holmes, Eerdmans, 1983, 240 pages, $8.95.

There could be few tasks more difficult, ambitious or essential than to sketch, in a single volume, the broad outlines of a distinctively Christian worldview. This work, sponsored by the Institute for Advanced Christian Studies (IFACS), is the first in a planned ten volume series, "Studies In a Christian World View." In this initial volume, Holmes describes the need for a comprehensive worldview, the competing paradigms which offer them (especially the many varieties of humanism) and the elements which a comprehensive worldview must contain. He goes on to develop, in detail, the theological and philosophical distinctives of a Christian worldview, and the practical applications of such a view in everyday life.

The result is a masterful work, always informing, often inspiring. Holmes's greatest strength is his ability to immediately perceive, on any issue, the critical distinctives of Christianity relative to its competitors. His unifying foundation of the worldview is the doctrine of creation. Because we have a transcendent God, writes Holmes, we have a locus of unchanging truth. Because we have a creative "God with us," we have the possibility of revelation. Because we have a purposeful creation, we can know God's purposes for us. Because we live in an ordered creation, knowledge and wisdom are possible. Because we have been given creational tasks, we have a mandate to seek and act on the understanding we have.

Despite the book's overall strength, some weaknesses emerge. While Holmes displays a genius for presenting complex theological issues in simple terms, the reverse is true in the area of philosophy. Here, Holmes reverts to a more pedagogical and technical approach, sometimes appearing to be more concerned with correctness than clarity. On the question of values, Holmes develops a rather intricate system of "value potentials," in which he attempts to distinguish between an object's "actualized value" and "potential value." Holmes attempts to apply the scheme to the issue of abortion, stating that a fetus has less value than an adult human because it is only a "potential person." This would logically lead to the position that God values acorns, eggs and caterpillars less than oak trees, chickens and butterflies. This unfortunate discussion does little to resolve any real issue, and is out of place in a work which otherwise demonstrates remarkable clarity and insight into God's creative work.

These criticisms are minor in light of the book's overall accomplishments. Holmes has substantially succeeded in a task which few scholars would dare attempt. Throughout the book, Holmes steers a consistently biblical course, avoiding the evils of ecclecticism. The result is a work where real (rather than imagined) issues can be consistently identified and analyzed, and where the word, work and person of God receive their rightful place. The book provokes contemplation, meditation and inspiration for every Christian who seeks integration of faith and life.

My thanks go to Holmes and IFACS for what will be a lastingly important contribution.

Reviewed by Fred Van Dyke, Assistant Professor of Science, Fort Wayne Bible College, Fort Wayne, Indiana.

SOCIOLOGY AND THE HUMAN IMAGE by David Lyon. Downers Grove, Illinois: InterVarsity Press, 1983. 224 pp., $6.95.

With this book David Lyon makes another important contribution to the continuing debate over the relationship between Christianity and sociology (Lyon also wrote *Chris-*

tians and Sociology, published by IVP in 1975). What Lyon proposes is not a "Christian sociology" in the sense of an exclusionary program within the discipline; rather, he calls for a Christian perspective in sociology, one in which Christian commitment can make a positive contribution to the sociological enterprise.

The theme of Lyon's book is that sociological knowledge and practice necessarily rest upon untestable, and usually unrecognized, assumptions concerning human nature. Therefore, Lyon argues, it is particularly at this point that Christianity has a valid contribution to make to sociological understanding.

Lyon divides his book into four parts. In the first he seeks to justify the Christian's participation in the sociological enterprise, but more importantly, he develops the foundational elements of a Christian philosophical anthropology on which social analysis might be based. Lyon contends that any Christian view of the human image must take into account four main moments in the Biblical drama: creation, the fall, redemption, and the future age. Lyon puts special emphasis on the first two of these. A Christian view of human nature must recognize that persons are created in the image of God, they are responsible (acting) individuals, and yet they are constrained by complex social relationships. Furthermore, the human image must be seen in light of the fall and, hence, one must take account of the broken social relationships and distorted perceptions of reality that result from sin. The end of a correct view of human nature is, according to Lyon, the realization of the need to do justice to persons, to gender, and in society. And this realization serves as a primary justification for Christians to engage in sociology: to further social understanding in order to further justice.

In the second part of the book, Lyon examines the human images underlying the various schools of sociological thought, both classical and contemporary. In this section, he also considers the role of believing and valuing in sociology, debunking the myth of value-free sociology and rejecting as dangerous Peter Berger's notion of "methodological atheism." Lyon also explores in depth the social structure vs. individual action debate which has been central to the discipline since its beginning. He delineates the weaknesses of both extremes, develops a position that recognizes the constraints of structures while affirming the possibility of human action, and considers the Christian implications of such a position, especially in terms of one's conception of sin and evil.

In the third part of the text, Lyon critiques in greater detail the two main contemporary challenges to the sociological tradition and to Christians working in sociology: Marxism and feminism. Each of these makes arguments that Christians can no longer ignore, but each is faulty to the degree that it takes a single element and makes it the defining characteristic of the human image. For the Marxists, this element is labor and for the feminists, gender division.

It is in these middle sections that Lyon is at his best, and it is these sections that should make this book required reading for all undergraduate classes in sociological theory in Christian colleges.

In the final section, Lyon considers, all too briefly, the possibility of a Christian sociology. He rejects that label, but he does propose what he calls a "critical integration" of sociology and Christianity; sociology and Christianity should inform one another, especially at the "world-view level" (which includes one's view of human nature).

The major disappointment with Lyon's book is that it only skirts a question that is central to the debate, but one that is usually ignored by those writing on the subject. The question is: to what degree can Christians generate a sociological theory that yields testable hypotheses in the way that Marxism and feminism do; or is it the case that Christianity is limited to criticizing the social theories of others? Lyon states that there have been few attempts at "self-consciously Christian sociological analysis," but he argues that there "is no *a priori* reason why Christian commitment should not generate distinctive forms of social analysis and theory." Indeed, he says, "I hope that this work might stimulate precisely that." But, such analysis is more likely to stem from frustration with the lacuna that Lyon leaves than from the foundation he provides. This is a serious weakness, for it would seem that any book seriously proposing a "critical integration" of Christianity and sociology must consider this question.

On the whole, this is a valuable book, especially because Lyon's delineation of the way in which world-view assumptions, whether recognized or not, underlie sociological theorizing, and because of Lyon's critique of the development and current state of the discipline from a Christian perspective.

Reviewed by Kirby Wilcoxson, Assistant Professor of Sociology, Sioux Falls College, Sioux Falls, South Dakota, 57105.

THE COMPACT ENCYCLOPEDIA OF PSYCHOLOGICAL PROBLEMS by Clyde M. Narramore. Grand Rapids: Zondervan, 1984. Pages 398, $9.95.

I was raised on Clyde Narramore. As a child his radio program flooded my home with often sad and sometimes strange accounts of people plagued with problems. The theme "Bless This House," the request "Honey, would you read our first letter," and even the organ music and whistling birds that I tolerated at the time, now fill me with nostalgia. A major event in my teen years was devouring Dr. Narramore's *Encyclopedia of Psychological Problems.*

Perhaps it was inevitable that I went on to study psychology in college. There I found that Clyde's analysis was not as vigorous as that of my professors, and his encyclopedia began to gather dust. The Narramore radio program was no longer heard in my home, as the new name of Dobson supplanted Narramore. Later came Gary Collins, and eventually *The Journal of Psychology and Theology* and *The CAPS Journal* (now called *The Journal of Psychology and Christianity*).

I haven't followed Clyde Narramore's work for more than a decade, but I have heard that his radio program has been updated. I still see his old books in the Christian bookstores.

Whatever happened to Clyde?

Then I heard the announcement of a new book on psychological problems by my former idol. I envisioned a great new contribution to the field of Christian psychology—after all, it was listed in Zondervan's Academic Books catalog. The day it arrived, I excitedly opened the parcel and thumbed through the hand-sized book. He had included most of the major diagnostic categories, and for each category was the etiology and suggested counseling approach for the problem. A triumph!

But then I looked a little closer, and my excitement quickly faded. No footnotes from sources after the 1950s? No mention of the DSM-III? Almost no Christian perspective except suggestions such as "pray about it"? New advances in counseling completely overlooked? Then I realized what I had in my hands—a reprint of the 1960s book I had read long ago. I felt betrayed.

We need a Christian book on the subject of abnormal psychology. Gary Collin's book *Fractured Personalities* is now out of print. Clyde Narramore could enrich us all, particularly with a seasoned Christian perspective and insight from years of counseling missionaries and other Christian leaders. But a book 20-30 years out of date falls far short of the mark. I'm surprised Clyde would allow his book to be released unrevised. I'm even more shocked that Zondervan would publish it. What to do with this old new book? Perhaps the teenager next door. . . .

Reviewed by Donald Ratcliff, Toccoa Falls College, Toccoa Falls, Georgia 30598.

THE ANALYSIS OF KNOWING, A DECADE OF RESEARCH, by Robert K. Shope, Princeton University Press, Princeton, New Jersey, 1983, 255 pages, cloth $25.00, paper $8.95.

It is easy to find examples of "authorities" telling us, that nothing is more sure than a mathematical calculation. I have always had trouble with that kind of statement. Does that mean that my faith in Jesus as my Saviour is less "knowledge," less "true" than "2+2=4"? Or, in other words, is my brain more trustworthy than its Creator? Or, to use words we read more often, is science better, more true than "believing"? Do we obtain better knowledge through science than through believing what God tells us? Or is knowledge something existing independent of God?

For years these types of questions made me feel uncomfortable, since they indicated to me a thought pattern, which seemed to trust our own ability to think more than the sure promises of our God. For that reason, being one of the "the Calvinist elect," I strongly disagree with Shope when he says (p. 126):

> E 53, Belief of the elect: S is one of the Calvinist elect, and God compels S to believe p: 'God exists.'
>
> I suspect that few religious believers wish to count S as knowing p, ..."

I know that God exists more certainly than I trust my ability to think. This example does show more than just a disagreement. The word "believing" has for me apparently a much stronger connotation of knowledge than it has for Shope.

Unfortunately this confusion in the use of language does not only exist between believers and unbelievers, but also between believers who were raised in different traditions. For example, it does make a difference where you went to university. In Europe the philosophic climate is different from North America. In North America thinking in all disciplines has been very much influenced by the "analytic" tradition. That is true for those accepting Christ as King and Saviour as well as for those not doing so. It then appears sometimes that it is impossible to understand each other. The result is, often, that we are not even aware of work done by others.

Shope does not indicate at all that he has read works in the calvinist tradition. But, before we start accusing Shope, are we as Christians aware of work done in other Christian traditions?

Still, even though I disagree with some of the basic premises of Shope, I did enjoy the book, and I believe that many of us can learn from it. We read not only about what happened in the last decade, but we are stimulated to some fresh insights, even to further study in the subject. According to the preface:

> I am ultimately concerned to point out the difficulties faced by most of these analyses and to defend an analysis of knowing of what I call justification-explaining chains.

In that respect the book succeeded. Shope is well aware that he is limiting himself. He says following the last quote:

> I concentrate throughout on that category of knowing which philosophers sometimes call "factual knowledge." This is, roughly, knowing that such and such is the case, in contrast, say, to knowing how to do something, or knowing a person.

What I especially appreciated was the treatment of the social aspects of knowing. It becomes clear why in certain communities some facts are accepted, which are called myths in other communities. We may find here a basis for clearly stating where and why we disagree. Let me quote from p. 233:

> It will again prove useful to advert to the practices of scientific communities, and to follow the common assumption that epistemic methods within such communities reflect what are presently our best, corrigible, judgments concerning the ways in which the disposition, state, or trait that we call rationality manifests itself in pursuit of epistemic goals.

I ask some questions. Who is judging? Does that in effect mean that truth is decided by majority vote? Or is "Truth" a relative notion? May we trust our (common) rationality?

To state my personal conviction: I do not trust our common

rationality. It has been wrong too often. Thus we have no security left, since our best judgments are corrigible. That means, however, that we would no longer have a basis for knowing. Christians have a distinct advantage. We say that we believe (that is KNOW, for us) that God created the whole universe, and that the knowledge we gather may be wrong because our knowledge is imperfect (1 Cor. 13:9–12). But we do have a sure anchor for our knowing: God created this cosmos, man fell in sin, and now the whole of creation is groaning (Rom. 8:22), and waits with eager longing for the revealing of the sons of God (Rom. 8:19), a revealing made possible by our redemption in Jesus Christ. Recreation is made possible. And because of the unity in creation and recreation, we have a basis for knowledge.

Standing on this sure foundation we may study and use what others, like Shope, show us about God's creation: we learn from it, while at the same time rejecting the autonomy of the scientific method, a method which is incomplete and may even be contradictory (as may be shown using Goedel's proof published in the thirties). I would like to recommend this book, provided that it is kept in mind that it does place too much trust in the abilities of the human brain.

I hope that we as Christians, using books like this and listening to each other, may understand each other better and find a common ground on which to base our science. We should notice the weakness of a foundation which does not acknowledge the Creator and the fall into sin. Too often we accuse each other of not being scientific, or of not being faithful to Scripture, without understanding the underlying philosophies or thought patterns of our brothers. These differences should be solved by studying Scriptures together, and on the basis of these studies, we should try to formulate a common "philosophy." Realizing this I found it very hard to write this review, since I wanted to recommend studying this book, while at the same time I knew that I myself do not agree at all with the underlying philosophy of the book; but I know that others may agree with Shope's understanding of the scientific method.

I find it a dangerous method, since it places too much trust in human faculties, and consequently the results are hardly to be trusted. We cannot pull ourselves out of the mire by our own bootstraps. We need a sure basis to stand on, a basis not found in ourselves, but in the promises of our faithful, trustworthy God.

Reviewed by Jan de Koning, Instructor in Mathematics, University of Toronto, St. Michael's College, 81 St. Mary Street, Toronto, Ont. M5S 1J4.

The perfect parable for those who are interested in the relations between religion and any form of science is provided by the conflict between Galileo and the Church on the subject of the rotation of the earth. On the one hand Galileo's conduct in the particular circumstance of the case required—if he was to be justified—that he should make good his claim that he had actually demonstrated the earth's motion; but, as he imagined that the action of the tides was the clinching argument which proved his thesis, he was wrong at the critical point—mistaken in his science and premature in his dogmatism. On the other hand it is clear from Galileo's case as well as many others, that much unnecessary anguish has been produced for Christians throughout the ages because the Church has so often imagined the gospel to be tied to the science of a particular epoch (Aristotelian physics, and Ptolemaic astronomy for example), with the result that men have felt that the one must stand or fall with the other. On both sides of the Galileo controversy, therefore, we see a little of that intellectual arrogance, or mental rigidity, or stiff-necked self-assurance which manages to interpolate itself into all forms of scholarship and science. If anybody were to doubt the existence of this, it is always sufficiently evident when we turn back to examine the dogmatisms of scholarship in any generation previous to our own.

Herbert Butterfield, *Christianity and History*.

Letters

A Defence of IV Press and Franky Schaeffer

I am writing this letter to express my concerns about the views expressed in the editorial section and letters section in the December 1984 Journal. I have been an ASA member for eight years and have had a chance to attend one national meeting (1980). While I remain committed to ASA I cannot allow the attacks upon IVCF to continue without some response. I think the mistake IV Press made was in publishing *Brave New People* in the first place.

The idea presented was that Dr. Jones is a committed Christian (with which I agree) and therefore his views should be presented to the Christian world (with which I also agree). However this does not mean that any specific publisher must somehow publish something that it does not agree with.

The idea of toleration seems to have become the ultimate virtue in some Christian circles. However we must recognize that Christians can and do make mistakes. Just since Dr. Jones is a committed Christian does not make his views correct. I do not think that toleration of error is a virtue. Along with many others of IVCF's constituency I think his views in that book are in error. When a publisher publishes a book, to many people it is seen as endorsing that book. For that reason, I am glad that the book was withdrawn.

I do not think that the activities of Franky Schaeffer and his supporters were acting in an unchristian fashion. Paul also told us to "speak the truth in love" (Eph. 4:15). Sometimes the truth hurts, and speaking the truth will be seen as harsh by those who do not want to live by the truth.

I am most concerned by the tone of the editorial and letter. They seem to imply that the only way to be "open-minded" is to agree with them. That is in itself a closed-minded position. I enjoy the interplay of ideas that occur in our journal. However I also believe that there are not several Christian positions on every issue. On those issues we must speak out as clearly and forcefully as possible. If that involves "political pressure" then I am all for it.

I do not think that IV Press's decision will bring about "grim and dark days" for us all. I think it is a very positive statement that the Christian faith has content, and that those who do not agree with that content cannot receive our endorsement.

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Was InterVarsity Intimidated When It Dropped *Brave New People*?

The news account in *Christianity Today* (September 21, 1984) reports that the InterVarsity Christian Fellowship, following protests by both sides of pro-life, withdrew Gareth Jones' book because it was divisive and did not express the views of IVCF's staff or constituents in their advancement of the gospel.

The unproved allegation (Bullock and Bube, JASA December 1984) that IVCF lacked the integrity to resist political pressure seems gratuitous and could erroneously affect the reputation of a splended evangelical fellowship. Unlike the ASA, IVCF has not sought, as far as I know, to be a forum for publication of divergent views about science and the Christian faith.

Whether IVCF should assume a fresh role of facilitating debate among different hues of the Christian spectrum may be an issue worth exploring. If so, let it be done by followers of IVCF within the channels of communication in IVCF, if possible, and in a warm spirit of Christian love for fellow evangelists.

The issues of "pro-life" are profound. As we thread our way through the difficult days ahead in seeking Christian consensus about how to curb the mass evil of abortion, let us avoid impugning each other's integrity.

For myself, I believe that sensitive Christians, having initiated life at conception should, and usually will, fulfill the trust which God has reposed in them by providing for the life entrusted to them. As for the secular world of unsaved Christians, I consider it impractical to pass and enforce laws to protect life in the early weeks of human development.

I premise this impracticality upon my outlook as a university professor of management science. Well-intentioned orthodox Christians in the United States have fostered the growth of predatory systems of organized crime by periodically enacting unenforceable codes of morality, such as the Prohibition failure. Of course much social legislation enacted by Christian support has been beneficial.

There is the larger question of who shall survive on the limited resources of this planet. Can we afford expensive life support systems for the terminally ill? Shall we keep alive infants born with monstrous deformities or tragic handicaps? Shall we invoke capital punishment as a crime deterrent? Shall we use scientific techniques and sacrifice human lives in wars such as Vietnam? Shall we use scientific gene procedures to control the formation of human life?

These are questions to which there are no easy answers. It is a tremendous thing that the ASA assumes the weighty responsibility of concerning itself with such issues of science and Christian faith.

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Cosmogony and/or Science in Genesis 1

I read with concern Conrad Hyers' article, "The Narrative Form of Genesis 1: Cosmogonic, Yes; Scientific, No," in the December, 1984 issue. It seems to me that Hyers makes much the same mistake interpreting Genesis 1 as young-earth creationists do when they confront the book of nature: both distort the material before them to fit a preconceived scheme obtained elsewhere.

In Hyers' case, this scheme is obtained from ancient pagan cosmogonies. Statements in Genesis 1 which appear to be chronological, scientific or historical are reinterpreted as "cosmogonic" instead. Thus the Genesis account is seen as concerned only to rebut

polytheism, which it does by adapting the genre of pagan cosmogony—with its chaos/order motif—in such a way as to replace the mutiple gods and their specialized functions by the one Creator who makes and maintains all the realms of nature.

The major problem I have with Hyers' approach is not so much his claim that the Genesis account is rebutting pagan cosmogonies (which may have real merit)[1] as with his rejection of the possibility that the account might also be doing anything else, such as providing scientific, historical or chronological information. It is as though a literary critic, finding that a poem has a rhyme scheme, rejects the possibility that it may also have alliteration, use figures of speech, or even narrate a historical event. This is surely a good example of what Donald MacKay calls "nothing-buttery."[2]

Hyers' dismissal of chronology in Genesis 1 is unwarranted. He finds a clear parallel between the seven-day week and the creation account, yet assumes the former is older and the latter was designed to fit it. Is it not more likely that the Biblical author intended the reader to understand just the opposite?

The fact that there is a parallelism between days 1–3 and days 4–6 in the Genesis account does not warrant the denial of chronology either. It only indicates that something else is going on. Whether this something else is in place of, or in addition to, chronology remains to be seen. Hyers' gives no example of non-chronological "chronologies" in pagan cosmogonies.[3] Perhaps the Biblical chronology is a part of the author's rebuttal to paganism. Since the Judeo-Christian religion is preeminently a historical one in contrast to ancient polytheisms, why not read its apparently historical features as a correction to the timeless mythological tone of pagan cosmogonies?

I find fault with Hyers' discussion of numerology along similar lines. Most Bible scholars will agree that the number 7 has connotations of completeness, and that 12 also may have symbolic overtones. The question is—having admitted this—can we then dismiss all (or any) of the occurrences of 7 or 12 in Scripture as non-literal? When, for example, the writer of Proverbs speaks of seven things the Lord hates, he actually lists seven. Apart from the use of round numbers, and the function of 1,000 and 10,000 as generalized large numbers, I know of no reasonably certain examples of non-literal numbers in the Bible.

Regarding the harmonization of Genesis 1 with science, Hyers' discussion is very superficial. He is only knocking down a straw man by arguing that since there is "no scientific evidence" that the universe was originally filled with water, "the only viable alternative" is to interpret Genesis 1 cosmogonically. It is an old logical fallacy to eliminate one alternative and then choose the other, without showing that the two exhaust the (viable) possibilities. It is certainly possible to interpret Genesis 1 scientifically in a way consistent with both the Biblical text and what we know from cosmology, planetology, geology, etc., as I have attempted to show elsewhere.[4] Whether such a suggestion is "viable" I leave to the reader to decide. However, this approach produces a better correlation between the details of Genesis 1 and scientific theory than Heidel is able to obtain between Genesis 1 and the Babylonian cosmogony *Enuma Elish*.[5]

Is it antecedently likely that the Genesis account contains scientifically useful information? We ought to avoid two pitfalls in answering this question. On the one hand, the Bible claims God as its coauthor. We should not therefore limit its statements to only what an ancient human could have known. On the other hand, the account does not tell us whether its purpose is scientific, polemic, both or neither. Thus we should investigate the evidence in favor of various alternatives, not eliminate alternatives arbitrarily.

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[1]See, e.g., the discussion in Nahum M. Sarna, "Understanding Creation in Genesis" in *Is God a Creationist?*, ed. Roland M. Frye (New York: Scribners, 1983), 155–175.
[2]See Donald MacKay, *The Clockwork Image* (Downers Grove, IL: InterVarsity, 1974), chap. 4.
[3]Nor do I know of any from my more limited reading in pagan cosmogonies. See, e.g., Charles Doria and Harris Lenowitz, eds., *Origins: Creation Texts from the Ancient Mediterranean* (Garden City, NY: Anchor, 1976).
[4]Robert C. Newman and Herman J. Eckelmann, Jr., *Genesis One and the Origin of the Earth*, 2nd ed. (Grand Rapids, MI: Baker, 1981).
[5]*Ibid.*, 87; Alexander Heidel, *The Babylonian Genesis* (Chicago, IL: University of Chicago, 1963), 129.

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VOLUME 37 NUMBER 2 **JUNE 1985**