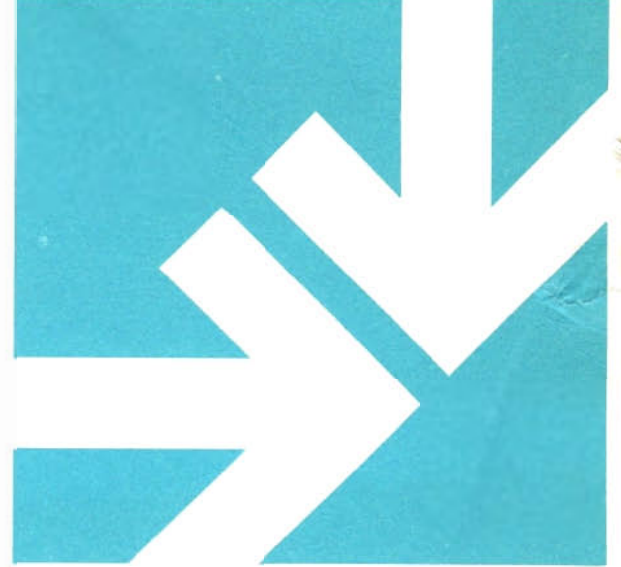


JOURNAL OF THE AMERICAN SCIENTIFIC AFFILIATION



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The *Journal of the American Scientific Affiliation* is published quarterly in March, June, September, and December by the American Scientific Affiliation. The subscription price is \$5.00 per year. Single copies may be purchased at \$1.25 each. Second class postage paid at Mankato, Minnesota.

Concerning subscriptions, changes of address, requests for back issues, and other business, address: Executive Secretary, The American Scientific Affiliation, 124½ Jackson St., Mankato, Minnesota 56001.

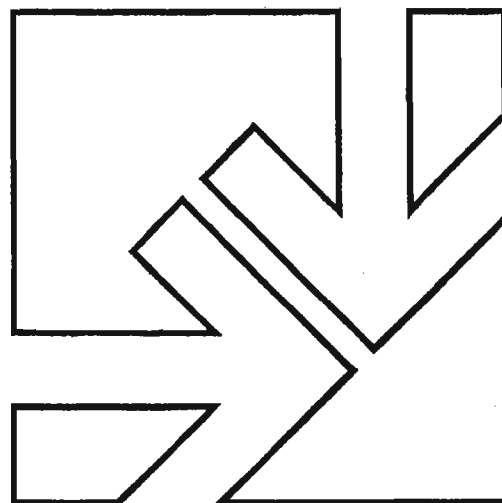
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The opinions and conclusions published in this *Journal* are those of the authors. The American Scientific Affiliation studies relationships between Christianity and science in the conviction that the frameworks of scientific knowledge and evangelical Christian faith are compatible. Open discussion is encouraged. Non-members as well as members are invited to submit manuscripts, letters, and brief contributions for consideration for publication. Instructions for contributors are published on page 2 of the March 1963 issue.

The *Journal of the American Scientific Affiliation* is indexed in the CHRISTIAN PERIODICAL INDEX.

JOURNAL OF THE AMERICAN SCIENTIFIC AFFILIATION



JUNE 1964

PRINTED IN THE UNITED STATES OF AMERICA

VOLUME 16, NUMBER 2

EDITORIAL

"THE PAST IS PROLOGUE"

THE FUTURE

Our new editor already has put his shoulder to the task. By the time you receive this copy of the *Journal*, he will have completed most of the work of editing the September issue. **All editorial correspondence should be addressed to him:**

Dr. Russell L. Mixter
Department of Biology
Wheaton College
Wheaton, Illinois 60187

Professor Mixter is admirably qualified for the editorship. He joined the ASA (American Scientific Affiliation) in 1942, a year after it was founded. He was the general chairman of the first national convention, which met in 1946 at Wheaton College. He served as a member of the Executive Council from 1945 to 1955, part of the time as secretary and from 1951 to 1955 as president.

Dr. Mixter has been at Wheaton College forty years—first as a student, receiving his B.A. degree with a major in Literature in 1928, and then as a faculty member. He earned his M.S. degree (Genetics major) from

Michigan State College in 1930 and his Ph.D. in the field of Anatomy from the University of Illinois in 1939. He has been Professor of Zoology and Chairman of the Department of Biology at Wheaton College for many years. He also serves as a science consultant for *Christian Life Magazine*, and this year he is the Director of Wheaton College's NSF-supported Summer Institute in Biology and Geology for elementary teachers at the Wheaton College Science Station in the Black Hills of South Dakota.

Experience has prepared Dr. Mixter well for his new task. He wrote ASA Monograph 2, *Creation and Evolution*. The Darwin Centennial Year, 1959, saw publication of the first edition of *Evolution and Christian Thought Today* (Eerdmans, 2d ed., 1960), a symposium by thirteen members of the ASA which he edited. He has served as chairman of the Publications Board of the ASA since its establishment in 1960. He is the author or co-author of six articles in past issues of this *Journal*, and he has several articles to his credit in other periodicals.

THE PAST

In the eight issues under my editorship, the following materials have been published:

Original major papers (including some by editors)	43
Columns and brief original contributions	22
Reprints of major articles	3
Reprints of brief contributions	12
Editorials (excluding editorial articles)	5
Obituaries	3
News notes (announcements)	7
Book reviews (21 different books)	23
Letters to the editor	38
Indexes (vol. 14; vols. 1-15)	2

Approximately 100 additional articles have been solicited. Of these 56 are still possibilities for the future; either they have been promised, or the authors have said they would think about writing them at some future date. (Send them to Dr. Mixter!)

During the two years of my editorship, I have evaluated at least 98 papers and an unrecorded number of short contributions, some of them in several versions as revisions have been made. The disposition of these papers may be of interest:

Published with only minor revisions	28
Published after major revisions (including two held for the September 1964 issue)	21
Returned for revision, not yet resubmitted	14
Rejected	31
Refereeing still in process	4

The contributing editors have solicited many contributions, submitted items of varying lengths, and helped in many other ways. The associate editors, book review editor, and managing editor have been of great assistance in many ways besides performing their primary duties. They have gladly given of their time to help resolve matters of comparative triviality as well as those of major import. The editorial board also has been very helpful and very generous in allowing the editor a great deal of freedom in establishing and upholding editorial policies. At least 51 referees have been of direct help in elevating the quality of the *Journal* by evaluating an average of 2.1 manuscripts each. If there has been any improvement in the *Journal* during these two years, it is due chiefly to the efforts of these many helpers.

With the help of the editorial board, editorial staff, executive council of the ASA, and numerous friends, editorial policies were established in 1962 which have served as a guide to the editor's work. ("Where there is no counsel, purposes are disappointed; But in the multitude of counsellors they are established." —Prov. 14:22, ASV.) All contributions became subject to refereeing at the discretion of the editor. The criteria which have been used in evaluating contributions submitted for publication include the following in addition to the requirement that they constitute a new contribution and not merely repeat the same ideas which have appeared in the *Journal* in the past:

1. All articles, book reviews, news, and notes should focus upon "the philosophy and findings of science as they are related to Christianity and the Holy Scriptures," for the primary purpose of the ASA is to investigate these. This has been interpreted as including implications of scientific findings, theories, interpretations, and methods for Christian faith and practice.
2. All materials published should be scholarly, but they also should be readable by the ASA membership in general, not solely by persons trained in one or a few of the specialized sciences represented in the membership.
3. All major areas of the sciences, as well as relevant aspects of philosophy and theology, should be represented. (The clustering of published articles in cer-

tain subject areas has reflected the major thrust of recent annual ASA conventions.)

4. No contributions should contain errors of scientific fact.

5. Writers should be charitable toward scientific and theological interpretations with which they do not agree but which others believe to be consistent with the Bible and with science. In order to stimulate intellectual and Christian growth, ASA members should systematically cultivate an openness to divergent viewpoints, giving them a fair hearing before drawing conclusions. The viewpoints of critics of Christianity should also be recognized, although it is not our purpose to disseminate their ideas without the counterbalance of Christian defenses against their attacks.

6. Letters to the editor are encouraged to stimulate the interchange of ideas among ASA members and friends.

7. The *Journal* should be as attractive as possible. The new format represents an effort to achieve its purposes more effectively. Now it should serve a significant portion of the objectives of the proposed popular ASA magazine on Christianity and science. (See Everest's Challenge II, 16: 10-11, March 1964.) The *Journal* is now attractive enough to invite the subscriptions and associate memberships of educated laymen and clergy in Christian churches. I hope that the present immediate circulation of about 1,600 will soon be ten times that great! Many present limitations would be solved by the increased revenues that would result.

These past experiences provide the foundation upon which Dr. Mixter will build. We hope the foundation proves to be solid rock and not wood, hay, or stubble.

THE PRESENT

This issue tempts me to comment extensively on some of its contents. Instead I will only raise a few questions for discussion which it brought to my mind.

What, if any, practical responsibilities do Christian scientists have in regard to race relations at home and abroad? How can they discharge their responsibilities? Should they promote racial integration? (See contributions by Stipe, Horner, and the Websters.)

Do Christians seem as rigid, dogmatic, and inconsistent to agnostics and skeptics as confirmed Soviet Communists seem to us? (See Kamm's paper.)

Is it possible to distinguish clearly and sharply between "fact" and "opinion," "knowledge" and "assumptions," "revelation" and "interpretation," "perception" and "intuition," or "truth" and "error" when we all tend, not to see first and then to define what we see, but rather to define and then to see, as Walter Lippmann made so clear in his "classical" *Public Opinion* (Macmillan, 1922)? (See the article by Gill.)

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Is one's motivation in doing good so important that it is better not to do good at all than to do it out of the wrong motivation? (See Heddendorf's discussion of social work.)

Does belief that God created the earth relatively recently with the appearance of great age commit one to believing that God is a deceiver? Does the Bible indeed provide us "the true framework of historical and scientific interpretation?" To what extent? If "the real issue is . . . simply what God has revealed in His Word concerning [geological and other scientific] matters," why fuss with scientific data at all? (See the book reviews.)

Who or what is a "fundamentalist?" Does that concept include many phyla, classes, orders, families, genera, species, and varieties, as the concepts of "animal" and "plant" do in the field of biology? Can anyone be "too biblically minded?" (See Roux's letter.)

Underlying many of the above questions is another which may be more basic: How can we consistently distinguish between Scriptural facts—what the Bible says—and interpretations of Scripture—what "I believe the Bible means when it says . . .?"

Thus do the "answers" of today give rise to the questions of tomorrow. Truly the ASA has a tremendous task!

CHRISTIANITY AND SOCIAL WORK

1. The place of the Christian in the field of social work is little different from that of the Christian as he enters any vocation: He should enter his work with passion and reflection. He should strive to understand himself and his work in relation to his theology.

2. One area in contemporary social work which is in need of careful attention is the philosophy of social work. As might be expected of a professional whose history barely stretches three-score years, many of the more abstract and theoretical aspects of this field are yet in the formative stage. But it is imperative that the pressure of practical demand not detract from the important work of examining the philosophical foundations upon which such practical activity is predicated.

3. Without question most of the social work in this country is being done under public auspices. One au-

thority poignantly stated that it seems very likely that social welfare will become almost exclusively a function of the state. Although I personally believe the private agency could make a very important contribution to the future of this field, I must realistically state that contributions of the private agency are mainly a concern for historians.

4. Upon careful scrutiny, I believe that the philosophy implicit in contemporary social work is in sharp opposition to that of the conservative Christian tradition. The philosophy of contemporary social work is that of Scientific Naturalism. By *definition*, this philosophy is opposed to any theological considerations.

5. Someone has said that contemporary social work is more concerned about professionalism than about people. There is some truth in this observation. Regardless, professional social work training in an accredited school of social work is an unquestioned prerequisite for anyone entering this field. However, because of the nature of contemporary social work thought, I feel that Christian higher education has an obligation to supplement this training. Graduate-level seminars dealing with the specific problem of social work and religion ought to be established. —*Raymond Herje*, Probation Officer, Hennepin County (Minn.) Dept. of Court Services.

SCIENCE AS A NEW RELIGION

The emphasis of present-day orthodoxy in the science-religion is, like that of the Middle Ages, directed toward a "non-human world," and the justifications of the religion are those of "the glory of science" . . . former religions promised the faithful that they would be rewarded in the next world; the new religion of science focuses on this world but not on the people who live in it . . . the perversion of science can ruin society, but society must not attack science blindly; it should attack the irrational approach to science and the irrational approach of science . . . "inhumanity is bred into the scientist from the very beginning" . . . "most of the scientific work you can think of in any area is at best a negative contribution" . . . if we cannot bridge the chasm, we will be judged very harshly by history as having been the sickest society of all time. —*Richard Bellman*, RAND Corporation, in "Notes for a Journal," *The Center Diary*, No. 2, Jan. 1964, p. 7.

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CORRECTIONS

On page 19 of the March issue reference is made to "Fig. 2" which was omitted because of technical problems in reproducing the photograph.

On page 31 a line of type was omitted from Irving W. Knobloch's "Clarification." He stated, "Miles does not believe in an infallible Jesus, but I do. I am sorry that my original choice of words was poor."

RACE AND CULTURE: A Valid Basis for Segregation?

CLAUDE E. STIPE

Segregationists base their arguments on the genetic incapacity of Negroes to attain to a level of cultural, intellectual, and psychological equality with Caucasians. They therefore consider segregation necessary to preserve Whites from being degenerated by infusion of Negro genes. An investigation of the relationships between race and intelligence, temperament, and cultural attainment demonstrate that, at our present state of knowledge, there is no indication that the genes of any racial group affect their ability to learn, to behave in given ways, or to think in patterns which are characteristic of another race.

INTRODUCTION

There has recently been a resurgence of interest in the study of race, which is probably due primarily to the emergence of African and Asian nations to prominent places in the world and to the efforts of Negroes in the United States to gain equal status and rights. *Mankind Quarterly* in Great Britain is devoted to the scientific study of race. Because of its articles proclaiming the inferiority of Negroes and the position of its editors on the issue of racial equality, that journal has been branded by Juan Comas as a "scientific racist" publication (4). *Race and Reason: A Yankee View* by Carleton Putnam (18) has been widely acclaimed in the southern area of the United States for the author's attempt to justify segregation of Negroes.

A study of race and culture is pertinent for Christians because, although most Christian leaders believe in equal rights for all citizens, some fundamentalist ministers are leaders of segregationist groups. Rev. Carey Daniel of the First Baptist Church of West Dallas, Texas, is the author of an anti-Negro book, *God the Original Segregationist*, which has sold over a million copies (*Life*, Feb. 7, 1964, p. 75). During the Little Rock, Arkansas, school desegregation crisis in 1956 Rev. L. D. Foreman, pastor of Antioch Baptist Church in Little Rock, stated that integration was both ungodly and unlawful (19, p. 18). In 1957 Rev. J. A. Lovell, a radio minister from Dallas, told a White Citizens Council in Little Rock that if the integration of the races continues, "there are people left yet in the South who love God and their nation enough to shed blood if necessary to stop this work of Satan" (19, p. 32). Many other pastors and Christian leaders tacitly accept the situation, even though they may not be outspoken in their opposition to integration. Maatman states that most evangelical clergymen in Oxford, Mississippi, did not (at least openly) endorse the statement by several ministers urging moderation in the racial crisis at the University of Mississippi in September, 1962 (15, p. 127).

The arguments for segregation usually are based ultimately on the supposed genetic inferiority of the

Slightly revised version of a paper presented at the 18th annual convention of the ASA held at Westmont College, Santa Barbara, Calif., Aug. 19-23, 1963.

Mr. Stipe is Assistant Professor of Anthropology, Bethel College, St. Paul, Minnesota.

Negro race, which is "proved" by demonstrating that their level of cultural achievement is less than that of Caucasians. Therefore the crucial problem is the relationship between race and culture. Two extreme positions are held concerning this relationship. According to Leslie White, an anthropologist, biological characters are insignificant in behavior variations; man is the constant and culture the variable (22, p. 688). At the other extreme Darlington, a biologist, states that genetic characteristics cause people dwelling side by side to live in different worlds (6, p. 274). He maintains that the materials of heredity in the chromosomes ultimately determine the course of history (6, p. 404).

Both race and culture have been defined in many ways. Because of the nature of the problem being discussed in this paper, *race* will be used in the popular sense as referring to a group of people who differ from other groups in ancestry and physical type. *Culture* refers to the various customs of a society—that which anthropologists refer to as learned behavior.

Since people who believe in the genetically based inferiority of races other than their own are commonly referred to as racists, the term will be used here in that sense. Ashley Montagu characterizes the racist position in the following way:

It is alleged that something called "race" is the prime determinant of all the important traits of body and soul, of character and personality, of human beings and nations . . . that this something called "race" is a fixed and unchangeable part of the germ plasm, which, transmitted from generation to generation, unfolds in each people as a typical expression of personality and culture (16, pp. 7-8).

Although the majority of anthropologists decry racism, they are interested in the study of race. A distinction between race and the ideology of race made by Manning Nash is a useful one. The study of race is the pursuit of knowledge about a biological phenomenon: the origins, distributions, and genetic and morphological diversity of breeding populations called races. The ideology of race is a system of ideas which interprets and defines the meanings of racial differences in terms of some system of cultural values. Since the ideology of race is always normative, it ranks differences as better or worse, superior or inferior, or desirable or undesirable. "The ideology of race competes in a political arena, and it is embraced or rejected by a polity, not a scientific community" (17, p. 285).

Nash has extrapolated from Putnam's *Race and Reason* six propositions which form the skeleton of any racial ideology: (1) non-racists attempt to flout natural law by man-made edicts about race relations, (2) the races differ in their capacities to embrace the complexities of civilization, (3) the level of cultural achievement of races indicates their relative innate capacities, (4) left on their own, inferior races tear down a cultural heritage, (5) the fight against racial equality is the fight for truth in the interests of all mankind, and (6) those who favor equality are undesirables (17, pp. 286-87).

One may add to these propositions three logical confusions which result from racial ideology: First, the identification of racial differences with cultural and social differences; second, the assumption that cultural achievement is directly, or chiefly, determined by the racial characteristics of a population; and finally, the belief that physical characteristics of a population limit and define the sorts of culture and society they are able to create or participate in (17, p. 287). Facts discovered about race are fed into this ideology and are rejected if they do not support it.

There has been a progression in the development of racist methodology for discovering supposed evidences of mental superiority-inferiority. Originally an attempt was made to demonstrate that Negroes were physically inferior, but this was demonstrated to be invalid. Emphasis was then placed on cranial capacity, but when it was found that Whites do not have the highest capacity, there was no point in using it as a criterion of intelligence. Finally psychological methods were used, with emphasis on intelligence tests (4, pp. 307-308). The most recent having to do with intelligence is Putnam's "character-intelligence index" based on observation of native cultures.

BRAIN SIZE AND DEVELOPMENT

There is currently little reference to brain size since it has been shown that there is a great amount of overlapping and that the brains of some Negro groups, like the Kaffirs and Amaxosa, average larger than certain white groups, like the Scots.

Writers like Putnam still refer to the study of Bean published in the *American Journal of Anatomy* in 1906 in which he concluded that the frontal area is less well developed in Negroes than in Whites and the posterior area better developed. He noted that this paralleled the "known fact" that Negroes are inferior in higher intellectual functions and superior in those concerned with rhythm and sense perception. He also stated that the brain convolutions were deeper in Whites. However, Mall, who was Bean's professor at Johns Hopkins University, repeated the study on the brains without knowing beforehand which were Negro or White. When the brains with rich convolutions were placed in one group and those with shallow convolutions in another, Mall found exactly the same proportion of Negro and White in each. When the frontal areas were measured, there was also no significant difference (13, pp. 299-300).

INTELLIGENCE AND TEMPERAMENT

The revised version of the UNESCO statement on race was approved in May 1952 by a panel of distinguished physical anthropologists and geneticists from Europe and the United States. Their position on the relationship of race to intelligence and temperament can be seen in the following statement:

Scientifically, . . . we realize that any common psychological attribute is more likely to be due to a common historical and social background, and that such attributes may obscure the fact that, within different populations consisting of many human types, one will find approximately the same range of

temperament and intelligence. . . . Available scientific knowledge provides no basis for believing that groups of mankind differ in their innate capacity for intellectual and emotional development (20, pp. 367-68).

Intelligence

In all honesty it must be said that the belief that the range of mental capacities in all ethnic groups is much the same is at least partially a matter of faith. The fact is that there have as yet been no tests devised which can be rated as valid cross-culturally. In the past various individuals have constructed tests which they proclaimed to be culture free, but they later realized they had been mistaken. Among these were Howard W. Odum, C. C. Brigham, and Florence Goodenough (12, pp. 129-31). In order to make ethnic comparisons, one needs environmental similarity, social as well as physical, which is impossible to find.

Intelligence tests currently used measure essentially scholastic aptitude. Among the factors involved in ability to do well on tests are previous schooling, degree of familiarity with the language used, motivation or desire to do well, rapport with the investigator, experience with tests in general, and experience with the kinds of problems which enter into the tests. Those who are not accustomed to testing often make a poor showing because they fail to take the tests seriously. They also are at a disadvantage unless they are familiar with the content of the test. For example, one investigator giving the Binet test to poor Whites in Kentucky asked a child, "If you went to the store and bought six cents worth of candy and gave the clerk ten cents, what change would you receive?" The child answered "I never had ten cents, and if I had I wouldn't spend it for candy, and anyway candy is what your mother makes" (13, p. 264).

The relative I. Q. of Negroes and Whites in the United States has received much study since World War I. Some investigators believed that the tests at that time upheld the theory that Whites were superior. However, a careful study of the scores revealed that groups of northern Negroes were superior to groups of southern Whites, which was attributed to better educational opportunities in the north. Those who did not accept the interpretation that education was the major variable in I. Q. scores attempted to explain the higher intelligence of northern Negroes by positing selective migration with the more intelligent ones moving north. Sherwood Washburn has emphasized that in comparing the I. Q.'s of Negroes and Whites one should use the same rules as for comparison of two groups of Whites. Usually one finds that when two White groups differ in I. Q., the explanation is sought in schooling, environment, economic positions of the parents, etc., but when the same types of differences are found between Whites and Negroes, the difference is said to be genetic. Further, if one uses the selective migration argument to explain the higher I. Q. in northern Negroes, he should also explain the fact that the northern Whites have a higher I. Q. than the southern Whites by migration of the more intelligent Whites to the north (21, p. 529).

A convincing argument against the validity of the selective migration theory is the experience of the Osage Indians. In general the average I. Q. of American Indians is approximately 81 (12, p. 135). After oil was discovered on the Osage reservation, schools were built and the children given every educational opportunity. As a result, the average I. Q. became the same as that of Whites. Since there was no movement from the reservation, selective migration could not be involved.

A major argument of racists is that since the average intelligence of Negroes is lower than Whites, Negroes as a whole are inferior, and the stock is responsible. However, in reference to a girl of almost pure African ancestry with an I. Q. of 200, Ruth Benedict comments, "If these stocks can produce people who do as well as this in meeting the requirements of the test even under the conditions the Indian and the Mexican and the Negro have to meet in America, the stocks are not at fault" (2, p. 80). In answering this position, Putnam states that not only are outstanding Negroes not typical of their race, "whose genes they nevertheless carry and will pass on to their children, but most of them owe their ability to some percentage of White genes in their system" (18, p. 92).

Another claim is that Negro children reach psychological and mental development somewhat earlier than Whites. For example, R. F. G. Adams, who taught Ibo and Ifik-Ibibio children in Nigeria for 18 months, states that Negro adolescents and children have as much aptitude for learning as their English peers, but they reach puberty earlier and the ability to learn decreases greatly at that period (1, p. 298). It is difficult to evaluate this statement because Adams mentions that if the Africans survive this period and continue their education, they are able to reach a quite high level of educational development, but without much originality. Similar situations in the United States can often be explained by the fact that Negroes realize that education will not help them to reach the goals set before them and therefore is not worth the effort. In the African case it would be necessary to analyze the cultural patterns to see if a similar situation obtained.

In the final analysis, there is no valid cross-cultural intelligence test. As Stanley Garn says:

If we now knew what intelligence is (which we do not), if we could measure it precisely (which we cannot), and if our measurements were unrelated to previous experiences of our subjects (which they are not), we could talk about race and intelligence. At the present time we cannot (8, p. 299).

Eventually we shall probably find racial differences in the different facets of brain functioning which may come under the broad rubric "intelligence." However, at our present state of knowledge, "comparing 'racial' intelligence by Binet, Otis or Wechsler tests is much like making amino acid determinations by gazing at urinals or determining the globulins in the blood by gazing at the intact individual" (8, p. 299).

It seems that the only way the problem can be solved would be by selecting at random newly born children of different racial groups, and gathering them into

a boarding school for 18-20 years to live and be educated together under a selected team of teachers, anthropologists, psychologists, etc.

Psychology and Temperament

Another area of race and culture which is often misunderstood is that of psychology and temperament. The fact that certain breeds of dogs and other domesticated animals manifest certain temperaments leads many people to conclude that certain racial groups also have certain temperaments, and that these are genetically determined. For example, Coon states:

Races also differ in size and weight of endocrine glands, and in the substances carried in the urine. The study of these variations has just begun, and many readers who believe in the current dogma that all behavioral differences are due to man's unique capacity for learning will find this unpalatable, but the burden of proof is on them. If such differences are not related to the endocrine system, then man is indeed a unique animal (5, p. 116).

There is much evidence that temperament is not as fixed by genes as Coon suggests. For example, Japan has had a history of nonaggression and peace which is unequalled in the modern world. During the first eleven centuries of her recorded history, she was involved in only one war abroad, which ended in 1598 (2, p. 14). However, since 1853 Japan has fought five times overseas and has become known as a militaristic society. On the other hand, people who were aggressors in the past have become the peace-loving people of today, as exemplified by the Scandinavians who were once the feared Vikings but are now exponents of neutrality and peace.

Negroes, especially those in the United States, are usually regarded as highly emotional and expressive, with little control over their feelings. However, of the Kipsigis Negroes in Kenya, Africa, it is reported that "noise, excitement, anger or any display of feeling are the attributes of children left behind at initiation or rebirth." Adults do not normally manifest these characteristics (11, pp. 280-281). One could also mention the differences between Eskimos and the Plains Indians, or those among the British, French and Anglo-Americans to suggest that people of the same race are highly variable in temperament.

RACIAL GROUPS AND CULTURAL ATTAINMENT

According to Putnam:

The character-intelligence index—the combination of intelligence with all of the qualities that go under the name of character, especially the willingness to resist rather than to appease evil—forms the only possible index of the capacity for civilization as Western Europeans know it, and there is no test for the index save in observing the native culture in which it results (18, pp. 23-24).

Putnam contrasts contemporary London and Paris with the Congo to demonstrate that Negroes are incapable of developing a civilization. When these people are taken out of their own environment, they can absorb the culture of a second group but are parasites on the culture of that group (18, p. 27). As is often the case in Putnam's writings, he is inconsistent, for elsewhere in emphasizing the superiority of Caucasians he notes

that the White barbarians in Europe took over the Roman culture when they overran that area (18, p. 24).

Factors in Cultural Level

A number of factors should be considered when comparing cultural attainments of groups. Unequal cultural development is common in the world, even among groups which are racially similar. The transition from the Neolithic Age to the Bronze or Iron Age did not take place at the same time, even in groups of identical racial type (3, p. 316). Also some peoples may exhibit amazing cultural energy at one period of their history and be almost devoid of it at another (10, p. 145).

There is great variety in cultural achievement among people of the same physical type. The Maya and Inca Indians who developed high cultures in the New World were of the same physical type as the Paiutes, who were simple hunters and gatherers with a very low level of cultural development. The peasants of south and central Europe are as much Caucasian as the urban dwellers, but many Mongoloids and Negroids are more "civilized" than they. The Scotch-English people who settled in the Tennessee and Kentucky highlands did not become leaders in civilization in spite of their Caucasian heritage.

There is also a continuity of culture, even though a sequence of different races is involved. As one studies archaeology, he does not see the destruction of a civilization when one racial carrier was superseded by another, but the continuity of its history in the hands of one racial type after another.

It is a fact of progress that no people has been able to develop a rich or complex culture when isolated from outside contacts. When Caesar arrived in Britain, the ancestors of modern Englishmen were culturally about the equal of the Australian aborigines. They were raised from the level of a horde of barbarians after having changed little in the preceding three thousand years, while the Australians remained almost completely isolated (16, p. 152). Civilization flourished for thousands of years in the Near East and then around the Mediterranean before it reached equal vigor in Europe.

Had Julius Caesar or one of his contemporaries been asked whether by some stretch of fantasy he could imagine the Britons and the Germans as inherently the equals of Romans and Greeks, he would probably have replied that if these northerners possessed the ability of the Mediterraneans they would long since have given vent to it, instead of continuing to live in disorganization, poverty, ignorance, rudeness, and without great men or products of the spirit (14, p. 202).

It is also interesting to note that cultural changes produced over a long period in one group may be produced rapidly in another. New experiences seem to be the stuff of which culture change is made. The White race once was the borrower, as Japan has been recently, and the Japanese spent much less time in the process than Europeans did.

One fallacy in judging equal ability is that one tends to evaluate other groups by the standards of his own

group. It is not necessary that "to demonstrate 'equal' capacities for cultural achievement all races have to reproduce copies of the civilizations and politics regarded as the quintessence of enlightenment and discernment in Washington or Moscow" (7, p. 286).

Darlington states that individual adaptability is one of the great illusions of common sense observation. He denies that populations and individuals can be shifted from one place to another after an appropriate period of training "any more than hill farmers can be turned into deep-sea fishermen or habitual criminals can be turned into good citizens" (6, p. 304). However, recent history has disproved this. Sons of farmers who come from a long tradition of farmers are now electronics experts or other technical workers. No race has evolved to fit the pressures of the modern world; races are old and technical civilization is new. Most of the new occupations require educability rather than specialization. This is the fitness demanded for modern life.

Although many say today that the Negro is not fitted for skilled mechanical jobs, during slavery times many mechanical tasks were in the hands of slaves. After emancipation when there was competition between Negroes and Whites for paid positions in these skills, the idea grew that Negroes are fitted for only the simplest manual tasks and that complicated mechanical activity is outside their scope of intelligence (13, p. 530).

Race Mixture

One result of the confusion between race and culture is the attitude toward racial mixture. Inter-marriage is held to be bad because good traits are the monopoly of a pure race which must be guarded from contamination by the lesser breeds to save it from degeneration. In the past it was argued that physical and mental disharmonies resulted from the mixture of two races, but currently the emphasis is on cultural degeneration. A statement by Henry E. Garrett is typical.

The Negro has nothing to offer the White man. Over some 6,000 years of historical time, the black African never devised an alphabet, built up a great civilization, created a literature or science, or produced any great men. . . . All historical evidence shows the African to be immature (and in that sense inferior) in relation to the European. Should American Whites . . . become convinced that it is their "duty" to absorb the Negroes now living in this country, our culture would inevitably deteriorate intellectually, morally and materially (9, p. 320).

In an attempt to document this statement, Garrett points to the "weak, diseased population of modern Egypt" as a result of the evil effects of hybridization and to the contrast between the Bahia area and White southern Brazil. He has also stated that none of the new African nations is capable of ruling itself.

On the other hand Benedict points out that the Arabs (who are Caucasians) have always taken wives freely from the native peoples. In northern Africa a mixed race of black and white created great kingdoms, which in the western Sudan culminated in the great empire of Bornu in the 16th century (2, pp. 50-51). In arguing against race mixture Putnam states, "However weak

the individual white man, his ancestors produced the greatness of Europe; however strong the individual black, his ancestors never lifted themselves from the darkness of Africa!" (18, p. 142).

Equality

The main disagreements on race and culture result finally in different attitudes concerning equality. When one speaks of equality, he must distinguish between a *tabula rasa* concept and the principle of equality. Equality is strictly an ethical, juridical tenet; to be equal before God and the law it is not necessary to be alike biologically. It should be obvious that the capabilities of persons, populations or races cannot be discovered until they are given an equal opportunity to demonstrate these capacities.

It is interesting that Putnam is a rugged individualist who decries interference by the government and contrasts equalitarianism with individual freedom and responsibility (18, p. 16). He lauds the American frontier where the only equality was the equal chance. However, he is unwilling to give Negro individuals the same chance which he covets for Whites. He states:

Any American . . . is willing to give every individual his chance, whatever his race, but in those circumstances where a race must be dealt with as a race, he realizes that the level of the average must be controlling, and that the relatively minor handicap upon the superior individual of the segregated race, if it be a handicap at all, must be accepted until the average has reached the point where desire for association is mutual (18, pp. 28-29).

The important point in equality is that even though people are not alike in their abilities, each should have the chance to attain the position which his abilities will allow, regardless of his racial background.

Values in Culture

It is easy to consider one's own culture or civilization as superior to others when he places higher values on it and then judges other cultures in terms of those values. We tend to think of the Eskimos or Africans as inferior because they did not develop our type of culture. Marco Polo may have ridiculed the Chinese for wasting their discovery of gunpowder on fire-crackers, but one could question whether it is a sign of greater intelligence to use it for killing people (13, p. 302). The Chinese were evidently more concerned with aesthetics, whereas the western world was concerned with political domination of other peoples. One could also note that the westerners have created things which they seem to lack the intelligence to handle, e.g., nuclear power.

It is easy to obtain the impression that most of the important things of the world were developed by Europeans. However, one can make an impressive list of basic things which came from other areas of the world: steel from India or Turkestan, gunpowder from China, cultivation of grains and animals on which large concentrations of people are based from Asia, corn and tobacco from American Indians, the Arabic system of notation essential to all complicated mathematics from Asia, and algebra from Asia (2, pp. 15-16).

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CONCLUSION

An attempt has been made to demonstrate that race and culture are not the same thing and are not closely correlated. Race is concerned with what one has inherited from his ancestors, and culture is that which he has learned. Although there is variation in the abilities of *individuals* within each racial group, at our present state of knowledge there is no indication that the genes of a *racial group* affect their ability to learn, to behave in given ways, to think in certain patterns, or to speak a given language. There is therefore no basis for the racist arguments concerning the necessity of complete segregation of the American Negro.

However, as Nash has noted, the person who attempts to confront propositions on racial inferiority is in the "unenviable position of trying to defend the Null Hypothesis, and his adversaries can manufacture plausible arguments much more easily and rapidly than he can refute them" (17, p. 285).

REFERENCES

1. Adams, R.F.G., "Comments," *Current Anthropology*, 3:298, 1962.
2. Benedict, Ruth, *Race: Science and Politics*, N.Y.: Viking Press, 1959.
3. Bunak, V., "Comments," *Current Anthropology*, 2:316, 1961.
4. Comas, Juan, "'Scientific' Racism Again?" *Current Anthropology*, 2:303-14, 1961.
5. Coon, Carleton S., *The Origin of Races*, N.Y.: Alfred A. Knopf, 1962.
6. Darlington, C. D., *The Facts of Life*, London: George Allen and Unwin Ltd., 1953.
7. Dobzhansky, Theodosius, *Mankind Evolving*, New Haven: Yale University Press, 1962.
8. Garn, Stanley M., "Comments," *Current Anthropology*, 3:299, 1962.
9. Garrett, Henry E., "Comments," *Current Anthropology*, 3:319-21, 1962.
10. Hoebel, E. Adamson, *Man in the Primitive World*, N.Y.: McGraw-Hill Co., Inc., 1958.
11. Klineberg, Otto, *Race Differences*, N.Y.: Harper and Brothers, 1935.
12. Klineberg, Otto, "Race Differences: The Present Position of the Problem," Reprinted in *Readings in Anthropology*, Vol. I, Ed. by Morton H. Fried, N.Y.: Thomas Y. Crowell, 1959, pp. 128-37. (Originally published in 1950).
13. Klineberg, Otto, *Social Psychology*, N.Y.: Henry Holt and Co., Rev. Ed., 1954.
14. Kroeber, A. L., *Anthropology*, N.Y.: Harcourt, Brace and Co., 1948.
15. Maatman, Russell, "Ole Miss," *Jour. of the Amer. Scientific Affiliation*, 14:126-27, 1962.
16. Montagu, M. F. Ashley, *Man's Most Dangerous Myth: The Fallacy of Race*, N.Y.: Columbia University Press, 1945.
17. Nash, Manning, "Race and the Ideology of Race," *Current Anthropology*, 3:285-88, 1962.
18. Putnam, Carleton, *Race and Reason: A Yankee View*, Washington, D.C.: Public Affairs Press, 1961.
19. Record, Wilson, and Record, Jane Cassels, *Little Rock, U.S.A.*, San Francisco: Chandler Publishing Co., 1960.
20. Shapiro, Harry L., "Revised Version of the UNESCO Statement on Race," *American Journal of Physical Anthropology*, 10:363-68, 1952.
21. Washburn, Sherwood L., "The Study of Race," *American Anthropologist*, 65:521-31, 1963.
22. White, Leslie A., "Culturological vs. Psychological Interpretations of Human Behavior," *American Sociological Review*, 12:686-698, 1947.

SEGREGATION AND WORLD MISSIONS

Once again the newspapers of Asia and Africa carry daily reports of racial unrest in the U.S. What happens today in Little Rock or Birmingham is on the front page of tomorrow's paper in Cairo, Karachi and Jakarta—complete with photographs of police dogs, fire hoses, bombings and burning crosses.

Here in Pakistan a prominent national paper ran a series of articles last year on the plight of the Negro in "Christian America," depicting his struggles to realize the rights guaranteed in the American Constitution, but often denied him in practice by his white co-religionists.

An international Muslim magazine commenting on the Negro's fight for equal opportunities in education could not refrain from concluding: "If a University Campus—supposedly an institution for learning and education—has to be turned into a military camp in order to convince the white 'scholars' of the virtues of human brotherhood and equality there is something wrong with them."

The resultant damage to the "American image" of democracy and fair-play is serious enough in the eyes of world opinion, but the negative implications for the world mission of the Church are even more disastrous—and perhaps nowhere is this more true than in the Muslim world.

The religion of Islam has historically been largely free of race and color prejudice. This is often adduced as an evidence of Islam's superiority and proof of its claim to be the world's final and greatest religion. Muslims can truthfully boast that in all of Africa there is no such thing as a racially segregated mosque, and throughout the world Muslims of all races freely pray and worship together. It is little wonder that in parts of Africa Islam is gaining converts ten times as fast as the Christian churches and is growing among Negroes in America also.

More than one Muslim, when confronted with the claims of Christ, has replied in effect, "Why should we leave the brotherhood of Islam where men are not looked down upon because of race or color in order to become merely 'second-class citizens' of the Kingdom of God like the segregated colored people of Christian America and Protestant South Africa?" If one could reply by distinguishing between "Westerners" and "Christians" and go on to demonstrate that it is not Christians who are responsible for denying equal rights and opportunity to their colored neighbors, it would be a strong argument in support of the leavening and life-transforming power of the Gospel in the face of selfishness and hate. But as long as there are Christian pastors and churches actively aligned with the forces of bigotry and discrimination against the Negro, the whole world will know and continue to mock the missionary when he speaks of the Truth that makes men free.

There is something incongruous and contradictory about churches which send missionaries half-way around the world with the Gospel of Christ while refusing to worship with the colored people of their own community. If the contradiction is not readily apparent to the sending bodies, you can be sure it is seen and recognized for what it is by the peoples to whom the missionary is sent. In an age when the world seemed big, men perhaps could afford to be small, but now that the world has become small, men—certainly Christian men—must learn to be big.

In the Muslim world, Western society's vulnerability in the area of race relations contributes not only to rejection of the Christian message, but at the same time it encourages Muslims to believe that in Islam they have the only hope for the colored people of America and Africa. The phenomenal growth of the Black Muslim movement in the U.S. over the past decade is fraught with significance as a case in point. More and more Muslim writers are emphasizing the need for Islamic missions to the Negro. The following appeared in the local paper in May 1963:

In fighting against racialism, the American Negro has Islam as his greatest champion. Indeed such of the American Negroes who have embraced Islam are to be found in the very front ranks of these freedom fighters. Bitter experience has taught them that Christianity has not solved the racial problem. It is high time that we form an Islamic Mission for the Negro to see that the message of Islam reaches each and every American and South African Negro who is fighting for basic human rights.

The Christian Church's unhappy involvement in racial segregation and discrimination is the delight of her enemies and the dismay of the missionary. As one servant of Christ in the Orient wrote: "The missionary movement carries about its neck the mighty millstone of our inconsistency as it operates in the colored world, and it staggers more and more beneath this weight." Another messenger of the Cross, Ross Coggins in Indonesia, sums up the plea of many missionaries in these lines:

Would God that friends of segregation
For awhile could leave our nation,
Come with me across the seas,
Work by my side with Javanese;
Or, if not here, some other clime
Where Christ is preached—Oh, just one time!

In times of swift communication,
Nation cannot hide from nation
What it does. Within brief hours
Headlines shout how hatred's powers
Close love's doors with jarring thud
Because of race, because of blood.

A helpless, dark-skinned boy is slain,
His slayers freed to slay again;
No mark of Cain upon their brow,
They strut in triumph and avow,
"If a nigger is my brother,
Let his keeper be another."

Is there no love that will transcend
Man's petty strife and condescend
To men of other creed and hue?
Forgive! They know not what they do!
Is it too much, we humbly ask—
Unchain our hands to do our task.

No one can deny that the problems are complex and immense—but they are not impossible. There is a Christian answer! Christian love must find a way—or fail to impress this generation as a Gospel for the whole world. On behalf of Christ's ambassadors in many lands, we plead with you in the churches of America to rise in Christian love above the factor of race in order to demonstrate the spiritual oneness of believers for which Christ prayed, "so that the world may believe that thou hast sent me."

"Is it too much, we humbly ask— Unchain our hands to do our task." —Warren and Shirley Webster, Conservative Baptist Foreign Mission Society, Dadu, West Pakistan.

SOCIAL WORK: A CHRISTIAN PERSPECTIVE

If sociology is seen as a "pure" social science, one of the foremost applied social sciences is social work. In its theory and research, the pure science establishes the existence of pathological consequences of social behavior. In sociology, these are referred to as social problems. They exist in a fashion similar to the way in which diseases are found in the human organism. It is the purpose of an applied social science to understand these problems and to remove them to the extent that it is in the province of man to do so. The application of such effort to a problem requires the use of skills and techniques beyond the sphere of activity of the "pure" social scientist. In this respect, social work can be classified with medicine as an "art."

This writer suggested in the December 1963 issue (15: 116-117) that there are generalized forces which operate in the social world of man. If it is the responsibility of the Christian sociologist to understand these laws, since they reflect the controlling element of God's hand, then it is the obligation of the Christian social worker also to understand these laws and work to provide those adjustments in the system which can honor God. Surely the Christian medical doctor, as an applied scientist, has similar motivations along with the desire to alleviate human suffering.

Continued on page 58

AMERICA AND NEGRO AFRICA: A Survey of Attitudes and Behavior

GEORGE R. HORNER

Traditional beliefs are usually the basis for our present attitudes and social behavior. White racial attitudes based upon 1) traditional biblical misinterpretations of Genesis 9, 2) theological dogma wrongly applied (the depravity of man), and/or 3) pseudo-scientific concepts (physically relating man to apes and culturally classifying man in stages of savage to civilized) became the basis for the White race's assumed behavioral superiority over the Negro.

In contrast, Negro Africans' views of Americans are based upon 1) the lives and teachings of early American missionaries, 2) early American traders, 3) American Aid projects and personnel since 1950, 4) White American attitudes and behavior toward the American Negro, 5) America's foreign policy to African nations vis-a-vis Russia, and 6) America's relation to African nations in the United Nations. For the most part, these are favorable.

The future of world race relations can be predicted to the degree that just as soon as America recognizes the Negro and the African as fellow human beings, there will be a change of inter-racial behavior and assured racial stability.

I. INTRODUCTION: ATTITUDES AND RESEARCH

Attitudes are intangible. As such they do not easily lend themselves to social research. We conceptualize them as feelings, value judgments, impressions, and emotional reactions one has for another person, race, or thing. Attitudes are the motivating forces manifest in varieties of social behavior and, as such, are observable. Thus they can be collected, counted, and

Revision of "Africans View Americans," a paper read at the 18th annual ASA Convention, Westmont College, August 19-23, 1963.

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compared with similar or different modes of behavior through various methodological frames of reference. Action and expressions of feeling are recorded in history and newspapers.

This paper is concerned with an analysis and interpretation of attitudes and their resultant behavior in a time-space context. Historic time as a variable gives us the basis (perhaps even the origin) of modern attitudes, although time *per se* may also remove us from the present and reality. Space gives us present-time reality, permitting a comparative research of similar attitudes in two different areas of the world occurring at the same time. Space *per se* tends to be superficial and spotty. One cannot understand or interpret current African attitudes toward America without understanding the background for such differing points of view in time and space.

Since past attitudes and behavior are keys to the present, this paper will deal with traditional attitudes of the White man toward Negroes and Africans, traditional attitudes of Africans toward White men and Americans, and contemporary American-African attitudes.

II. EXAMPLES OF TRADITIONAL WHITE ATTITUDES TOWARD NEGROES AND AFRICANS

A. *Biblical.* In a collection of poems, *Priceless Jewels*, the American Negro poet, Paul L. Dunbar, entitled one: "There is Hope in the Breast of Ham." The use of the name Ham, the third son of Noah (Genesis 9), gives implications and insight into one of the earliest interpretations of the origin of the Negro. The resultant attitudes and actions were the rationale for the subjugation and slavery of Negroes by the supposedly morally superior White race.

Although many do not accept this interpretation of the origin of the differentiation of human groups according to skin color (6), many Whites in the United States and South Africa do. Segregation in all parts of the U.S. and *apartheid* in South Africa started on a similar base, the misinterpretation of Genesis 9.

B. *Theological: the depravity of man.* It is one thing to accept the concept "all have sinned and fallen short of the glory of God," resulting in man's fallen condition and "depravity." It is quite another to twist this concept to mean that all colored peoples are more depraved than are Whites, as "proven" by the darkness of their skin and the lowness—savagery—of their cultures.

In a speech at Boston University ex-Governor McKel- den of Maryland, voicing the attitudes of thousands of White Americans who perhaps have never heard of "degeneration" or "depravity" said: "It wasn't the fault of these people (Negroes) that they are inferior . . . it is a cold hard fact" (12).

C. *Naturalists and Philosophers.* Naturalists and philosophers of the Seventeenth to Nineteenth Centuries contributed also to the attitudes modern Whites have toward Negroes. We will consider only two of them.

1. The Naturalist Blumenbach, a student of Linnaeus, lived in Germany during the period of the American Revolution. Blumenbach laid the foundation on which all subsequent racial classifications of man have been based; the White race was assumed to be the originally created race from which others "were later created by a process of *degeneration*, due to climatic and economic conditions" (17). From his views we have the beginning of the racist's dogma, the supposed purity of the White race and the degeneracy of the Black, Red, Brown and Yellow races.

2. The period of the natural philosophers is epitomized in various declarations of independence by such men as Locke, Hume, and Rousseau. Each wondered about the possible relationship between nature, man, and man's origins. Knowledge of newly discovered peoples required theories to explain them. Rousseau, to use a familiar example, had to resolve his concept of man's natural freedom with the simpler condition of non-European peoples. His theory, "Man is born free and everywhere is in chains," attempted to bridge this intellectual impasse. Man's condition as savage, primitive, barbarian, and civilized soon became connected in constructing stages and steps in biological and cultural evolution. Africans and similar peoples were savages and primitives; Europeans and Whites were civilized.

D. The Church and Missions. The American and to some extent the European Christian Church of this period was in as difficult a position as is the official position of the Church in the Union of South Africa today. On one hand, the Church saw Africans as cursed and born to be slaves; on the other, Christ's command was clear and carrying: "Go ye into all the world and preach the Gospel to every creature" (Mark 16:15 KJV).

If in Christ "All men are one," a foundation stone in Christian doctrine, what about the African and Negro Christian? Can he be a "brother in Christ" too? These opposites had to be resolved. The Mormon church, because of its belief that the African's skin color is a result of a pre-existence fall of the ancestral Negroes as well as of the curse on Ham's son Canaan, has never had missionary work among Negro Africans.*

This dilemma occupied the thinking and became the basis for the social action of the Church during the past two centuries. It was partly resolved by the abolitionist movements in Britain under men like Wilberforce, and in America it was partly relieved by the Civil War. Today the issue is joined rather than resolved in various Civil Rights legislations.

Missionaries to Africa in the nineteenth century interpreted Africans according to this older view. The following quotation is a sample of what most missionaries thought in this period and how one tried to resolve the conflict between attitude and command. Wrote one

* In recent years, according to a letter to *Time*, "several thousand Negroes in Nigeria have asked for baptism in the (Mormon) church" (23).

missionary: "The degradation of the Bulu have shocked me, because I have seen it in all of its shameless nakedness . . . We meet these people with the Gospel of Peace and so tame their savage instincts". (18).

Few missionaries questioned either their attitudes, their actions or their calling. Most of them did not realize that they too were conditioned by their culture and were products of their times; that their feelings about the "fatherhood of Whites" and the "child-likeness" of Africans was a result of what they had learned and had accepted as White men; that it was their own interpretation, rather than actual fact. Albert Schweitzer is quoted as saying: "The Negro is a child and with children nothing can be done without the use of authority" (22). An example of Victorian cultural conditioning!

E. Economic Exploitation. The subjugation of Africans as slaves and legally considering them as property was replaced by the exploitation of Africa's natural resources. Rhodes, Kruger, and Leopold of Belgium are a few of many who opened the "dark continent" for the benefit of European and American economy. The following Congo story will illustrate this point.

In 1879 Stanley, the "discoverer" of Livingston, was hired by Leopold II to explore the Congo River drainage system and to gain control of the area—some 900,000 square miles—for the Committee for the Study of the Upper-Congo, that is, for Leopold himself. The Berlin Congress of 1885 declared the Congo area a free-trade zone, and called the area the Congo Free State. Leopold II, not the Belgian people, controlled the country. Copper and gold were soon discovered in the Katanga district, and rubber was planted in all other parts of the Congo. Leopold gave mining and other monopolies to companies like the Union Minière du Haute-Katanga, which was to become one of the most powerful mining cartels in Africa.

Porters were needed to carry rubber and copper from the interior to loading platforms on the Congo or Nile River, whichever was closer. Forced labor became the order of the day. One participant left the following account: ". . . (the) S. S. Van Kerkhoven is coming down the Nile and demands 1500 porters. I am asking myself how on earth I shall be able to hunt up so large a number. How much blood will be shed because of this transport. Three times already, I have had to make war upon the chiefs who would not help me to get the men I needed. The fellows would rather die in their forests than as members of a transport train. If a chief refuses, this means war, with modern fire-arms on one side against spears and javelins on the other!" (3)

Often the Congolese had one or both hands cut off if they did not bring to a plantation overseer their daily quota of rubber. (20)

These and many other atrocities were brought to the attention of the world by British and American missionaries in the Congo at that time, particularly the

Congo Reform Association. Rev. W. M. Morrison of an American mission in Kasi wrote the following letter to the London *Times*: "During the month of June a raid was made near Luebo by a State officer. Men and women, boys and girls were taken by force; villages were pillaged; two were burnt; women were raped; chiefs tied up and taken away Now the question is, how long will all this keep up?" (9) So effective were their charges and so well documented by visible proof that in 1908, under the *Charte Coloniale*, the Congo Free State was transferred to the Belgian people as a colony.

The African Congolese never forgot the atrocities of a Christian nation, nor the work of the American and British missionaries, nor the Congo Reform Association which came to their assistance. Because of this we can better understand the attitudes and behavior of the Congolese toward the Belgians and the Belgian missionaries during the July 1960 post-independence atrocities (14). The favorable image which the Congolese have of America today began during the 1900 atrocities. (The 1964 terrorist activity resulting in the first death of an American missionary does not invalidate this favorable image).

III. EXAMPLES OF TRADITIONAL ATTITUDES HELD BY AFRICANS TOWARD WHITE MEN

There is too little information to document precisely attitudes held by Africans toward early White explorers and colonizers. In the pre-slave trading days Africans apparently accepted Europeans. There is almost no evidence of African hostility toward either early explorers or colonizers, perhaps because one of the main traits of many Africans was to offer hospitality toward strangers; they desired friendly, reciprocal relationships with outsiders, not necessarily from altruistic motives but for quite frankly selfish needs. "Change was the norm, the expected. There was a constant intrusion of elements from other African cultures . . ." (8). Having already accepted various African societies for purposes of trade, many were favorably disposed toward the White trader and the missionary. This initial trust came, however, to be spoiled if or when the Africans perceived cheating and exploitation.

The first Dutch settlements on the Cape of Good Hope in 1652 were womanless until the Dutch married local African women. The resulting children became the basis for the mixed-group called the *Cape Colored*. In the old Gold Coast colony, present-day Ghana, Danish sea-captains married African women. Their children established the politically, and socially élite groups of modern Ghana. On the other hand, some early explorers and many more traders were killed by Africans because of dishonesty.

European colonization of Africa was made possible by guns. Guns, machinery, and a different technology, forced the Africans to accept the idea that the White man was, after all, if not a superior being, at least a human filled with superior knowledge, perhaps magic,

which gave him the power to invent machinery, automobiles, etc. The same attitude was not held in common by all Africans toward all Whites. It differed from area to area, largely depending upon what type of White man, trader, missionary, or explorer the Africans had contacted.

When American missionary A. C. Good first traveled in what is now southern Cameroun in 1892-94, he was revered by the Bulu as a returning ancestor. This attitude cannot be attributed to their "primitive mentality"; it resulted from conclusions logically arrived at from their own assumptions and belief system.

Briefly, the Bulu, the tribe whose land Good explored for future mission stations, held the following world-view: 1) At death human skin color turns from brown to a whitish-grey; 2) God (*Zome ye Mebe'e me nba Evo*, the old Bulu word for God, the One who created the world, plants, animals and man) left His creation, went west to "sit down" (rest) behind the setting sun.

Eye-witnesses of Good's trip who are living today told me that they had noted the whiteness of his skin; that he had come from the west (from behind the sun) and ate food which only ancestors ate, the sweet banana; and that he brought the Message from God, reading God's Word in their tongue (actually a related tongue, Fang). On the basis of the Bulu's assumptions, their conclusions and actions were logical. Good's "divine" attributes apparently saved his life on a number of occasions when he was captured to be dispatched with a spear (13). Little wonder that some fell down in respect, awe, and worship. To his credit, Good told them that he was once a farmer. In his words: "I would disgust them by telling them . . . I myself hoed corn and potatoes. Among them such work is only performed by women They wanted to almost worship me, but this confession shattered their idol" (19). These and other cultural differences intensified the missionary's difficulty.

Note the almost opposite attitude held by Good toward the Africans: To them Good at first was thought to be an ancestral spirit, perhaps a god, while Good thought of the Africans as "stunted" and "degraded."

IV. EXAMPLES OF CONTEMPORARY AFRICAN ATTITUDES TOWARD AMERICA

As in any typical social group—and this group is about 200 million—there are Africans who, at one extreme, dislike and are hostile to America and Americans, and at the other extreme there are those Africans who like Americans very much. But larger by far is the middle group of Africans who hold a wait-and-see attitude before moving in either of the mentioned directions.

Of the first group, there are Africans who want all Americans out of Africa, with a "why should you be here in the first place" attitude. Of Christian missions, one of this group said: ". . . (it is) an act of spiritual aggression" (1). Joseph Ki-Zerbo, Secretary-General of the African Movement for National Liberation, Voltaic Republic, put the same thought in the following

words: "It is certain that Western Religion . . . has often appeared in Africa as the ally of colonialism. Some have claimed that missionaries are the quartermasters of colonialism, who prepared the way for colonization" (2). Woermann of Germany, who maneuvered both Togoland and the Cameroun into the German colonial system in 1885, was one who felt that the "missionary should precede the trader" (21). Two of the interesting phases of his Cameroun activity was his establishing trading posts in places the American Presbyterian Mission pioneered; he subsidized their elementary school program.

In a resolution against the "agents of neo-colonialism" the All-African Peoples Congress, meeting in Cairo in March 1961, included the United States as an agent with "the representatives from imperialist and colonial countries under the cover of religion, Moral Re-armament, etc. Religion constitutes a threat to the new African countries." (10)

Africans of the middle group usually rate Americans high because of our inventiveness and resultant technology. They admire a people who can do this sort of thing. As one African expressed it to me, "Americans must have magical powers (*évu*) which have made them superior to others." Interestingly, these same Africans believe that inventiveness and technological know-how is biologically transmitted through the blood. White blood is a pre-requisite to inventiveness. Such a quality can be possessed by them when American men are willing to have children by their African daughters. It makes sense if one agrees that culture is transmitted through the genes. This is not too different, incidently, from the Nazi human breeding experiments hopefully leading to a "superman" and "superrace." This large group of Africans who entertain a wait-and-see attitude will move more with our actions than with our words.

A third group of Africans have identified themselves with America and Americans for a variety of reasons: political, missions, economic, etc.

During the pre-independence rebellion in the former French Cameroun, December to March 1956-57, between 1,500 and 2,000 Africans were killed by French African soldiers. Europeans were afraid for their lives and would not travel without wearing side-arms for protection. No American missionary, and the center for the rebellion was in an American mission area, wore guns, nor did any suffer bodily injury (5). In fact, many of the Bassa women and children, as well as injured soldiers from both sides, owe their lives to the mission which took them in and cared for them during the uprising.

A number of the positive attitudes which these Africans have toward America developed from promises of freedom and eventual independence implied to them by Wilson's Fourteen Points, the freedoms of the Atlantic Charter, and the Charter of the United Nations.

America, the land of revolution, struck a sympathetic chord with a large group of Africans, for if we could overcome our colonial status, so can they. America, the country of George Washington under whom she overthrew her colonial status; Jefferson, the author of the Declaration of Independence, and Lincoln, who proclaimed the Negro emancipation is revered by Africans in their modern revolution.

Yet up to the Suez crisis America's foreign policy did not support a single African nation. Before Stevenson's first speech in the United Nations when America, for the first time, sided with African nations in voting against the colonialism of Portugal, America never publicly sided with African nations against her N.A.T.O. allies.

Although all Africans are shocked by social conditions of the American Negro in the South, North, Midwest, and West, the Meredith affair added rather than detracted from America's image. As it may be summarized: Where else in all the world will a nation call out a battalion of soldiers to insure the entrance of one Black man into school?

Headlining the Birmingham demonstrations, the *New York Times* wrote the following: "Prestige of U.S. drops in Africa" (15). Summarizing the first reactions of the African press, the same paper quoted the *Nigerian Daily Times* as writing: "Leaders of the thirteen churches where Negroes were denied freedom of worship should bow their heads in shame. They constitute a let-down not only of their country but also to the Christian religion everywhere" (15).

The thirty Independent African nations (nations friendly toward us), meeting in Addis Ababa, Ethiopia, passed on May 29, 1963, a resolution voicing "deep concern at racial discrimination, particularly in the United States of America," but it went on to "express appreciation for the efforts of the Federal government in the U.S.A. to put an end to intolerable malpractices" (16).

President Kennedy's tragic death did not go unnoticed in Africa. The following are excerpts from the letter written by President Azikiwe of Nigeria to President Johnson:

I am deeply shocked to learn of the death of President John F. Kennedy. The assassination of President Kennedy is a setback in the struggle for fundamental human rights and the issue whether the headquarters of the United Nations should remain in the United States should be of concern to African States because the slaughter of this typical American reformer shows clearly that among some Americans there is a deep-seated hatred of the black man as a human being.

New African States must ponder seriously before deciding to trust in a Government elected by the American electorate because it is now crystal clear that certain influential sections of the American public neither respect human dignity nor regard the black races as human beings who deserve to be treated with respect, decency and equality. (7)

President Azikiwe was educated in the United States thirty-eight years ago at Howard and Lincoln Universities.

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V. SUMMARY AND CONCLUSION

Our White misinterpretation of Genesis and the misapplication of theological dogma has been the basis over the past two hundred years for active subjugation of most of the colored peoples and for condemning them both in this world and the next. The naturalists' rigid interpretations, postulating both cultural and biological evolution of man from simple to complex, inferior to superior, savage to civilized, culminated in assumed White-European superiority, the basis of attitudes and behavior with which we are burdened today.

According to either viewpoint, Africans were, at best, a lower order of creatures with not quite a human culture—a little higher than the apes but not even in the class of "a little lower than the angels." Kenneth Little quotes Long's *History of Jamaica* (1774): "I do not think that an Orang-Outang husband would be any dishonour to an Hottentot female." Long writes further: "But of all the human species hitherto discovered, their (Negroes') natural baseness of mind seems to afford the least hope of their being (except by miraculous interposition of Divine Providence), so refined as to think as well as act like men." (11)

Many Africans still view Americans through the work of the American idealist, the practical missionary. As the missionary believed, taught, and lived, so did Christian Africa. All Americans are like missionaries, at least so it was thought until only a few years ago.

Modern Africans see America as a powerful nation, but one whose behavior in Africa, aside from missionary activity and particularly since World War II, has been based upon political expediency, that is, a fear of Russia's coming into Africa, rather than upon a desire to help Africans because of their need. American aid programs in Africa* have not been based upon a desire to help fellow human beings who are in need, but are a defense against Russia in the cold-hot-cold-hot-lukewarm war. Because of this, Africans distrust us and our motives. To our credit, the Peace Corps, no matter what else one may think of it, has produced a most favorable image of America to Africans in all walks of life, from farmer to statesman. This is also true of A.I.D. technicians, "teachers for Africa," and other similar programs. One must note that the prototype for all of these, Operations Cross-Roads Africa, was begun by an American Negro pastor, James Robinson of New York City.

In the past few years Africans have begun to view America through the eyes of the American Negro. They have begun to recognize that the American Negro is a second-class citizen in all parts of the country. (No one area can claim an exclusive monopoly in treating Negroes in inequality.) Africans know this. It is published in all of their hundreds of newspapers the length and breadth of Africa; it is broadcast over all of their radio transmitters, and it is televised on their

* Our monetary aid to all of Africa in the year ending June 30, 1962 was \$1,776,700,000. (4)

few television transmitters. The thinking of many educated Africans today is that when the American Negro is given his right as an American citizen and as a human being, the so-called "land of hypocrisy" will honestly become the "land of liberty."

The African view of America is also tied up with the United Nations. It is the seemingly small difference between "sympathy for" and "active support of" African nations which will make the difference both to Africa's future, our future, and the future of the United Nations. That the United States has gone on record that it will not export arms to Portugal for its use against its colonial peoples in Angola and Mozambique has been viewed favorably by Africans.

Conclusion. Although it is true that America cannot pass legislation forcing us to like Negroes, we can legislate equal opportunity to give to Negroes the status of equal fellow human beings.

Since attitudes seem to be prerequisites to behavior, a change to positive attitudes must take place before world stability in race relations can be assured, particularly between Africans and Americans.

REFERENCES

1. Adjei, Ako, "Imperialism and Spiritual Freedom: An African View," *Amer. Jour. of Sociology*, 50:189, Nov. 1944.
2. American Society of African Culture, *Pan-Africanism Reconsidered*, Berkeley, Univ. of Calif. Press, 1962, p. 285.
3. Bauer, L., *Leopold the Unloved*, Boston, Little, Brown & Co., 1935, p. 263.
4. Ellender, Honorable A. J., "A Report on United States Foreign Operations in Africa," Senate, 88th Congress, Doc. No. 8, Washington, D.C., U.S. Government Printing Office, March 23, 1963, p. 10.
5. Horner, George R., "Togo and Cameroun," *Current History*, Vol. 54, No. 198, 1958, pp. 89-90. (Personal observations by the author.)
6. Horner, George R., *His*, "Are Negroes Cursed," Vol. 7, May 1948, p. 28.
7. Inter-African Labour Institute, *Information Sheet*, Brazzaville, Congo Republic, Vol. V., December 1963, pp. 10-11.
8. Kimble, George H. T., *Tropical Africa*, N.Y., Twentieth Century Fund, Vol. II, 1960, p. 54.
9. Legum, Colin, *The Congo Disaster*, Baltimore, Penguin Books, 1961, p. 34.
10. Legum, Colin, *Pan-Africanism*, N.Y., Praeger, 1962, p. 256.
11. Little, Kenneth, *Race and Society*, Paris, UNESCO, 1952, p. 13.
12. McKelden, Honorable Governor, *The Register*, Boston University, December 16, 1957, p. 3.
13. Medu, Jean Nnanga kon, *Ebolowa'a*, Cameroun, Halsey Press, 1939, pp. 54-55.
14. Ministry of Justice, Belgian Government, *Congo July 1960: Evidence*, Brussels, Belgium, 1960, pp. 5-30 (English edition).
15. *New York Times*, May 13, 1963, p. 1.
16. *New York Times*, May 28, 1963, p. 3.
17. Nordenskiöld, E., *The History of Biology*, N.Y., Tudor Publishing Co., 1935 (Rev. ed.), p. 308.
18. Parsons, Ellen C., *A Life for Africa*, London, Oliphant, Anderson & Ferrier, 1898, p. 234.
19. Parsons, Ellen C., *op. cit.* pp. 191-192.
20. Ross, Emory. Verbal communication to the author of what Ross had observed as a missionary in the Congo.
21. Rudin, Harry, *Germans in the Cameroons: 1884-1914*, London, Jonathan Cape, 1938, p. 87.
22. Schweitzer, Albert, *Dissent*, Vol. III, No. 3, Summer 1956, New York, p. 247.
23. *Time*, "Letters to the Editor," November 1, 1963.

A SOCIAL SCIENTIST LOOKS AT COMMUNISM

SAMUEL RICHEY KAMM

The study of Communism has tended to emphasize the revolutionary aspects of terror and subversion with little attention to the importance of its Marxian ideology as a basis for cultural transformation. Since this is the current emphasis in Communist countries, it is important to understand the significance of this phase of the revolution as the groundwork for the emergence of Communism as a finished order of harmony and equality among men.

Marx and Engels endeavored to develop a social theory based upon the dynamic concepts of natural science as it was developing in the early nineteenth century. Their purpose was to create a new concept of natural law that would provide a scientific basis for social change. They chose to formulate this order of change after the pattern of the Hegelian dialectic rather than the Darwinian concept of struggle. Forgetting to leave their basic formulation open to changes in mathematics and physics, they passed on to their followers a social theory that was not subject to change. It became a dogma and remains such to the present time.

Communist leaders seized upon Marxian dialectical materialism as the basis for a complete revolution in Russia. They found in Marx an element of "messianism" or "apocalypticism" which made a strong appeal to the messianic consciousness of Russian revolutionaries and formed the basis for a totalitarian reconstruction of Russian society by force. The patterns of revolutionary procedure developed in the Bolshevik Revolution of 1917 and following have become the basis of the Communist revolution in every country now under Communist control.

The Communist International of 1928 declared that atheistic scientific materialism was to be the basis of the new culture in Communist lands. The Soviets and the Chinese have applied this principle with vigor. Such attempts to create cultural uniformity have met with some resistance in both Russia and China. There are indications that the older techniques of repression and terror have failed and that more moderate techniques in the field of education and consumer benefits will be employed to induce the acceptance of cultural uniformity.

The study of Communism has for many years focused upon the announced statements of its propagandists to destroy capitalism. This approach tends to accentuate the revolutionary strategy and tactics of Communism as they relate to its governing ideology, Marxism. It tends to minimize, however, the ultimate objective of the Communist movement, namely, the crea-

Revision of a paper presented in absentia at the 18th annual convention of the ASA held at Westmont College, Santa Barbara, Calif., Aug. 19-23, 1963.

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tion of a new world order based upon atheistic, scientific materialism.¹

Many Americans are unprepared to deal adequately with the phenomenon of Communism. The variety of its manifestations are sometimes baffling to the trained mind. For Communism is now a world-wide movement. It presents various stages of historical development and is united only in its professed adherence to a body of doctrine known as Marxism. Even the doctrine is found to have a variety of interpreters: Trotsky, Lenin, Stalin, Mao, and Krushchev. Nationalistic variations also are in evidence. One has to realize that the Communism of Yugo-Slavia is different in application from that of Russia, China, or the satellite countries of Europe. Polycentrism is the new order of power concentration in the Communist world.² Were it not for these ideological deviations and nationalistic divisions in the power structure, Communism would today rule most of the world with an iron hand.

METHODOLOGY

The late C. Wright Mills criticized social scientists in general because of the limited view of history imposed upon them by their commitment to a methodology of study that is grounded in scientific positivism. He sought to show that the methodology of Marx was superior in any study of human phenomena because of the broad sweep of its historical perspective, because of its commitment to values that condemned rather than approved, and because of its sense of the apocalyptic.³ What Mills is suggesting is that the social scientist must be prepared to work within a broader framework of reference than that permitted by the usual scientific method. He must, like the physician, be prepared to go beyond case history diagnosis to the application of the art of medicine. Leo Strauss urges that social scientists adopt the perspective of the citizen, the practitioner of the Civic Art.⁴ Having done so, he will be able to employ both scientific findings and the normative values of the given community in his determination of public policy. Eric Voegelin urges an additional step, that social scientists seek for the "cosmion," the internal realm of meaning which has its outer manifestation in the institutional arrangement of a given society.⁵ Similarly, Kenneth Boulding asks that mechanical models be set aside in order that the psychological concept of the image may be employed in the study of human motivation as a basis for a science of human behavior.⁶ Each of these critics implies that the social scientist must be able to go beyond the behavioral emphasis into the realm of cultural studies, including religion.⁷ This is particularly true in the study of Communism which involves every aspect of the cultural heritage of the West.

THE MARXIAN MODEL

The universal claim of every Communist theoretician that he is a follower of Marxism requires some consideration of the model which Marx created as the

basis of his system. Marx lived in a day when the thought life of the Continent was dominated by the philosophic outlook of Kant and Hegel. These distinguished philosophers, seeking to contest the influence of British empiricism, strove to establish the principle that true Being or reality was thought and reason rather than sensory experience. Hegel, in particular, had rejected the revelational principles of Christianity as a means of social reform because the Gospel was directed "to the individual as an individual detached from his social and political nexus."⁸

This perspective both Marx and Engels adopted. But they chose to abandon Hegel's philosophical rationalism in search of a scientific system that would provide a complete break with any concept of an absolute, either religious or philosophic. Their object was to create a model that would liberate man from the old order of restraint unto a new order of scientific living. Thus released, men would be able to employ the forces of history to realize constructive change. Social change would be cataclysmic in nature, but it would make possible the creation of a new world in which man would realize himself as a man. Man's estrangement from reality, so clearly portrayed in the early economic and philosophic manuscripts of Marx, would finally be overcome.⁹

The Marxian model is a curious alchemy of ideas taken from nineteenth century mathematical physics,¹⁰ ancient philosophy, Hegelian metaphysics, social and economic thought, and the Bible. It consists primarily of three parts or phases. First, there is the basic theoretical formulation which is strikingly similar to the view of the universe then employed by mathematicians and physicists. The universe, assumed Marx, consisted primarily of matter in motion, and the order of that motion was one of contest leading to the creation of new manifestations of matter. The process was evolutionary, but evolutionary in the sense of the Hegelian dialectic rather than the Darwinian idea of the survival of the fittest. Such a theoretical formulation, couched in the mathematical thought forms of his age and inspired by the rationalist thinkers of France and Germany, provided him with a type of metaphysics that liberated him from the domination of eternal ideas, as in Hegel, or the concept of divine sovereignty, as in the Hebrew-Christian theology. It gave him a platform from which to launch an attack upon every form of social thought then existent, particularly the Socialist theories of the time, which was geared to some form of scientific thought based upon the Hegelian or Darwinian concept of change.

What Marx really attempted was the formulation of a new conception of natural law which would be in harmony with the theories then being advanced by Carnot and Clausius in the realm of physics.¹¹ Marx was so intrigued by the possibilities of his basic formulation that he, like the other rationalists before him, made of his system a deterministic one, forgetting, mean-

while, that it is of the very nature of science to undergo change. He left his followers, therefore, with a basic formulation which could not grow with the expanding theoretical conceptions of physics and the natural sciences.

These basic formulations enabled Marx to create a new social theory in which he used many of the ideas of contemporary social and economic theoreticians but cast them into a form of deterministic sociology. For Marx there was but one law of history, economic determinism; one key to the interpretation of history, the class struggle; one outcome for the course of history, the cataclysmic collapse of the capitalistic order; one means of preserving civilization in the period of forthcoming chaos, the dictatorship of the proletariat; one future for all mankind, the communist utopia when each man would produce according to his ability and each would consume according to his need. This social and historical phase of the model was assumed to be scientific in that it was based upon his materialistic metaphysics and rejected any philosophic (idealist) interpretation of history and gave no place for any kind of theologism.

EVALUATING THE MARXIAN MODEL

The student who comes to Marx with a framework of thought which includes a knowledge of theology and philosophy as well as natural science finds it difficult to accept Marx's contention at face value. He discovers, first of all, that Marx's monistic emphasis upon economic factors in the life of man is subject to question. He finds that a careful study of the idea of class is not always supported by historical evidence. He finds it difficult to accept without question the assumed scientific prediction of cataclysm announced in the *Manifesto* and laboriously argued in *Das Kapital*. And as he analyzes his own thought processes, he discovers that he is being asked to take an adventure in credence far beyond the scientific evidence submitted in the basic analysis in order to be able to accept the idea of the coming order of equality, harmony, and justice that is to prevail in the promised era of Communism. What he soon discovers is simply that he has been asked to accept as prediction what in fact is prophecy.¹²

This discovery leads to a clearer understanding of the Marxian system, namely, that the Marxian model is based not only on a form of thought in imitation of the scientific formulations of the nineteenth century, but upon a mystical order of thought which is reminiscent of the Christian conception of the ultimate cataclysmic destruction of the historical order, human and natural, and the ultimate erection of a new order of perfect justice in the life of man and perfect harmony in the order of nature. One student of Marx has pointed out that the entire prophetic pattern of Marxian thought is "a secularized version of the Book of Revelation."¹³

Recent scholars observe that this religious element in Marxian thought links him with the messianic elements of the Jacobins of the French Revolution, the advocates of democratic totalitarianism.¹⁴ It was this "messianic myth-creating religious side" of Marxian doctrine, rather than the "determinist, evolutionary scientific side" which gave the primary impetus to the revolutionary thrust of the Russian Bolshevik movement.¹⁵ For Lenin grasped the significance of the "messianic" implications of the Marxian doctrine of the dictatorship of the proletariat and read into it the Russian nihilistic doctrine of revolution.

It is this crypto-religious dogmatism of the Marxian model which gives rise to the totalitarian practices that shock persons living within the semi-religious and semi-secular cultural systems of the West. Such a governing image has required the creation of a "closed society" whose life will reflect completely the model embraced. Rigid control of the life of the individual within this new society is justified as the means whereby the social model is enforced. And the techniques of enforcement are strikingly similar to those employed by the authoritarian medieval church, namely, deprivation of social or professional privilege, isolation, and even execution for deviation in thought. Purges of party leaders and intelligentsia as well as the murder of those who try to escape are all part of this attempt to enforce the "holy" model. What is more important still is its use as the basis of a complete cultural revolution.

THE COMMUNIST CULTURAL REVOLUTION

The cultural revolution based on the Bolshevik interpretation of Marx is set forth in the Program of the Communist International adopted in 1928. The language of the document is quite instructive:

The ultimate aim of the Communist International is to replace world capitalist economy by a world system of communism Culture will become the acquirement of all and the class ideologies of the past will give place to scientific materialist philosophy This new culture of a humanity that is united for the first time in history, and has abolished all State boundaries, will, unlike capitalist culture, be based upon clear and transparent human relationships. Hence, it will bury forever all mysticism, religion, prejudice and superstition and will give a powerful impetus to the development of all-conquering scientific knowledge. (16)

The path to this cultural revolution is inseparably linked with a technique developed during the Russian Revolution of 1917. First must come the social revolution characterized by ruthless power. Seize the power of the state by force; eliminate the industrialists and the agriculturalists who are committed to a system of private entrepreneurialism; harass the leaders of religious institutions and forbid their instructional activities; develop a new political and military elite by selecting willing sycophants from the intelligentsia, the lower middle class (where it exists), and the representatives of military, labor, and peasant groups for training in revolutionary techniques; introduce some form of "representative" governmental practices in which the power of decision lies in the hands of a

small group or council (soviet); create a governing elite known as a party which will be indoctrinated in the Marxist ideology and trained to supervise all institutional life in the interests of the ruling clique; nationalize all industry and agriculture; and supervise all of the cultural life in such manner that its form and content will be in harmony with the basic spirit and principles of the prevailing ideology.

How do the Communists render the large masses of people within their jurisdiction subject to the radical changes which must be made in order to effect this social revolution? In every major Communist revolution in this century the leadership has had the support of a military force which is recruited initially to liberate the people from their oppressors. Once this is accomplished within the country, military rule is continued on the plea that enemies of the revolution are about to invade the country. Behind an incessant propaganda of hate and fear directed toward one or more countries outside the Communist orbit, the revolutionary leadership then inaugurates a complete social revolution.¹⁷

The social revolution is premised upon the necessity of developing a new cultural system. Fundamentally, the system is grounded in the dialectical materialism of Marx and Engels. Large elements of the population are trained in the principles of Darwinian evolutionism of the nineteenth century variety in an effort to break down what are identified as "outmoded" systems of thought, namely, religiously oriented explanations of the origin of life and man. Religious propaganda is forbidden in the churches, synagogues, and mosques, and church-sponsored schools are closed. The public educational program, which is designed to be universal for all youth, requires indoctrination in Marxism along with instruction in the usual subject matter areas. The whole object of the educational process is to bring into being a new type of man who will be responsive to scientific truth alone and will find in service to the new collective order the highest goals for living.¹⁸

The 1961 Draft Program of the Communist Party of the Soviet Union re-emphasizes this stress upon scientific education as basic to the cultural revolution and the ultimate realization of Communism. The section which outlines party responsibility for the future links the elimination of the survivals of capitalism in the minds and behavior of the people with the extension of training in the achievements of modern science. Modern science, the Program declares, "steadily solves the mysteries of the universe and extends man's power over nature, leaving no room for religious inventions about supernatural forces."¹⁹ This is to be accomplished without "insulting the sentiments of believers."²⁰

THE CULTURAL IMPACT UNDER COMMUNIST REGIMES

The impact of this forced revolution upon the cultural aspects of life in Communist countries has become an object of scientific inquiry in the last decade. The

picture now emerging reveals a continuing conflict between Communist rulers and the leaders in science, social science, literature, the arts, and even religion for the right of self-expression. The scientists appear to have resisted this stress upon conformity to the Marxist ideology with the greatest degree of success.²¹ Literature and the arts have been able to maintain varying degrees of freedom. Institutional religion has largely succumbed to the political pressures exerted in the alternating periods of terror and tolerance which have characterized governmental policy toward various religious systems. Social science appears to have surrendered most completely to the demands of Communist domination. This is probably due to the fact that the Communist ideology is quite dependent upon the social sciences for its justification. In his presentation of the Draft Program in October 1961, Khrushchev acknowledged the Soviet's dependence upon the social sciences as "the scientific basis for the guidance of the development of society."²²

This reliance upon the social sciences in the creation of the Soviet man has required their prostitution to the furtherance of the Marxian dialectical dogma. Political tampering with the writing of Russian History has long been recognized by American historians who follow the development of Russian historiography. Since 1929 all writers of Russian history are obliged to maintain the Marxist perspective.²³ Even the Khrushchev thaw has not brought complete liberty to the Russian historian. He must still be responsive to the will of the Communist Party in his interpretation of men and events. Fortunately, Russian policy now permits the circulation of some official histories in English translation thus permitting students of history in English-speaking countries critically to evaluate the present stage of historical writing in the oldest Communist regime.²⁴ M. W. Thompson's foreword to A. L. Mongait's *Archeology in the U.S.S.R.* acknowledges the same influence in archeological interpretation.²⁵

Recent translations of Russian textbooks in anthropology, state law, and international law reveal similar influences. It is to be noted, however, that Nestorkh's *Origin of Man* tends to follow the Darwinian evolutionary philosophy of the late nineteenth century pattern rather than pure Marxism. This is undoubtedly made necessary by the fact that Marx and Engels adopted the Darwinian evolutionary philosophy of the American ethnologist, Lewis H. Morgan, author of *Ancient Society*,²⁶ when dealing with the origin of human culture.²⁷

The sustained influence of the Marxist dogma upon social scientists in Russia was dramatically displayed at the Fifth World Congress of Sociology held in Washington, D.C., in September 1962. A debate between two Russian sociologists and a professor of sociology from the Sorbonne on the subject of Stalinism revealed that the Russian Marxists still felt bound by Marxist dogma in their interpretation of this sociological phenomenon, while the French scholar, described as a "western

Marxist," declared, "It is impossible to treat a doctrine as perpetually historically true."²⁸ Similarly, Russian philosophers present at the International Philosophy Conference in Mexico City last September stoutly defended the Marxian dialectic as the only epistemological basis for thought.²⁹

The psychological impact of the "closed" system of training now employed in both Russia and China is a matter of increasing concern to psychologists, social scientists, and politicians. The very fact that men or women attempting to escape the territorial confines of a Communist dominated country are often shot in their tracks is substantial evidence of a mind set radically different from that which prevails in the West. Conversations with cultural exchange representatives from Communist countries often reveal a mental outlook on the part of the Communist representative which cannot interact fully with that of the Westerner.³⁰ This appears to be due to both the fact of government surveillance and the type of education given to such individuals, which renders them unable to discuss at any length issues which center around value systems other than those contained in the Marxist ideology.

There may be limits to the indoctrination program now employed in the attainment of the cultural revolution. Already there is evidence that the older generation of Russians is becoming disillusioned and cynical over the failure of Communist leaders to realize the propaganda-supported dreams of the first revolution. The result is a growing indifference to politics and a resignation to cynicism toward life.³¹ The reintroduction of Russian literary classics in the schools and the public distribution of some of the classics in the bookshops may suggest a need to buttress the sagging morale of the Russian people by permitting them to feed upon their national spiritual heritage.³² Red China is following a similar policy on the ground that the ancient Chinese philosophers set forth the basic principles of the ideology now maintained in the People's Republic.³³

Recent scientific studies of Communist control techniques in the satellite countries show that these regimes are now decreasing the use of terror and raising the standard of living.³⁴ A similar relaxation of tensions is now evident in Russia where greater liberty of self-expression is being permitted in literature and the arts.³⁵ This new tactic in population manipulation appears to be related to the effort of the Soviet to create a consumer's utopia through a decided increase in the production of consumable goods. Should these goals not be realized, it is difficult to predict the effect upon the Russian mind.³⁶ No one familiar with the Russian scene is prepared to forecast an armed uprising by the population in that country because of the long separation of the Russian masses from the Western concept of individual freedom.

IMPACT UPON AMERICAN CULTURE

The impact of the Communist revolution upon the cultural outlook of the United States is a topic which

deserves more attention than the space provided here. American entrepreneurs have reacted violently to the pattern of centralized control of production by the state. American political leadership has decried the pattern of one-party control and totalitarian rule which is characteristic of the Communist revolution. An early interest in Soviet educational techniques has given way to aversion because of the subjection of education to political purposes. The suppression of institutional religion in all Communist countries has met with solid opposition primarily because of its effect upon freedom of thought. The attempt of Communist leadership to dominate science in the interests of Soviet political expansion has been greeted with a response of genuine alarm. Voices of criticism have hailed the attempt to make literature, philosophy, social science, and the arts conform to the dialectical mold.

Psychologists and social scientists have often decried the crudeness of political manipulation apparent in establishing the Pavlovian school of thought as basic to the Soviet understanding of the mind. But psychologists have secretly been intrigued by the effectiveness of mass control techniques worked out by Communist psychologists. This was particularly manifest when American soldiers were subjected to some of the Communist mass control techniques during the Korean War.³⁷ Social psychologists have been studying these techniques as well as dietary regulation in an effort to discover how effective controls may be established over large populations. More recently the science of Cybernetics has received attention as a technique for improving the communication capacity of human beings.³⁸ And now, the identification of the DNA factor in human heredity opens the door to the controlled development of superior human physical characteristics.³⁹

Social scientists, philosophers, and theologians are concerned over these tendencies in American life. Social scientists, in particular, have expressed their concern already over the government subsidy of science in the schools to the exclusion of social science. This practice, they aver, opens the possibility of developing a new generation of Americans who understand natural science but have little familiarity with the governing values in American culture. The popular demand, heard in some quarters, that scientists should rule raises a serious question of public policy when it is realized that scientists have often declared that they sense no social responsibility for their scientific findings.

Above and beyond all of this is the basic question, Which values shall govern in American society? American values have been derived largely from the Western tradition which is rooted in the revelational literature of the Hebrews and the Christians, modified in thought and expression by the philosophers of the classical world, and adapted to life through reason and the discoveries of experimental science. Shall Americans abandon this basis for its value system? Most Americans would probably answer, No! But who can foretell the effect of a generation of educational effort

which stresses the scientific understandings of life and the universe at the expense of the revelational and the philosophic? Is it not possible that, as Toynbee suggests, America is moving in the direction of a secularized society which in its outlook and practices would be little different from the modified Communist system now developing in those countries facing the sixth decade of their totalitarian revolution?40

REFERENCES

1. The Commission on Social Action, National Association of Evangelicals, "Soviet Propaganda and the Vulnerability of the West," *Soviet Total War*, Washington, D.C.: U.S. House of Representatives, Committee on Un-American Activities, 1956, II, p. 468.
2. Lacquer, Walter, and Leopold Labedz, eds. *Polycentrism: The New Factor in International Communism*, N.Y.: Frederick A. Praeger, 1962, pp. 1-8.
3. Mills, C. Wright, *The Marxists*, N.Y.: Depp Publishing Company, Inc., 1962, pp. 10-11.
4. White, Leonard D., ed., *The State of the Social Sciences*, Chicago: University of Chicago Press, 1956, pp. 417-417.
5. Voegelin, Eric, *The New Science of Politics*, Chicago: University of Chicago Press, 1952, p. 31.
6. Boulding, Kenneth E., *The Image*, Ann Arbor, Mich.: University of Michigan Press, 1956, paperback edition, 1961, pp. 146-163; Albert Salomon, "Prophets, Priests and Social Scientists," *Commentary* 7:600, June 1949.
7. Heimann, Eduard, *Reason and Faith in Modern Society*, Middletown, Conn.: Wesleyan University Press, 1961, p. viii.
8. Marcuse, Herbert, *Reason and Revolution: Hegel and the Rise of Social Theory*, N.Y.: Oxford University Press, 1941, p. 35.
9. Tucker, Herbert C., *Philosophy and Myth in Karl Marx*, Cambridge, England: Cambridge University Press, 1961, pp. 151-161; Erich Fromm, *Marx's Concept of Man*, N.Y.: Frederick Ungar Publishing Company, 1961, pp. 58-63. This volume contains a translation of the early economic and philosophical manuscripts.
10. Marx's reliance on mathematical physics is revealed in a diagram entitled "Process of Reproduction in Capital," published in Joel Carmichael, *An Illustrated History of Russia*, N.Y.: Reynal and Company, 1960, p. 127.
11. Kamm, Samuel Richey, "Social Science Seeks Enlightenment," *The Asbury Seminarian*, 4:88, Fall 1949.
12. Borkenau, Franz, "Marx's Prophecy in the Light of History," *Commentary* 7:430-435, May 1949.
13. Heimann, Eduard, *Reason and Faith in Modern Society*, Middletown, Conn.: Wesleyan University Press, 1961, p. 157.
14. Talmon, Jacob L., *The Origins of Totalitarian Democracy*, London, England: Secker and Warbur, 1955, pp. 249-255; Alfred G. Meyer, *Marxism: The Unity of Theory and Practice*, Ann Arbor, Mich.: University of Michigan Press, 1963, paperback edition, p. 105.
15. Berdyaev, Nicolas, *The Origins of Russian Communism*, Ann Arbor, Mich.: University of Michigan Press, 1960, p. 106.
16. U.S. Congress, House of Representatives, Committee on Un-American Activities, "The Communist Conspiracy," *House Report* No. 2242, 84th Congress, 2nd Session, Part I, Sec. C, pp. 194-195.
17. Bochenski, Joseph, and Gerhart Niemeyer, *Handbook on Communism*, N.Y.: Frederick A. Praeger, 1962, Chapter V, "The Methodology of Conquest."
18. Renfield, Richard L., "Soviet Education and the New Soviet Man," mimeographed manuscript issued by Committee on International Relations, National Education Association, 1962.
19. Whitney, Thomas J., ed., *The Communist Blueprint for the Future*, N.Y.: E. P. Dutton and Company, 1962, p. 211.
20. *Ibid.* The techniques to be employed in such education were previously outlined in an article by E. I. Petrovsky, "Atheistic Education in the School," *Sovietakaya Pedagogika*, 1955, No. 5, pp. 3-19, now available in *Statement of Principles and Policy in Atheistic Education in Soviet Russia*, West Baden Springs, Ind.: a privately printed article by the transcriber, John A. Harden, S.J., 1959.
21. Joravsky, David, *Soviet Marxism and Natural Science*, 1917-1932, N.Y.: Columbia University Press, 1961, *passim*.
22. Whitney, Thomas J., *op. cit.*, p. 216. Information on cultural change in Russia and the satellite countries is now available in scientific journals, publications of learned societies, *Problems of Communism*, (Washington, D.C.: U.S. Information Agency, 1951), and a number of special studies that have appeared recently.
23. Black, Cyril E., ed., *Rewriting Russian History*, N.Y.: Random House Vintage Book, second edition revised, 1962, p. 8.
24. *Outline History of the U.S.S.R.*, Foreign Languages Publishing House, Moscow, 1960.
25. Baltimore, Maryland: Penguin Books, 1961, pp. 29-31.
26. New York: Macmillan, 1877.
27. Engels, Friedrich, *The Origin of the Family, Private Property and the State*, Moscow: Foreign Languages Publishing House, n.d., originally published in 1884.
28. *Washington Star*, September 5, 1962.
29. *Journal of Philosophy*, 60:738-743, Nov. 7, 1963.
30. Bronfenbrenner, Urie, "A Psychologist Looks at Soviet-American Relations," paper presented at the American Political Science Association meeting, New York, September 5, 1963.
31. Mehnert, Klaus, *Soviet Man and His World*, N.Y.: Frederick A. Praeger, Inc., 1962, pp. 221-222.
32. *Ibid.*, p. 125.
33. Schen-Yu Dal, "The Roots of Chinese Ideology," *Current History*, 45:158-159, Sept. 1963.
34. Kosa, John, *Two Generations of Soviet Man: A Study in the Psychology of Communism*, Chapel Hill, N.C.: University of North Carolina Press, 1962, pp. 193-195.
35. Brown, Edward J., *Russian Literature Since the Revolution*, N.Y.: The Crowell-Collier Publishing Company, 1963, p. 294.
36. Marcuse, Herbert, *Soviet Marxism: A Critical Analysis*, N.Y.: Columbia University Press, 1958, pp. 258-267.
37. *Congressional Record*, Sept. 18, 1961, pp. 18778-18781.
38. Wiener, Norbert, *Cybernetics*, N.Y.: John Wiley and Sons, second edition, 1961.
39. Hills, Alicia, and Albert Rosenfeld, "DNA's Code: Key to All Life," *Life*, vol. 55, no. 14, Oct. 4, 1963, pp. 70-81, 87, 90.
40. Toynbee, Arnold J., "The West, Western Christianity, and the World," unpublished lecture given at Wheaton College, Wheaton, Illinois, May 1, 1963.

ANNUAL CONVENTION: "Panorama of the Past"

The 19th annual convention of the American Scientific Affiliation will be held Aug. 24-27, 1966, at John Brown University, Siloam Springs, Arkansas. Under the theme "Panorama of the Past," the program will review current theories, research, and other topics of interest to scientists who are Christians. Field trips and friendly discussions will add to the value of the meeting.

Non-members may receive copies of the program and other information from the national office of the ASA, 124½ Jackson St., Mankato, Minnesota 56001. Students and non-scientists are welcome to attend.

EMPIRICISM AND CHRISTIAN KNOWLEDGE

JERRY H. GILL

On the basis of a review of the main historical and contemporary approaches to the problem of Christian knowledge, a fresh approach is suggested which makes use of the insights of contemporary logical empiricism. The thesis is that IF (1) experience is defined broadly, (2) the two functions of reason are distinguished clearly, (3) revelation is grounded in experience, and (4) faith is defined as an honest response to experience, THEN a meaningful case can be made for the possibility of Christian knowledge.

The problem of knowledge is perhaps the most ancient and most central of all of man's theoretical problems. This is especially true for the person who claims to have knowledge by means of his relation to God, Christ, and the Church. What sort of knowledge is Christian knowledge? How is it obtained? How is it verified? It is the purpose of this study to suggest an approach to these questions which will (1) clear up many of the difficulties and confusions that have arisen in connection with the more traditional approaches, (2) reckon with the most recent developments in epistemological theory, and (3) be consistent with a sound interpretation of relevant passages of scripture. It hardly needs to be added that in a paper of this size many important references and statements must go unsubstantiated (5).

I. A HISTORY OF THE PROBLEM

This paper is a slightly revised version of a paper presented at the 1963 annual meeting of The American Scientific Affiliation, under the title "A Theory of Christian Knowledge."

The traditional methods of dealing with the problem of Christian knowledge have nearly all focussed on the relationship between reason and revelation (6). The most dominant position during the period of the early church fathers was expressed by Tertullian in the words often translated, "God has spoken, we no longer need to think," and "I believe because it is absurd." This position maintained that revelation is a *substitute* for reason. In some ways Luther could be said to have returned to this point of view. During Augustine's time and later, an effort was made to *synthesize* revel-

ation and reason. Thus we have Augustine's and Anselm's motto, "I believe in order to understand." These men viewed faith and revelation as the conditions upon which knowledge depends. It is often argued that Calvin also took this approach to the problem.

With the rediscovery of the philosophy of Aristotle, some Moslem thinkers, namely Averroes and Avicenna, endeavored to work out a position which held revelation to be *subordinate* to reason. Those who were sophisticated and learned could come to a knowledge of religious truth by reason, while those who were unlearned could come by faith in revelation. For obvious reasons this position was never dominant in Christian philosophy, but it did create a good deal of tension within the church. This tension was released by Thomas Aquinas who proposed that revelation be viewed as *separate* and distinct from reason. Each was said to have its function, and no problems would arise if these functions were kept in mind. Reason can supply a knowledge *that* God is, while revelation can supply a "knowledge" of *who* God is. This latter knowledge was really a form of faith, since, according to Aquinas, a person can not "know" and "believe" the same thing at the same time.

In some ways modern methods of dealing with the problem of Christian knowledge are similar to the traditional methods, but there are distinct differences as well. The modern scene is dominated by three main approaches, Christian rationalism, Christian existentialism, and Christian pragmatism. *Christian rationalism* is, in some respects, a hold-over from the view of Aquinas, and thus is found in the Neo-Thomistic thought of Roman Catholics, such as Étienne Gilson. In addition it is found in the writings of the majority of fundamentalist theologians. This form of rationalism took shape during the early part of this century in order to combat the subjectivism of liberalism. John Gerstner's book, *Reasons for the Faith* (4), is a contemporary expression of the position. The main concern of those who take this approach is to provide a basis for Christian knowledge which is objectively certain. Such certainty can only be obtained, however, by means of logical validity based upon true premises; and thus these thinkers focus upon the traditional proofs of God's existence, which supposedly begin with self-evident premises.

Christian existentialism bears certain resemblances to the position of Tertullian and Luther, as well as to the approach outlined in the writings of Pascal. Its contemporary formulation and popularity, however, are the results of the life and thought of Søren Kierkegaard. In many ways the works of Paul Tillich and Rudolph Bultmann can be classified as contemporary expressions of this position. The foundation of this point of view is a thorough appreciation for the subjective-predicament of each individual's existence. Such an appreciation leads to a disdain for any and all attempts to provide an objective basis for Christian knowledge. God and Christ can be known only by means of a subjective, total commitment of the in-

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dividual person. Thus subjective certitude is substituted for objective certainty, and Christian knowledge is said to rest on faith alone. Tillich's *The Dynamics of Faith* (10) is a clear presentation of this view.

Christian pragmatism not only exhibits some of the characteristics of the traditional Augustinian-Calvinistic approach, but it has much in common with Christian existentialism as well. In some ways it is best understood as an attempt to develop a synthesis between these two strains of thought. Men like Reinhold Niebuhr and William Hordern have too much respect for reason and traditional theology to be thorough-going existentialists; but at the same time they have too much respect for the uncertainties of life and the necessity of faith to be thorough-going rationalists. For these reasons, such thinkers prefer to think of faith as the pre-rational framework through which the individual comes to have Christian knowledge. With regard to the verification of Christian knowledge within this framework of faith, these thinkers focus on the personal and social effectiveness of Christianity. Taking the Christian perspective results in "newness of life," and this verifies the Christian claim. Thus this position is best termed "Christian pragmatism." Hordern's book, *The Case for New Reformation Theology* (7), is devoted primarily to the explication of this point of view.

II. CONTEMPORARY EPISTEMOLOGICAL THEORY

Each of the foregoing positions has its strengths and weaknesses; this fact seems to construct an impasse which threatens the very possibility of ever developing a sound theory of Christian knowledge. To this writer's way of thinking, however, there is little to be gained from the reworking and/or synthesizing of the standard approaches. What is needed is a fresh approach. It is the thesis of this study that such an approach can be obtained by redefining the key concepts involved in light of the insights of contemporary logical empiricism. It is to be granted that many of the exponents of Logical Empiricism, such as A. J. Ayer in *Language, Truth and Logic* (2), have carried the position to extremes in denying the possibility of any sort of Christian knowledge. This denial, however, only obtains when one insists on interpreting Christian language and knowledge as forms of metaphysical speculation. That such an interpretation is not necessary will be made clear presently.

The basic insight of logical empiricism, which was originally suggested by Hume, is the division of all possible knowledge into one of two categories, logical or empirical. *Logical knowledge* depends upon the consistency or validity of the relationships between the terms and/or propositions in an argument or theory. If the propositions are consistent with the original definitions and the rules of inference, they are said to be "true." Such knowledge is classified as necessary and admits of no exceptions. Mathematics is an obvious example of this type of knowledge. Once the quantitative and qualitative symbols have been defined, all

else follows necessarily. Once a proposition has been proved by this method, it needs no other substantiation and remains valid, within its own system, for all time. It is, of course, true that such a rigid distinction between necessary and empirical knowledge can only be maintained within a rigidly defined context of stipulative definition (8).

This type of knowledge has the advantage of being necessary and objectively certain, but it also has the disadvantage of being devoid of information about the world of experience. All logical knowledge is simply knowledge about the definitions and rules for the use of symbols; since such definitions and rules are stipulative in nature, this knowledge is only about how we use symbols. In other words, it tells us nothing about what is the case in experience, but only that if, for example, A is larger than B, and B is larger than C, then A is larger than C. Whether or not A is, in fact, larger than B, or whether there are any such entities as A and B, is, logically speaking, quite beside the point.

Empirical knowledge, on the other hand, is the classification given to those propositions which do make assertions about what, in fact, is the case, and whose assertions correspond to experience. This type of knowledge depends, therefore, upon the relation between the propositions or beliefs of a theory and the facts of experience as revealed by evidence. Although a certain amount of logical consistency is required, the distinctive nature of empirical knowledge is found in its use of evidence obtained by means of observation and induction. Empirical knowledge is the quality of a proposition or theory which, on the basis of past experience, makes inductive inferences or predictions about future experience that turn out to be correct. Obviously, all of our knowledge about the physical world comes under this heading. Moreover, a good deal, if not all, of our personal and social knowledge is to be classified as being of this type. It is true, however, that such knowledge is much less formalized than is scientific knowledge of the physical world. It is, of course, important not to confuse the classification of kinds of knowledge with a description of the psychological processes involved in either logical or scientific discovery and/or creativity.

This type of knowledge has the advantage of being about experience, and is, therefore, not empty. Unfortunately, it also has the disadvantage of never being able to provide objective certainty. Logical deduction guarantees certainty at the price of emptiness, while empirical induction guarantees content at the price of probability. No empirical knowledge can ever be certain for the simple reason that all the evidence is never in. Knowledge of the past depends upon a wide variety of evidence, such as memory and documents, and thus can only be confirmed to varying degrees of probability. In the same way, knowledge of the future depends upon such factors as the accuracy of past observations and the assumption that the future

will be like the past; consequently it too can only be confirmed to varying degrees of probability. Indeed, the assumption that the future will be like the past can only be justified pragmatically as the best rule of procedure. The fact that we live, invent, and to a large extent predict our experience makes it clear that probabilities are sufficient. Certainty is both impossible and unnecessary with respect to knowledge about experience.

For our present study, one of the most important corollaries of the foregoing distinction between logical and empirical knowledge is the delineation of two distinct functions of human reason, the creative and the evaluative (11). The *creative function of reason* has to do with the ability to create new relations between the factors of experience and is closely related to imagination and speculation. This ability, especially as expressed in artistic and scientific creativity, gives rise to an unending creation of possible perspectives and insights into human experience. The *evaluative function of reason* has to do with the testing of human language and thought with respect to both logical and experiential consistency. Thus it involves both deduction and induction, and it leads to both necessary and empirical knowledge.

The intellectually mature man will endeavor to maintain a balance of tension between these two functions. Creative reason must be held in check by logic and experience, while evaluative reason must be challenged to consider wholly new ways of conceiving of and having experience. To ignore evaluative reason is to repeat the mistake of idealistic subjectivism, and to ignore creative reason is to become bound to a narrow, rationalistic positivism. Logical empiricism, rightly employed, distinguishes the two kinds of knowledge and reason in order to allow each to perform its function without the burdens of confusion and name-calling.

III. A FRESH APPROACH TO THE PROBLEM

Now, with the history of the problem and the insights of contemporary empiricism in mind, we are ready to sketch the main points of a fresh approach to the question of Christian knowledge. This will be done by redefining four concepts which are central to epistemological theory in general and to religious epistemology in particular. It is hoped that the main drive of this suggested approach will reveal itself as these definitions are given. Some other authors express a similar approach³.

First, let us consider the concept of *experience*. It is clear that Christian claims to truth are not to be classified as logical in the sense outlined above. That is, they do not claim to be true on the basis of a *a priori* definition. Rather, since they make factual, emotional, and ethical assertions about human experience, they are to be classified as empirical in nature. In other words, they are capable of being confirmed or disconfirmed, depending on the nature of the evidence as given by experience. It is common knowledge that empiricists often define "experience" exclusively in terms

of the evidence of the five senses. This is clearly out of keeping with the original modern empiricists, Locke and Hume, since they made room for what they called "ideas of reflection," which were obtained by the introspection of one's mental and emotional states. Moreover, such a narrow definition of experience obviously leaves out the all-important existential aspect of experience. There are emotional, moral, and social factors which form a basic part of man's experience and which need, therefore, to be considered when one is developing a sound theory of knowledge and truth.

By way of example, it is this author's contention that many, if not most, of the teachings of Jesus are to be interpreted as psychological, ethical, and sociological hypotheses about which way of life actually fulfills the life of man. Jesus maintained that the life motivated by love will obtain the most from existence and contribute the most to it. Moreover, Jesus' statements about the next life are to be taken as predictions about people's experiences after death.

In view of the foregoing factors, this writer suggests that the concept of experience be broadened to include existential as well as sensory evidence. Such a redefinition not only provides a more sound basis for the development of an adequate theory of knowledge; it also provides a way of relating Christian knowledge to human experience and truth. Ian Ramsey's conception of "disclosure" goes a long way toward anchoring Christian experience in a broadly defined empiricism⁴. By grounding Christian knowledge in experience one preserves its relevancy, and makes it open to evidential confirmation as well. To classify Christian knowledge as anything except "experiential" is to cut it off from all confirmation and truth-value. Such a grounding also makes it possible for the Christian claim to be disconfirmed. However, this is as it should be, since the concept of truth is meaningless apart from the possibility for error. Moreover, that which is true need not be afraid of an examination of the evidence.

Second, the concept of *revelation* needs defining. Historically, and on the contemporary scene as well, there exists a tension between two main conceptions of divine revelation. On the one hand, there is the view that defines revelation as the providing of propositional information which would otherwise remain unknowable to mankind. This approach focuses on the content of revelation to the exclusion of its form, and thus it is often guilty of equating systematic theology and creedal statements with revelation. On the other hand, there is the view that defines revelation in terms of mystical experience and/or existential encounter, which provide new psychological perspective and ethical dynamic. This approach focuses on the form of revelation to the exclusion of any content, and thus it is often reducible to a subjective irrationalism.

This writer suggests that revelation be redefined as the activity of God in the existential and historical experience of mankind. That is to say, God reveals his

nature and love to all men by means of their physical, moral, and social situation (Romans 1 and 2), and to many men by means of the history of Israel, the Christian Church, and the person of Jesus Christ. Clearly, such activity can never be completely revealed nor understood apart from its being interpreted by those who are involved, or "on the spot," in such activity. Thus the Bible is both a record and an interpretation of these acts or events. This interpretation will naturally influence both the form and content of the revelation; thus both must receive equal attention in the contemporary interpretation of revelation. This definition not only mediates between the two main conceptions of revelation outlined above, but it is in harmony with the experiential approach to knowledge and truth as well. In addition, this conception of revelation is in harmony with the recent emphasis on Biblical theology and archeology (1).

Third, some attention must be given to the concept of *reason*. Earlier we made a distinction between at least two functions of reason, namely the creative and the evaluative. Each was said to have its value in the life of man as long as each fulfills its proper function. It is the creative aspect of reason that the empiricist fears because it is so often misused. The classical rationalists used it to provide the content of their knowledge and consequently began by assuming, in their self-evident premises, what they claimed to prove in their conclusions. In truth, the content of knowledge ought to be supplied by experience and tested by the evaluative function of reason. The creative function of reason may provide new perspectives and structural possibilities, but it is unable to provide the content of, or serve as the test for, knowledge.

This is the basic position expressed by Paul in I Corinthians 1 and 2, where he contrasts human and divine wisdom. It will be noted that Paul uses human reasoning (in the evaluative sense) to argue against human wisdom (in the creative sense). Such a procedure would be completely meaningless apart from the distinction of functions stressed earlier. It is to be noted further that Paul refers to both of the entities which he is contrasting as "wisdom." What is being contrasted is not the nature of these two wisdoms, but rather their content and source. Human wisdom has man's creative reason as its source and his own ideas as content, while Divine Wisdom has God as its source and the fact and power of the gospel as content. Thus the evaluative function of man's reason does not stand in opposition to God's revelation and wisdom. It is simply the framework by means of which man is enabled to distinguish between truth and error. God implies this when He adapts Himself to man's experience in order to communicate with him. This is one of the implications of calling Christ "the Word of God," since the attempt to communicate implies that the listener has the ability to understand.

Fourth and last, let us direct our attention to the concept of *faith*. Rather than define faith as rational as-

sent to certain propositions or as an irrational "leap in the dark" (à la Kierkegaard), the position of Christian empiricism as outlined in this study would define faith as "the honest, comprehensive, and appropriate response of an individual to the evidence of his own experience." By "honest" is meant an attitude of sincere, existential concern to know and do the truth. "Comprehensive" implies a commitment that involves one's total being. An "appropriate" response is one that is consonant with the implications of that which is believed, both in terms of attitudes and activities. In regard to Christian faith this latter would involve both trust and obedience. Such a definition of faith combines the objectivity of a rational approach with the element of risk found in an existential approach, while avoiding the "certainty fixation" and factual emptiness of the former and the irrational subjectivism of the latter.

These four definitions might be summarized in the following manner: The content of Christian knowledge is revealed by God through his activity in the existential and historical experience of mankind, especially in the person and work of Christ; the truth of Christian knowledge is confirmed as probable by an honest and rational evaluation of the evidence of experience; the acceptance of Christian knowledge involves a comprehensive commitment of one's entire being to the person and teachings of Jesus Christ, and it results in attitudes and activities which are consistent with those expressed by Jesus Christ.

On the basis of the foregoing discussion, it can be seen that the theory of Christian knowledge presented here clears up many of the difficulties inherent in the traditional approaches, and that it is consistent with the insights of contemporary epistemology. That this theory is in harmony with Biblical epistemology can be seen from a consideration of two relevant passages of scripture. In John 20:30,31 it is maintained that the special activities of Jesus Christ were accomplished and recorded in order to provide a basis for the belief that Jesus was the unique son of God and that this belief will result in a new type of life. Here one can see the objective evidence, the response of faith, and the appropriate results spoken about in the above discussion. Similarly in Luke 7:18-23, when Jesus is asked by John's disciples whether or not he is the Messiah, he replies, in essence, "Honestly examine the evidence of your own and others' experience for yourself, and draw your own conclusion." Jesus here implies that the evidence is available in experience, is adequate for belief, and is to be evaluated by each individual on logical, empirical, and pragmatic grounds.

The question of whether or not the evidence of experience confirms Christianity is beyond the scope of this study. The Christian claim is that it does. The theory of Christian knowledge set forth in this study provides a framework which makes such a claim meaningful.

REFERENCES

1. Albright, W. F., "Return to Biblical Theology" *The Christian Century*, Nov. 19, 1958; Bright, John, *A History of Israel*, Westminster, 1959; and Wright, G. E., *God Who Acts*, SCM Press, 1952.
2. Ayer, A. J., *Language, Truth and Logic*, Dover, 1946.
3. Carnell, E. J., *Christian Commitment*, Macmillan, 1957, and Hick, John, *Philosophy of Religion*, Prentice-Hall, 1963.
4. Gerstner, John, *Reasons for the Faith*, Harper, 1960.
5. Gill, J. H., "The Possibility of Apologetics," *The Scottish Journal of Theology*; Vol. 16, 2, June 1963. (This article treats the issues more thoroughly.)
6. Gilson, Etienne, *Reason and Revelation in the Middle Ages*, Charles Scribner's, 1938.
7. Hordern, William, *The Case for New Reformation Theology*, Westminster, 1959.
8. Pasch, A., *Experience and the Analytic*, Chicago University Press, 1958, and Quine, W. V., *From a Logical Point of View*, Harvard University Press, 1953. Both of these authors delineate the contextual limitations and values of this distinction.
9. Ramsey, I. T., *Religious Language*, Macmillan, 1957.
10. Tillich, Paul, *The Dynamics of Faith*, Harper Torchbooks, 1957.
11. Wieman, H. N., "A Religious Naturalist Looks at Reinhold Niebuhr," in *Reinhold Niebuhr, His Religious, Social and Political Thought*, edited by Charles Kegley and Robert Bretall, Macmillan, 1956. This distinction is very clearly set forth by H. N. Wieman.

SOCIAL WORK (continued from page 42)

Perhaps it is in such an effort to help the needy that the philosophy of contemporary social work is framed. If so, this philosophy could possibly reflect guilt feelings on the part of the individual and not an effort to seek God's working in society. Such a suggestion has been made by at least a social psychologist and a political scientist.¹ They believe that the sons of the wealthy become liberal in their politics and concerned with social welfare because of guilt feelings. Similar motivation might exist in those areas of highly institutionalized religion which advocate social reform. It would seem important, then, for the Christian to perceive clearly the reasons for his social consciousness. Is he merely responding to the relatively deprived state of others, or is his love and concern for others reflective of the love that God has for him? Is his social consciousness the result of conscience or commitment?

At present, we do not have an integrated sociological theory of social problems.² Rather, we approach social problems through specialized areas of pathology, such as crime, drug addiction, etc. It is entirely likely, however, that such an integrated approach is possible. If such olympian heights should be gained, the sociologist might then look down upon a world which is vastly different from the one presently perceived. For

one thing, he may realize that not all social problems are pathological. As Nisbet suggests, "Plainly there is nothing intrinsically evil in having large families; an entire morality rests upon the Biblical injunction to be fruitful and multiply."³ The possibility that there are areas of social pathology designed by God is definitely an open question.

It is because of the existence of such questions that it is imperative that Christians work in those fields which provide the answers. To do otherwise is to allow others to misinterpret social reality and further disturb the operation of God's purposes. This approach seems to bear the burden of Herje's accompanying comments concerning the philosophy of contemporary social work.

It would seem necessary, therefore, for Christians to be active in the area of social work as well as sociology. Once the theoretical model of a well-integrated society is established by the pure science, the immediate concern of the applied science is to establish the proper means to be used.

The three most appropriate approaches to be taken by the Christian in fulfilling his responsibility in this area seem to be the following:

1) The establishment of social work agencies by denominations and other interested organizations. In some respects, such an organizational approach would provide the most important results and make the greatest impact. Nevertheless, there would seem to be significant deficits resulting from religious bureaucratization and possible spiritual enervation. In addition, the high economic costs might very well reduce the efficiency of such an enterprise. Unless appropriate precautions were taken to prevent such possible secularization, this method might be very inefficient.

2) Increase of the Christian's sense of social consciousness. Our desire for autonomy and separation has caused many to be quite myopic about the social conditions of our fellow men. The Christian could show less hesitancy in becoming active in such endeavors as long as his motivation is properly channelled.

3) The interposition of the Christian into the field of social work. Although the need for such personnel is pressing, the problems for the individual are not insignificant. This is apparent in the comments by Herje on page 35 and in his article in this *Journal* (15:8-15, March 1963) and the letters that followed (15:124-126, Dec. 1963). As a social worker, Herje's words carry much weight. —Russell Heddendorf.

1. See Theodore Newcomb, "Why Rich Men's Sons in Politics Become 'Liberals'," and Robert Dahl, "A Desire to Help 'Less Privileged People'," in *US News and World Report*, Jan. 15, 1962, pp. 64-69.

2. For the best defense of this statement and the following comments, see Robert K. Merton and Robert A. Nisbet, *Contemporary Social Problems*, N.Y., Harcourt, Brace, and World, 1961.

3. *Ibid.*, p. 10

BOOK REVIEWS

This section is again devoted entirely to *The Genesis Flood*. The authors were invited to reply to the two critical reviews published in March and worked under pressure of our deadline to have their statement ready for this issue. Partly because of restrictions of time and space, they have chosen to focus attention on general principles rather than on specific points of disagreement with their critics. Such an emphasis on principles of interpretation of Biblical and scientific data should open up discussion of *The Genesis Flood* to readers other than those professionally trained in theology or geology. Continuing discussion in the form of letters to Editor Mixter will be welcome.

The two reviews published in the March issue dealt primarily with technical questions about the fitting of geological data to Morris and Whitcomb's interpretation of Scripture. In this issue we are pleased to reprint in its entirety a review by Arthur W. Kuschke, Jr., which considers in addition the validity of the authors' Biblical views. This third review is reprinted by kind permission of both author and publisher, to whom we are indebted. —Walter R. Hearn

THE GENESIS FLOOD: Reply to Reviews in the March 1964 Issue

The authors of this "controversial book" are of course grateful that the A.S.A. has considered it worthy of fairly extensive discussion, even though we would have preferred more friendly reviewers! However, the large majority of the forty or fifty published reviews we have seen since 1961 have been highly favorable, so we'll not complain about these. The book is now in its fifth printing, and we have found that literally hundreds of qualified scientists and other scholars have reacted very favorably toward it.

The few critical reviews that we have seen, both here and elsewhere, seem to focus upon two main objections. *One* is the supposed impropriety of questioning the authority of those geologists and other scientists who have concluded that the earth and its life forms have been developing into their present state for billions of years. The *second* is a complaint against our use of documented quotations from various authorities, who themselves would disagree with our basic position, as evidence in support thereof. The *first* criticism implies that no one but a geologist has the right to evaluate a geological theory; the *second*

would in effect preclude the use of statements from anyone except authors already in agreement with our position, as this would be "quoting out of context." Rather than attempting to answer the various specific examples of these objections selected by the reviewers, it will be more to the point to deal with these basic charges in their totality. We believe, of course, that the reviewers have misunderstood what we were saying in the specific examples cited. A more careful reading of the whole book, instead of isolated portions lifted out for criticism, we believe would show that every one of the objections raised is without foundation. However, it is more important to get at the basic issues, so we confine our attention to the two fundamental objections noted above.

The first point was discussed at considerable length in the book, and since the reviewers have chosen to ignore our references to this matter, we must emphasize again several things mentioned there. In the first place, we do not presume to question any of the data of geological science. Science (meaning "knowledge") necessarily can deal only with *present* processes, which can be measured and evaluated at the present time; the "scientific method" by definition involves experimental reproducibility. Thus extrapolation of present processes into the prehistoric past or into the eschatological future is not really science. It necessarily involves assumptions and presuppositions and is therefore basically a philosophy, or even a faith. The assumption of uniformity is one such assumption that can be made, but it is not the only one, and there is no way of *proving* that it is the correct one. The very same data can also be explained in terms of the assumption of Biblical creationism and catastrophism, and it is mainly a matter of one's own judgment and preferences as to which he chooses. We frankly prefer the latter presupposition, on the basis of what we consider wholly adequate grounds centered in the revelation of God in Christ. We believe that the Bible, as the verbally inspired and completely inerrant Word of God, gives us the true framework of historical and scientific interpretation as well as of so-called religious truth. This framework is one of special creation of all things, complete and perfect in the beginning, followed by the introduction of a universal principle of decay and death into the world after man's sin, culminating in a worldwide cataclysmic destruction of "the world that then was" by the Genesis Flood. We take this revealed framework of history as our basic datum, and then try to see how all the pertinent data can be understood in this context. It would be salutary for the "uniformitarians" to recognize that this is exactly the procedure they follow too, except that they start with the assumption of uniformity (and therefore, implicitly, evolution) and then proceed to interpret all the data to fit into *that* context. Neither procedure is scientific, since we are not dealing with present and reproducible phenomena. Both approaches are matters of faith. It is not a scientific decision at all, but a spiritual one.

In the second place, we emphatically do not question uniformity of the basic laws of physics (e.g., the two laws of thermodynamics) as charged by the reviewers. We strongly emphasized that these laws have been in operation since the *end* of the creation period. The first teaches that no creation is now taking place, and the second enunciates the universal law of decay. These laws are basic in geology and in all science and are clearly set forth in Scripture. This is the true principle of uniformity. We only question the assumption of uniformity of *rates* of geological and other processes, and even here essentially only as required by Biblical revelation. It is well known that the second law of thermodynamics implies decay but does not say anything about the *rate* of decay. There is nothing fundamentally inviolable about even rates of *radio-active* decay.

Geologists, therefore, must leave the strict domain of *science* when they become *historical* geologists. We repeat that we have *no quarrel whatever* with geological *science*, which in its many disciplines is contributing most significantly to our understanding and utilization of our terrestrial environment and resources. The so-called historical geology, on the other hand, has not changed or developed in any essential particular for over a hundred years, since the days when its basic philosophical structure was first worked out by such non-geologists as Charles Lyell (a lawyer), William Smith (a surveyor), James Hutton (an agriculturalist), John Playfair (a mathematician), Georges Cuvier (a comparative anatomist), Charles Darwin (an apostate divinity student turned naturalist), and various theologians (Buckland, Fleming, Pye Smith, and Sedgwick). Might we respectfully suggest that, if non-geologists were allowed to develop the standard historical geology, non-geologists might also be permitted to evaluate and criticize it? Historical geology, with its evolutionary implications, has had profound influence on nearly every aspect of modern life, especially in its fostering of an almost universal rejection of the historicity of Genesis and of Biblical Christianity generally. It is not reasonable, therefore, to expect Bible-believing Christians to acquiesce quietly when, in the name of "science," historical geologists attempt to usurp all authority in this profoundly important field of the origin and history of the earth and its inhabitants.

It is at this point that we feel that the reviewers, in common with the other negative reviews that have appeared previously, have been most unfair. As we stressed repeatedly in our book, the real issue is not the correctness of the interpretation of various details of the geological data, but simply what God has revealed in His Word concerning these matters. This is why the first four chapters and the two appendixes were devoted to a detailed exposition and analysis of the Biblical teachings on creation, the Flood, and related topics. The last three chapters attempted then, in an admittedly preliminary and incomplete manner, to explain the pertinent geological and other scientific

data in the light of these teachings. The criticisms, however, have almost always centered upon various details of the latter and have ignored the former and more important matters. The very strong and detailed Biblical evidences for a recent Creation, the universal effects of the Curse, and the worldwide destructive effects of the Deluge, have evidently been neglected as peripheral and inconsequential as far as the reviewers are concerned. Of course, they cite opinions to the effect that various interpretations are possible, but *none ever deals with the actual Biblical evidence*.

The only conclusion that we can draw from this is that we seem to be operating on two entirely different sets of presuppositions and therefore cannot even communicate with each other properly. It seems to boil down to the difference between interpreting the scientific data in the light of Biblical revelation and interpreting both revelation *and* the scientific data in the light of the philosophic assumption of uniformity.

The second basic criticism of the reviewers is the charge that we have supported our position by quotations taken out of context and that these quotations are consequently misleading. To this we would only say that we heartily endorse Dr. Ault's suggestion that skeptical readers look up the references for themselves. We were careful to give full documentation for every reference for just this reason. We flatly reject the innuendo that we tried to give the impression that the authorities cited agreed with our basic position or even with the particular argument we were attempting to illustrate by each quotation. We were, of course, trying to show in each case that the actual scientific data could be interpreted just as well or better in terms of the creation-catastrophe framework. Since it would be unrealistic to expect most readers to accept our description of the particular phenomenon under discussion simply on our own authority, we used instead the works of recognized geologists of the orthodox school. No implication was intended, unless explicitly so stated, concerning the beliefs of the particular writer quoted. We believe the quotation in each case speaks for itself concerning the issue at hand. This, of course, is standard procedure in scientific dialogue and argumentation. The latter would be quite impossible were writers expected to limit their citations to recognized authorities who already agreed with their position. Surely the reviewers know this very well.

Space does not permit a detailed discussion of the specific examples which the reviewers give in support of their charge of misleading quotations. However, we deny not only the general charge but also the validity of the individual examples. We believe a *careful* reading of both the original articles and our use of portions of them in our discussions will verify their pertinence and contextual soundness as they stand. We of course readily acknowledge our fallibility. When and if legitimate weaknesses or mistakes are pointed out, we hope that we shall be willing to acknowledge and revise them. As we tried repeatedly to

stress in the book, our specific discussions of individual geologic problems were tentative and subject to continuing re-evaluation with further study, but these problems do not and cannot be allowed to raise questions concerning the basic framework of Biblical revelation within which they must be understood.

We of course also feel that the reviewers themselves have rather seriously taken portions of our own book out of context, misinterpreted and distorted and caricatured our arguments. We think they have done what they think we have done!

Again, the probable rationale of this impasse is that we are viewing everything through two different sets of spectacles. Everything we see is colored in accordance with the color of the lenses. And this is not a matter of *science*. We acknowledge and respect the scientific credentials of Messrs. Hearn, Roberts, and Ault and have no quarrel at all with the splendid sciences of biochemistry, physics, and geology which they represent. At the same time we hope they are willing to recognize the fact that there are many qualified scientists, including biochemists, physicists, and even geologists, who agree substantially with our position. The majority, of course, do not. But neither scientific truth nor Biblical truth is ever determined by majority vote.

—Henry M. Morris, Virginia Polytechnic Institute, Blacksburg, Virginia, and John C. Whitcomb, Jr., Grace Theological Seminary, Winona Lake, Indiana

THE GENESIS FLOOD, by John C. Whitcomb, Jr., and Henry M. Morris. Presbyterian and Reformed Publishing Co., Philadelphia, 1961. 525 pp., \$6.95; available from Dr. Whitcomb, Grace Theological Seminary, Winona Lake, Ind., at special author's price of \$4.25.

The authors of this volume are to be commended for their earnest desire to adhere to the trustworthiness of Scripture, and for their willingness to engage in extended research to show the harmony of their interpretation of Scripture with the data of geology. Dr. Whitcomb is Professor of Old Testament at Grace Theological Seminary; Dr. Morris is Professor of Hydraulic Engineering at Virginia Polytechnic Institute. Their aim is to place Scripture first. Many today would place Scriptural and scientific evidence upon an equality, and then interpret the Bible in terms of current scientific data or adopt an agnostic attitude toward fundamental doctrines of revelation. But in their handling of the early chapters of Genesis the authors of this book are faithful with respect to the integrity of the account, the reality of the created "kinds," and Adam's creation as a new creature, body and soul, made in God's image to be the father of

the human race. Their unwavering testimony to such things is wholesome and refreshing.

It is necessary to project briefly the authors' specific position with respect to the flood and then to inquire into the Scriptural ground for this position.

The "days" of creation are held to be days of twenty-four hours (p. 228). While the Ussher chronology is found to be too strict (pp. 474 ff.) nevertheless "Genesis 11 cannot be stretched beyond certain limits" (p. 483), and the authors conclude that "the Flood may have occurred as much as three to five thousand years before Abraham" (p. 489). The "waters above the firmament" of Gen. 1:7 remained as a "canopy of waters" until the flood, when the opening of "the windows of heaven" poured them forth upon the earth (pp. 77, 255-258). Gen. 2:5-6 indicates that there was "no rainfall before the Flood" and consequently "very little geological work" between the creation and the flood (pp. 241 f.). Then at the same time that the "windows of heaven" were opened at the flood, "all the fountains of the great deep" were "broken up" (Gen. 7:11); by this statement "great volcanic explosions and eruptions are clearly implied," "probably both on the lands and under the seas," whereby "great quantities of liquids, perhaps liquid rocks or magmas, as well as water . . . burst forth through great fountains"; in association with these convulsions, "there must also have been great earthquakes and . . . tidal waves . . . throughout the world" (p. 122). The "ocean basins were fractured and uplifted sufficiently to pour waters over the continents" (p. 9). "Tremendous quantities of earth and rock must have been excavated"; there was "extensive erosion . . . on a global scale" and as a result "unprecedented sedimentary activity," providing "ideal conditions for formation of fossils" (p. 123), which must have been "entrapped and buried in the swirling sediments" (p. 128). The richness of the fossil deposits, in number and variety, "fits well with the Genesis record of the character and magnitude of the great Flood" (p. 130). "The great Deluge of Noah's day is seen to account for a large portion of the sedimentary rocks of the earth's crust" (p. 439); "if the Bible record is true, most of the strata . . . were laid down in the course of a single year under catastrophic conditions" (p. 451). Then in order to drain off the waters from the land, the ocean basins were enlarged and deepened, while the earth's great mountain systems were raised up at the same time (Psalms 104:8: "the mountains rose, the valleys sank down"), causing a second great period of erosion and sedimentation (pp. 77, 128, 267, 269, 287). Loss of the vapor canopy caused new extremes of temperature; the Siberian mammoths were suddenly frozen (pp. 288 ff.). "Snow began to fall, quite possibly for the first time in earth's history," giving rise to the glacial period, a third stage of erosional activity (pp. 292 ff.). After the flood, "tectonic and volcanic disturbances" evidently continued in "what might be called residual catastrophism for many centuries" after Noah disembarked from the ark (pp. 312 f.).

Is this the picture drawn for us in the Bible? It seems clear that the Bible does not require such a course of events. A few observations are necessary. First, possible inferences from Scripture may not be plausible inferences, while necessary inferences arise only from firm exegetical grounds. If Scripture allows certain possible inferences, it may also allow quite different inferences as well. A canopy of waters above the firmament, existing from the second day of creation until the flood and then removed, is not a necessary inference. The absence of rain described in Genesis 2:5 probably refers especially to the area of Eden, before it was prepared for man, rather than to an absence of rain over the whole world from the creation until the flood. And what is meant by the breaking up of "all the fountains of the great deep"? Like the opening of "the windows of heaven," this expression describes a physical event, which caused waters to flood the land. But we simply cannot describe the character or degree or extent of this physical event; the Bible does not tell us. The Bible says the waters rose, and the waters later receded; but it is silent respecting immense tidal waves. Except for Noah and his family, the flood destroyed the human race; but we do not know whether it covered the entire globe. The Bible likewise says nothing about the rise of the great mountain ranges of the world after the flood, unless it be in Psalm 104:8, "the mountains rose, the valleys sank down"; but even if this verse does refer to mountains increasing their height after the flood, it does not require that the major part of the vertical elevation of the world's higher mountain ranges was achieved at that time.

A basic element in the authors' thinking is chronology. "Divine revelation . . . records a Creation and subsequent universal Flood, both occurring only a few thousand years ago!" (p. 391); "the Biblical revelation of *actual* human and earthly history indicates a relatively ephemeral existence, beginning only some eight to ten thousand years ago" (p. 346, footnote). With this may be contrasted the position of B. B. Warfield, as expressed in his article "On the Antiquity and the Unity of the Human Race" (republished in Warfield: *Biblical and Theological Studies*, Philadelphia, Presbyterian and Reformed Publishing Co., 1952):

for aught we know instead of twenty generations and some two thousand years measuring the interval between the creation and the birth of Abraham, two hundred generations, and something like twenty thousand years, or even two thousand generations and something like two hundred thousand years may have intervened. In a word, the Scriptural data leave us wholly without guidance in estimating the time which elapsed between the creation of the world and the deluge and between the deluge and the call of Abraham. So far as the Scripture assertions are concerned, we may suppose any length of time to have intervened between these events which may otherwise appear reasonable (p. 247).

The approach of Warfield respects the silences of Scripture. It relies upon the full, verbal, infallibility of Scripture on all subjects on which Scripture speaks, but it holds that the Bible is not concerned to provide a detailed genealogy and chronology of the human race, so that we may properly turn to the data of nat-

ural revelation in our inquiries respecting that chronology. In the same manner the reviewer would say that while everything that the Bible says respecting history, nature, and geology is authentic and infallible, yet the Bible is not concerned to give us a systematic outline of historical geology. In geological studies, then, honoring fully the overruling divine authority of Scripture and the great Scriptural landmark of creation in all exegetical detail, and all in the Bible that may bear upon geology, including all that we know certainly from Scripture about the flood, we must concern ourselves also with the natural data of geology. It is only after these considerations are cleared, and the Christian philosophy of science recognized as uniquely distinct from all false philosophies of science, that the Christian approach to geology comes into its proper exercise.

The authors have given us a book concerned with geology, and they deal with geological problems in great detail, seeking to examine every known objection to their position. It is therefore important to mention briefly some of the major geological issues with which they grapple.

Uniformitarianism" is set over against "catastrophism" throughout. The former is viewed as "the belief that existing physical processes, acting essentially as at present, are sufficient to account for all past changes and for the present state of the astronomic, geologic and biologic universe" (p. xx, footnote). "Catastrophism," on the other hand, the authors interpret as one cluster of global catastrophes which occurred by divine interposition at the flood, accounting for most rock strata and practically all fossils. Much of their argument against uniformitarianism is based upon numerous quotations showing that naturalistic geologists themselves either allow for catastrophes or find great inconsistencies which they cannot explain. In the opinion of the reviewer the evidence seems to indicate a great deal of "uniformitarianism" and a great deal of "catastrophism": a "uniformitarianism" of divine providence whereby very much of the rock formations and fossils was laid down by processes similar to existing processes, and a "catastrophism" of divine providence whereby many changes, such as overflows of volcanic rock upon vast areas, and certain types of mountain building, of continental subsidence and uplift, and of fossilization, as well as glaciation, took place much more rapidly.

Stratigraphy is a major difficulty for flood geology. Sedimentary strata all over the world exhibit regularity of deposition and lines of demarcation, indicating that each rock layer was originally lithified under pressure from above, applied in such a way as not to destroy the intrinsic identity of the formation. Sequences of clearly distinguished strata often rise one upon the other, horizontally uniform and in thicknesses grading down to thin laminations. Such orderly structures seem to have been laid down slowly under non-violent conditions and not in the great flood because, as J. Laurence Kulp

observes in the article "Deluge Geology," in the *Journal of the American Scientific Affiliation*, II, 1 "If the sedimentary rocks were once unconsolidated debris at the same time and the entire muddy mass was subjected to compressional stress the result would be a chaotic mixture of material" (p. 9).

Fossilization also compounds the problem, for countless fossils in rich variety are found in these sedimentary strata, and in formations very deep in the earth. Coal seams occur 4,000 feet below the surface, intercalated with layers of limestone, shale, or sandstone. Many fossil materials thus appear to have been deposited over much longer periods of time than the authors allow. They consider the oft-cited case of the successive fossil forests at Specimen Ridge in Yellowstone Park (pp. 418 ff.), and suggest that these fossil stumps were transported from other localities in waves, before each volcanic burial. Yet the forests appear to have grown all in their present location, one after the other, each being covered with volcanic ash which had then to be reduced to soil in which the roots of a new forest could eventually grow. There were more than thirty such successive forests; and after complete lithification the adjacent river had yet to erode its way down 2,000 feet to bring the whole structure to view.

Radiochemical methods of dating the age of the earth, such as that based upon the rate of disintegration of uranium, are believed by most writers to show an age so great as not to be "remotely comparable to the few thousand years implied by the Bible" (p. 343). The authors question the precision of these tests, but say that "there is no question that the vast majority of these geochronometers have given estimates of geologic age immensely greater than any possible estimate based on Biblical chronology. The radioactive estimates . . . usually yield age values measured in hundreds of millions of years and some up to three billions of years" (p. 333). The minerals, therefore, were created with an "appearance of age" (p. 345). "All these primeval clocks, since they were 'wound up' at the same time, were also set to 'read' the same time. Whatever this 'setting' was, we may call it the 'apparent age' of the earth, but the 'true age' of the earth can only be known by means of divine revelation" (p. 346). The reviewer would ask, what if the Bible does not tell us the age of the earth? Then we must allow for the possibility that the revelation of nature, in yielding the "apparent" age of the earth, may be entirely in harmony with the Scriptural account of creation.

Many other geological, biological, and anthropological problems are discussed in the book, and interesting hypotheses are brought forward. There are excellent indexes. This volume will be valuable for reference on those issues which arise when we consider, as we must, the early history of the earth, of life, and of man.

—Reviewed by Arthur W. Kuschke, Jr., Westminster Theological Seminary, Philadelphia. (Reprinted by permission from Westminster Theological Journal, 24:218-223, May 1962.)

JUNE, 1964

LETTERS TO THE EDITOR

THE GOD OF THE GAPS

May I congratulate Dr. R. Laird Harris for contributing a thoughtful statement and filling a long-felt need in bringing this phrase out into published discussion (Vol. 15, pp. 101-103, Dec. 1963).

In my experience the phrase has been used in reference to "gaps" in the paleontological record which are held to be significant in a creationist interpretation of prehistoric life, including man. The position has been held by many of us that while natural processes may be used to explain the manifest fossil sequences and transitions, where there are systematic gaps in the fossil record we can offer God's creation of "kinds" as a reasonable interpretation of such gaps. On numerous occasions, however, those of our membership who are inclined to lean toward a more liberal interpretation, holding that the continuity may as well be assumed to be broken (in effect, a position of theistic evolution), have pointedly replied. "Well, I prefer not to believe in just a God of the Gaps!"

It has always seemed to me that they have thus made exactly the same erroneous assumption against which Harris warns, namely that we "believed in such a concept as that God is God of the gaps only." The point such critics miss is that we would hold firmly to God's initial creation of and continuing immanence in the natural processes which explain the genetic and geological continuities and sequences between such gaps as there are.

Whatever disagreement over the interpretation of the fossil record there may be, the "God of the Gaps" charge against those who see God's creative activity as tentatively correlated with discontinuities in this record is certainly unwarranted.

Moreover, the "filling" of a "gap" or other additions to the fossil data need not be anticipated as an embarrassment for such a position, nor detract in any way from the God of creation. None of us has ever held that there was anything final or settled about how many gaps there were, or how big they had to be, or which taxonomic categories they had to reflect, or anything of the kind. Palaeontological gaps are not all related to any one taxonomic level, but neither are they random or unsystematic.

One unfortunate reference made by Dr. Harris should be mentioned. In answer to Hearn's question, "Why shudder, then, at the idea that processes were involved in bringing Adam into existence?", Harris feels that "The answer is that the suggestion appears to contradict . . . Biblical expressions." It is hard for me to

understand Harris' intent here, unless he is simply arguing against a much larger implication of theistic evolution, in which case I should agree with him. But the Bible account in Genesis 2:7 indicates that God (a) "formed man out of the dust of the ground" and (b) "breathed into his nostrils the breath of life . . ." Now I seem to read "process" in this account in the sense of "A series of actions or operations definitely conducing to an end; continuous operation or treatment, esp. in manufacture, as a *process* of making steel." (Webster's Dictionary) How so many have held to the fiat creation of man as a *timeless* act in the face of the language of Moses is more than I can understand.

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JOB AND THE OSTRICH

I think Professor Howe is being too biblically-minded about the ostrich and that he lacks a reasonable biological approach to the subject (15:107-110, Dec. 1963). Any animal that gets into a strange or artificial environment may act in a manner unfavourable to its own life or welfare, but to apply the term "foolish" to its behavior is to use words in an all too popular and unscientific way.

The prickly pear (*Opuntia*) is not indigenous to Africa but was introduced recently from America. I suggest that natural selection has not operated on ostriches living in a "prickly pear environment" long enough for them to have developed an instinct for avoiding prickly pears.

Similarly with wire fences. They do not form part of the original environment of ostriches. They may be largely invisible to ostriches running quickly. I have observed our South African vlei owls impaled on barbed wire fences and dying there. If an ostrich puts its head through a wire-mesh fence to eat a quince and then gets stuck with the quince in his throat, he is in a situation he is unlikely to meet with in nature. Put the quince in a bush and the ostrich will get it and his head out all right.

Ostriches, like many birds, eat stones and grit. I understand this facilitates the breaking up of seeds in the gizzard. The size of the hard objects eaten is apparently related to the size of the bird and in ostriches the objects are correspondingly large. Again pennies, which may cause copper poisoning, did not lie about on the veld in ancient times.

Many animals die because man has introduced hazards into their environment. Lighthouses probably caused the death of hundreds of thousands of migrating birds until bird lovers provided perches for them in some cases. The moth's death in the candle flame is well known. Fundamentalists would say God has deprived moths of wisdom, but this would be a strange way for a biologist to explain what actually happens.

On the other hand, chances of survival in many wild animals may be increased by man's activities. Blue-tits in England, we are told, now open the covers of milk bottles left in the porch by the milkman before the householder awakes. Sparrows make their nests on telegraph poles and swallows use the eaves that man provides. Mosquitos breed in ruts made by wagon wheels. These animals, in biblical language, have been given "understanding," but this would be a complete misuse of the term, with its human implications.

Regarding the egg-laying and nesting habits of ostriches, I quote Darwin's own words: "The condor lays a couple of eggs and the ostrich a score, and yet in the same country the condor may be the more numerous of the two . . . the real importance of a large number of eggs or seeds is to make up for much destruction at some period of life; and this period in the majority of cases is an early one. If an animal can in any way protect its own eggs or young, a small number may be produced, and yet the average stock be fully kept up; but if many eggs or young are destroyed, many must be produced, or the species will become extinct." (*Origin of Species*, Chap. III).

In fairness to the ostrich's instincts it should be said that the descriptions given by Schreiner, and quoted by Professor Howe, refer to circumstances where the birds were kept in captivity so that their numbers were far greater than would normally occur in nature. The instinct of the hen to lay her eggs in the nest made by the cock would normally serve to perpetuate the species. Only under conditions of unnatural crowding produced by man do the hens appear "foolish" when they attempt to lay in a nest already overflowing with eggs.

Finally I would ask why it is considered necessary or helpful to attribute the statements concerning the ostrich in Job 39:13-18 to God and not to the writer of this book, whoever he may have been. The author of Job* notes that the wings of the ostrich wave proudly, that the eggs are left in the sand and are sometimes brooded by the parents, that on occasion ostriches appear to neglect their young, that ostriches do strange (foolish) things (which modern biologists can perhaps explain but which the author could not), and that ostriches can sometimes outdistance riders on horseback or even attack them. Ability to observe such things on the part of an educated Babylonian or Hebrew living about 400 B.C. does not necessarily suggest divine wisdom. Aristotle at about the same period made far more penetrating observations in zoology.

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*I am aware, of course, that these remarks about ostriches were made in a section where the Lord is answering Job out of a whirlwind. Surely this was a literary device on the part of the writer. Only a fundamentalist would take it seriously.

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