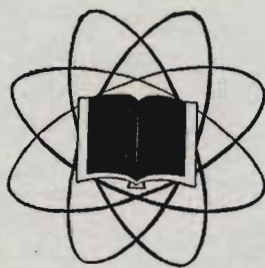


JOURNAL

of the

AMERICAN SCIENTIFIC AFFILIATION



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

Vol. 8

SEPTEMBER, 1956

No. 3

The American Scientific Affiliation

(INCORPORATED)

The American Scientific Affiliation was organized in 1941 by a group of Christian men of science. The purpose of the organization is to study those topics germane to the conviction that the frameworks of scientific knowledge and a conservative Christian faith are compatible.

PUBLICATIONS

The Journal of the American Scientific Affiliation is issued quarterly. Its contents include primarily subjects both directly or indirectly related to the purpose of the organization, news of current trends in science (including sociology and anthropology), and book reviews.

Modern Science and Christian Faith, is a 316-page book containing ten chapters on nine fields of science, each written by a person or persons versed in that field.

A series of *Monographs* as follows:

No. 1. *Christian Theism and the Empirical Sciences*, by Cornelius Jaarsma, Ph.D. A 10-page booklet. "The data of the sciences are given their true structure when integrated in the unity of Christian thought based on revelational presuppositions."

No. 2. *Creation and Evolution*, by Russell L. Mixter, Ph.D. A 31-page booklet covering various aspects of the subject, and showing that limited creation is a reasonable belief.

No. 3. *The Eye As An Optical Instrument*, by Frank Allen, Ph.D. A 16-page illustrated booklet discussing the intricate marvels of the eye.

Other Monographs are planned for publication in the near future.

EXECUTIVE COUNCIL

H. Harold Hartzler, Ph.D., *President*
107 West Plymouth Avenue
Goshen, Indiana

Brian P. Sutherland, Ph.D.,
Vice-President
Rossland, B. C., Canada

Hendrik J. Oorthuys, M. S.,
Secretary-Treasurer
435 Robinson Street
West Lafayette, Indiana

Delbert N. Eggenberger, M.S.
620 Lincoln St.
Downers Grove, Illinois

John R. Howitt, M. D.
P. O. Box 930
Port Arthur, Ontario, Canada

The Journal Of The American Scientific Affiliation

Vol. 8

SEPTEMBER, 1956

No. 3

TABLE OF CONTENTS

New Members	2
Annual Convention of 1956	4
Christian Sexual Mores and Contemporary Social Science	5
David O. Moberg Chairman, Department of Social Sciences Bethel College, St. Paul, Minn.	
In Continuance Fashioned	11
Paul E. Adolph, M.D., M.Sc. (Med.) F.A.C.S. Wheaton, Illinois	
Time and The Timeless God	15
John F. Gates The Kings College, Briarcliff Manor, N. Y.	
A New Opportunity In Christian Witnessing	18
Herb Seal P.O. Box 123, San Francisco, Calif.	
Biology Section	20
Psychology Section	21
Official A.S.A. Registration List	22

The Journal of the American Scientific Affiliation is published quarterly, March, June, September, and December by the American Scientific Affiliation. The publication office is located at 435 Robinson Street, West Lafayette, Indiana. The subscription price is \$2.00 per year. Single copies may be obtained at a price of .50 each. Copies of back issues may be obtained at the price of \$2.00 per volume. Send all communications regarding editorial matters to the editor, Delbert N. Eggenberger, 620 Lincoln Street, Downers Grove, Ill. Entered as second class matter January 23, 1952, at the post office at Goshen, Ind., under act of March 3, 1879, as amended by the acts of June 11, 1934, and October 30, 1951.

NEW MEMBERS

William J. Baxter, 1151 Sylvania Road, Cleveland Heights, Ohio, is an engineer for the General Electric Company, Cleveland. He earned his B.S. in electrical engineering from the University of Pennsylvania.

Douglas Block, Wheaton, Illinois, is an assistant professor of Geology at Wheaton College. He has earned a bachelor of Divinity degree from Northern Baptist Seminary, and is at present working on a Ph.D. in geology at State University of Iowa.

George H. Blount, Ventura, California, is an instrument engineer and department head of the Engineering Center, Aerodynamic Test Division, for the University of Southern California. He majored in physics at U.C.L.A. and the California Institute of Technology.

F. William Bucher, 11731 Bellman, Downey, California, is an electrical research engineer for North American Aviation, Inc. in Downey. He is a graduate of both Wheaton College and Illinois Institute of Technology.

Robert H. Cameron, 4401 15th Ave., So., Minneapolis 7, Minn., received an A.B., M.A., and Ph.D. from Cornell University in Mathematics. He is presently a professor of mathematics at the University of Minnesota.

Robert Frank De Haan, 414 S. 16th St., Quincy, Illinois, is a Research Associate and Assistant Professor at the University of Chicago. He received his A.B. degree from Calvin College and his Ph.D. from the University of Chicago.

George R. Douglas, Jr., 921 Bashford Lane, Alexandria, Virginia, is employed by Pennie, Edmonds, Morton, Barrows and Taylor as an associate patent attorney. He received a B.S. degree in EE from University of S. Carolina and attended University of Richmond for 3 years majoring in Law.

H. Neil Elsheimer, 518 So. 4th St., Hoopeston, Illinois is a graduate student in Analytical Chemistry at the University of Indiana. He received a B.S. degree from Wheaton College.

Marvin W. Goldberg is employed as Director of Studies and Instructor in Science at Stony Brook School, Stony Brook, New York. He has earned an A.B. degree in Chemistry from Houghton College and Ed.M. degree from Harvard University in Ed. Admin.

Thomas M. Graham, Los Angeles, California, is a research assistant and is working on his Ph.D. in Physics and Biochemistry at the University of Southern California. He has also attended Rock-

mont College and New Mexico Highlands University.

Andre Gschaedler has earned the following degrees: B. es L. from the French Educational Syst.; L. es L. from the University of Strasbourg; M.A. from University of Melbourne, and Ph.D. from Columbia University. He is presently employed as Assistant Professor, and Head of Dept. of History and Social Science at the King's College, Briarcliff Manor, N. Y.

Kenneth M. Horst is a Design Analyst in Reactor Engineering with the Atomic Power Equipment Dept. of the General Electric Co. He received a B.S. from Pennsylvania State Univ. He resides at 1917 Central Ave., Albany 5, New York.

Stanley M. Horton, Springfield, Missouri, is a professor of Bible at Central Bible Institute and Seminary there. He received his B.S. in Plant Nutrition from the University of California and his B.D. from Gordon Divinity School.

Henry H. Howell, Cleveland, Ohio, is professor and head of Biology Department at the Cleveland Bible College. He has nearly completed work for his Ph.D. in Zoology from the University of Alabama.

Chester C. Irvine, Nashville, Tennessee, is a Southern Baptist minister, and is also working on his Ph.D. in Biology at Vanderbilt University. He received his M.S. in Genetics from the University of Kentucky, his B.D. from the Southern Baptist Theological Seminary.

Harold N. Jones, M.D., Chicago, Illinois, is a general practitioner of medicine at the Norwood Medical Center. He received a B.S. in Chemical Engineering from Purdue University, his M.D. from Northwestern University Medical School, and he has studied Biblical literature at Wheaton College graduate school.

David E. Judd, 4112 Denfeld Ave., Kensington, Md., is a teacher with the Montgomery County Board of Education, Rockville, Md. He received his A.B. from Temple University and is presently working on his M.A. degree.

Albert D. Kaiser, Jr., 5102 Wesleyan, Houston, Texas, is a research engineer for the Humble Oil and Refining Company. He earned his B.S. in chemistry from Alabama Poly Institute and his Ph.D. in physical chemistry from the University of Wisconsin.

M. Joseph Klingensmith, Almont, North Dakota, is a graduate student-teaching fellow in the Dept. of Botany, University of Michigan. He holds a B.S. Degree from Wheaton College, and an M.S. degree from the University of Michigan.

Herbert T. Liefeld, Jamaica, New York, is a medical doctor. He received his degree from Long Island College Hospital. In addition to his medical

work, Dr. Liefeld takes part in frequent preaching and Bible teaching.

Walter L. Liefeld, Jamaica, New York, is currently studying for his Ph.D. at Columbia University in Hellenistic religious literature. He is a graduate of Shelton College.

DeForest Wayne Metcalf, 6610 Mill Creek Blvd., Youngstown 12, Ohio, is a physician and is Director, Dept. of Anesthesia, Youngstown Hospital Association. He holds a B.S. from Wheaton College and an M.D. from Hahnemann Medical College.

Charles J. Miller, 1312 Logan Street, Grand Rapids, Michigan, is a visiting professor of history at Calvin College. He received his B.S. from Wheaton College and his Ph.D. from Northwestern University.

David O. Moberg, St. Paul, Minnesota, is associate professor of Sociology and Chairman of the Department of Social Sciences at Bethel College. In addition to his teaching, he speaks for churches and church-related organizations.

Carl A. Moore, 926 W. Eufaula, Norman, Oklahoma, is an associate professor of Geology at the University of Oklahoma. He is also active in his church, Sunday school, young people's group, and Boy Scout Committee.

W. Douglas Morrison, Port Credit, Ontario, is a nutritionist for the Toronto Elevators Ltd., Queens Quay, Toronto. He received his B.S. in poultry nutrition from Ontario Agricultural College, and his M.S. and Ph.D. in nutrition from the University of Illinois.

Houston Y. Mullikin, Georgetown, Kentucky, is professor and head of the Department of Physics and Astronomy at Georgetown College. He received his A.B. in Math from the University of Alabama, and his M.S. in Physics from the University of Tennessee.

Robert J. Oehrig, Garden City, New York, is assistant Medical Director for the Home Life Insurance Company, New York. He is a graduate of Houghton College, and he received his M.D. from Cornell.

Edward B. Payne, is a self-employed physician. He received his B.S., M.B. and M.D. from Northwestern University. He also holds a B.D. from Western Baptist Theological Seminary. He resides at 237 W. 12th Avenue, Kennewick, Washington.

Louis V. Sorrentino is a medical missionary at the Conservative Baptist Clinic, Kitakami City,

Iwate, Japan. He attended Princeton, and he received his M.D. from the Boston University School of Medicine.

Claude E. Stipe, 800 West Rudisill Blvd., Fort Wayne 6, Indiana, is Chairman, Dept. of Missions and Anthropology at Fort Wayne Bible College. He has earned an A.B. from Wheaton College and an M.A. from U.C.L.A. in Anthropology.

Theodore N. Tahmisian, 4843 W. 98th Place, Oak Lawn, Illinois, is Group Leader and Associate Scientist with Argonne National Laboratory. He holds a B.A. from Fresno State College and an M.S. and Ph.D. from State University of Iowa.

William F. Tanner, Tallahassee, Florida, is a visiting lecturer in geology at Florida State University. He received his B.A. in geology from Baylor, his M.A. from Texas Tech, and his Ph.D. in geology from Oklahoma.

Nicholas John Tavani, Dean of Men and Instructor at Eastern Bible Institute, Green Lane, Pa. earned a B.A. from Temple University and also attended the Reformed Episcopal Seminary for 2½ years.

Spencer P. Thornton, 466 South Hawthorne Road, Winston-Salem, North Carolina, holds an A.A. degree from Mars Hill College, B.S. from Wake Forest College and an M.D. from Bowman Gray School of Medicine. He is a resident in surgery at University Hospital, Birmingham, Ala.

Charles S. Tucek, 111 N. Middletown Rd., Pearl River, New York, is a Research Assistant at Lamont Geological Obs., Columbia University. He holds a B.S. from Wheaton College, and M.S. from Northwestern University.

Robert E. Vander Vennen, Washington, D.C., is a chemist at the U. S. Naval Research Laboratory. He received his bachelor's degree from Calvin College in chemistry and math, his Master's and Ph.D. in Chemistry from Michigan State College.

Robert L. Watson, Pikesville, Maryland, is a junior engineer for Bendix Radio Division, Towson, Md. He was graduated in Physics from Houghton College. He is an active member of the Gideons.

Edward N. Wise is an assistant professor of chemistry at the University of Arizona, Tucson. He earned his bachelor's and master's degrees in chemistry at Ohio University; his Ph.D. in chemistry is from the University of Kansas.

Frank J. Zeller, is a Graduate Teaching Assistant in the Zoology Department at Indiana University, Bloomington, Indiana. He has earned a B.S. and a M.S. from the University of Illinois.

Annual Convention of 1956

This year's convention opened the second decade of annual conventions of the American Scientific Affiliation, quite appropriately at the same location as began the first decade, Wheaton College. Beginning officially on the morning of Tuesday, August 21, a full schedule of day and evening programs carried through to adjournment Friday noon. Unofficially, Monday evening marked the beginning of activities with a Council meeting followed by a meeting of the Fellows of the A.S.A. for an open forum on some problems of the organization.

Council meetings were historic in that, insofar as could be recalled, these were the first, since the founding session of the Affiliation, that all Council members were present.

Among the highlights of the program was the lecture "The Atom, Man, and God" by G. K. Schweitzer, presented in the Public Meeting. The speaker traced in comprehensive fashion the history of the atomic age, man's possible future in it, and the solution in his relationship to God.

The Darwin Centennial Committee presented a detailed summary of its progress in producing the volume planned for 1959 on the origin of things as seen from a Christian viewpoint. Some chapters have been written in their first drafts and the work under the editorship of R. L. Mixer is moving along very well.

A symposium to acquaint the group with various aspects of extra-sensory perception developments comprised one half-day session. Both evidences for and criticisms against were presented. In general it was implied from the discussion that further evidence was needed to settle the question of whether ESP is real or not.

In the field of philosophy, points of contact between natural science and the teachings of Christ were presented by C. C. Irving, and the relation of science to eschatology was discussed by W. R. Rusk. A need for three-dimensional thinking, one of which is revelatory evidence, as contrasted with secular two-dimensional reasoning, was elaborated by J. F. Gates.

The soundness of radioactive dating was well presented by G. K. Schweitzer. Considerable discussion indicated the interest in and relevance of this field of dating procedure.

Current interest in the Dead Sea Scrolls was well attested by two lectures on this subject. G. K. Schweitzer showed a series of colored slides and provided a parallel commentary on a number of the scrolls, their nature, the caves in which they were found, the surrounding country, and the history of the

finds. Problems, such as unrolling and translation, were discussed. Their antiquity is determined in a number of ways, among them carbon-14 measurements, letter styles, and known ages of associated pottery styles. A paper pointing out the value of these scrolls for Bible scholars was given by F. J. Neuberg. The relation of present translations to the Septuagint and the accuracy of the Old Testament translation are among the questions given new light.

That the Auca massacre may have resulted from this Indian tribe's superstitions regarding birds as instrumental in their fortunes and miseries was suggested in a paper by J. O. Buswell III. The plane was speared and mutilated very much as were the people.

Contrasting attitudes of some secular schools of social behavior and those of Scripture toward sex was delineated in a paper by D. O. Moberg (See below in this issue of the Journal).

Tranquillizing drugs properly used are valuable therapeutic agents according to the experiences of many physicians. J. E. McLennan, a physician with experience in this field, pointed out that the moral problems in using such are not contrary to Scriptural teachings.

The Moody Institute of Science, represented by F. A. Everest, presented two films at an evening public meeting. These were "The Mystery of Three Clocks", a commentary on the remarkable timing of various activities of living things as evidence of intricate and delicate design by a Creator, and "Glass Eyes that See", a demonstration of novel uses of photoelectric cells.

Some of the Inter-Varsity Christian Fellowship's problems and what contributions the A.S.A. could make in the ministry of the I.V.C.F. was presented by its General Secretary, C. S. Woods. It was concluded that one of the A.S.A. ministries should be in providing counsel in matters of scientific nature in the I.V.C.F.

Other papers on the program concerned astronomy by J. L. Butler and geology by J. V. N. Talmadge.

Argonne National Laboratory provided a very instructive tour of many of its installations during the meeting. Various Argonne personnel were very co-operative in showing and explaining their facilities and work.

Some 80 registrants were in attendance and the Council was very much encouraged in the interest shown by the members in the future of the organization, and in their many valuable suggestions as to policy and methods.

Christian Sexual Mores and Contemporary Social Science

DAVID O. MOBERG

Chairman, Department of Social Sciences
Bethel College, St. Paul, Minn.

Our generation has seen a flood of works dealing with human sexual behavior; the subject was far from dead even before the appearance of the monumental Kinsey reports.¹ The consensus of scholars is that sexual morality is in a transition "marked by a steady decline of the ascetic tradition and the rise of biological realism as a counter-movement."² The conventional "puritanistic" tradition is often identified, justifiably or otherwise, with the Judeo-Christian standards of sex. One marriage counselor has gone so far as to state that no competent scholar can remain a "dogmatic follower of any . . . religious faith,"³ and many others silently support a similar viewpoint.

The purpose of this paper is to examine both negative and positive effects of social science upon Christian sexual mores.

Definitions

By *mores* we mean those habits or customs which are held by common consent to be conducive to society's welfare. They generally are supported by formal patterns of social control; conformity to them is considered "right" and nonconformity "wrong."

By *contemporary social science* we refer primarily to the work of teachers and researchers since World War II in the fields of sociology, psychology, and anthropology, with occasional reference to overlapping work of social biologists and marriage counselors.

By *Christian sexual mores* we mean the standards of sexual conduct supported in the New Testament. We will limit ourselves to the topics of *adultery* (extramarital sexual relations) and *fornication* (premarital sexual relations). Surprisingly, the New Testament refers far more often to fornication than to adultery, perhaps because one of the ten commandments condemns adultery. In every direct New Testament reference to adultery, fornication is mentioned as if in the same category. We are told that adultery and fornication come from the heart and defile a man (Mat. 15:18-20), that God will judge fornicators and adulterers (Heb. 13:4), and that they will not inherit the kingdom of God (I Cor. 6:9-10). Fornication is pictured as a work of the flesh; those who commit it will not inherit the kingdom (Gal. 5:19-21; Eph. 5:5). Christians are warned to abstain from fornication ("put it to death") (Acts 15:20, 29; 21:25; Col. 3:5-7; I Thes. 4:3-8) and are instructed not to eat with a

fornicator who bears the name of "brother" (I Cor. 5:11). The Apostle Paul feared he would have to mourn over many who had not repented of fornication (II Cor. 12:21), and he told Timothy that fornication is contrary to sound doctrine (I Tim. 1:10). In the Revelation we are told that fornicators shall have part in the lake that burns with fire and brimstone, which is the second death (Rev. 21:8), and that fornicators are outside the holy city (Rev. 22:15). In many of these passages fornication and adultery are placed on a par with murder, idolatry, drunkenness, and other sins that incur the wrath of God.

The concept of "Christian sexual mores" does not include the implication that sex is always dirty and sinful. That view is a puritanical interpretation which seems inconsistent with Biblical teachings on the subject when they are taken in their entirety. In its proper place sex is one of the normal, essential, legitimate areas of life. (E. g., "Marriage is honourable in all, and the bed undefiled." Hebrews 13:4.)

Limitations

Numerous forms of sexual deviation other than fornication and adultery are referred to in the Scriptures. These include prostitution,⁴ which technically is a form of adultery or fornication, homosexuality, fetishism, sadism, masochism, and bestiality. Because most of these are recognized as detrimental to the welfare of society by the majority of social scientists, we will not discuss them.

There is a positive as well as a negative approach to Christian sexual mores. The positive emphasis is on the love and the judgment of God which lead the Christian to understand and evaluate sex in terms of its contribution to God's ultimate purposes as a phase of man's stewardship.⁵ Except by indirect and casual references, this paper will not deal with this positive Christian ethic.

We shall not try to decipher the difficult problem of whom and when God joins together in marriage. Are couples ever joined by God outside of or before earthly marriage? If so, their sexual relations may not be fornication in the Scriptural sense, while a legally married pair God has not joined together may be living in adultery. This has obvious implications for another difficult question omitted from this discussion

—is it ever right for Christians to be divorced and to remarry new partners?

Another complicated theological problem with which this paper does not deal is the question of symbolic immorality referred to in the Scriptures (Isa. 1:21; Jer. 3:6-10; Hosea 1:2; 3:1; etc.). Neither shall we deal with the indirect kind of adultery of which Christ spoke when he said that a man who even so much as looks at a woman lustfully has already committed adultery in his heart (Mat. 5:28). (Measured thus by God's standard, there perhaps is not a single normal adult person who is without sexual sin.)

Relatively little serious scientific investigation has been done on the ways in which sexual conduct affects people socially and psychologically; most of what is written and said on the subject is in the nature of mere opinion.⁶ This paper is limited not only by a dearth of knowledge but also by its restriction to our own society with its particular historical and cultural traditions.

Samples of the work of social scientists may lack representativeness and reflect selective biases of the one who chooses them, for there is no unanimity of opinion among them. By dividing this paper into two major parts, the negative and the positive influences on sex mores, the writer hopes to present both sides of the subject fairly, even though he has not attempted a complete survey of all social scientists concerned with this topic.

Negative Influences

Certain influences of contemporary social science tend to weaken Christian taboos on adultery and fornication. Most of these operate indirectly and "innocently," while a few reflect open strategy to discredit Christianity or traditional sexual mores.

One of the most directly anti-Christian approaches to this subject that I have seen is by marriage counselor Stokes in an address at the 1953 meeting of the American Association of Marriage Counselors. He traced the difficulties pertinent to our premarital sex codes back to the doctrines of original sin, the vicarious atonement, the virgin birth, and divine and carnal love. He criticized severely the "mystical, taboo-ridden, irrational interpretation of sex" which has crept into our culture through the Hebraic-Christian religious system and pleaded for movement away from the attitude that there is anything wrong in premarital intercourse.⁷ His general viewpoint was upheld by Albert Ellis, clinical psychologist and marriage counselor,⁸ who in addition actively supports various forms of sex play often considered to be perversions.⁹

Perhaps a majority of social scientists do not take a definite stand espousing either chastity or indulgence; the stress upon scientific objectivity precludes this in the role of scientist. As a result, in textbooks, other writing, counseling, and the social science class-

room, description of man's sexual behavior predominates, ostensibly without moralizing. This occasionally may have contributed to an excuse for immorality through its latent implication that moral standards are unimportant. For example, psychologists Lehner and Kube write that some people reject moral prohibitions with guilt, others without guilt; some observe prohibitions because of fear, religious values, or the assimilation of group mores, and some indulge in sexual relations with their fiancées but not with others. They conclude that each person "must evaluate this moral issue for himself."¹⁰ Similarly, Dr. Dorothy Dyer, head of the University of Minnesota Family Life Division, indicates that in teaching and counseling young people "a neutral, middle-of-the-road attitude about information" giving both sides must be taken; the teacher when asked her opinion can only say, "I'm of another generation; therefore, I can tell you what works for me, but it may not work for you."¹¹ The attempted objectivity of social scientists trying to be basically scientists rather than moralists sometimes contributes to a weakening of Christian mores.

A closely related and similar effect sometimes occurs from knowledge about the relativity of moral standards. Sexual behavior and the mores that govern it vary from one group of people to another; there is no universal moral pattern.¹² Even among Christians there have been varying interpretations of sexual mores regulating premarital coitus of persons contemplating marriage. Social scientists also are giving increasing attention to the way in which basic personality traits are shaped by the cultural settings in which personalities develop;¹³ they incline toward a relativistic type of social determinism: one tends to become what his culture makes him. These relativistic approaches encourage the superficial impression that moral standards are unimportant as long as socially undesirable consequences of breaking them can be avoided. One marriage counselor actually says that fornication does not involve any more risks, if as many, as numerous other activities, such as skiing, driving a car, or playing football, which we do not condemn; his direct implication is that premarital sex relations should be suppressed no more than these other activities.¹⁴ While most would not state such conclusions so bluntly, social scientists often tend unwittingly to undermine Christian sexual mores by "objective" dissemination of knowledge. Dr. Stokes has epitomized a common effect of such knowledge in these words:

No student at all familiar with studies of the past fifty years in the field of comparative anthropology can well remain a dogmatic follower of any . . . religious faith, so much has been shown us about how differently human beings, under differing circumstances, have coped with their problems.¹⁵

Social scientists also spread other knowledge that influences sexual standards. They have promulgated

information about the ease with which conception can be avoided in the majority of copulations.¹⁶ This plus the accessibility of contraceptives has no doubt contributed to the loosening of moral standards, for it has helped eliminate fear of pregnancy, a chief pragmatic basis for taboos against illicit sex relations. Knowledge about the sex drives of both sexes and about the rapid treatment of venereal disease with antibiotics may have helped break down the moral reservations of some. Social scientists have had a part in leading the cultural changes shattering barriers that once prevented discussion and dissemination of information about sex; they have thus influenced the changing pattern of sexual mores in America.

Perhaps the most significant of the knowledge they disseminate is the evidence of widespread immorality among us. Eleven of eighteen prominent students of the family listed as one of ten outstanding changes in the family in recent times the increase in premarital and extramarital sexual intercourse.¹⁷ There is reason to believe that both the behavior and the standards or mores are changing in this direction;¹⁸ the "older universals of the sex mores are breaking down and are being replaced by numerous alternatives in the current sexual folkways."¹⁹ The widespread deviations from conventional moral standards indicated by studies of limited samples of the population by Terman,²⁰ Hohman and Schaffner,²¹ Burgess and Wallin,²² Kinsey and Associates,²³ and others have tended to make people feel that large numbers, perhaps even a majority, indulge in adultery and fornication. This makes it easy for many to yield to temptation, for our emphasis upon majority rule seems to carry over into ethical practices regarding traffic laws and sexual norms.

Flowing out of knowledge of the high incidence of fornication and adultery is a tendency of many to adopt a casuistic ethic that what is is right: If the majority commit fornication, this proves that the standard of chastity is too high and the standard should be changed to fit the behavior. This position is described by Folsom: "When in Rome do as the Romans do—read their laws—but also notice which laws are enforced."²⁴ This is one implication of the Kinsey reports: laws ought to be changed so that premarital sexual activity is not penalized when both participating parties have consented and force is not involved.²⁵ Many social scientists have drawn the same conclusion. Dr. Duvall has indicated that nearly all "arguments for a more permissive attitude towards premarital sex relations center on the fact that people do it anyway. 'You can't stop it, so you adjust yourself to it.'"²⁶ He then wisely indicates that the universality of a practice does not indicate it to be desirable; the extent to which a moral code is violated has nothing to do with desirability of the code itself. All have sinned and come short of God's glory, but this

is no justification for sin. The findings of studies of the extent of immorality have latent permissive connotations, especially for guilt-ridden persons whose anxiety may be alleviated in the thought that "everybody else is doing it; therefore it's all right for me to do it, too."²⁷

It is only to those who gain but a little superficial knowledge that the danger of the social scientists' use of the term *normal* will be a serious one. There are various types of "normality." Frequently we use the term statistically to refer to that which is prevalent or common in a group; at other times we use it in the ethical sense referring to that which ought to be. Many practices which are sufficiently prevalent to be statistically "normal" are "abnormal" from the moral viewpoint. The superficial hearer or reader, however, may confuse the statistical and moral uses of the term and assume that we morally approve all sexual behavior we call "normal."²⁸

A major emphasis of Freudian psychology has been upon repression, the personality problems that it sometimes introduces, and the role it plays as a basic mechanism of adjustment. Repression is a form of selective forgetting that is largely induced by fear of disapproval by others, so it is closely related to guilt feelings and to one's conception of self. Since it tends in itself to produce tensions and instabilities, and since it so often operates in connection with sexual behavior, it frequently is linked with implicit moral teachings. A college student may get the impression from reading certain textbooks that the old moral standards are doing as much or more harm than good. The general public tends "to identify repression with all forms of restraint. Thus freedom from repression is confused with complete license."²⁹ Closely related is the emphasis of some psychologists upon basic drives, needs, motivations, or urges of mankind which, when frustrated, have various ill effects; they say self control, if possible, may result in psychoneurosis. It is obvious how this can influence sexual mores!

The individual differences also stressed by behavioral social scientists frequently contribute to conclusions about sexual behavior like the following:

Individual adjustments must be the outgrowth of one's own scheme of personal adaptation. Each unmarried adult who raises a personally centered question must answer it in terms of his own constitution, training, experience, and in the light of his understanding of the meaning and reflexive portent of a dynamic sex life in unmarriage.³⁰

Dr. Ellis has said that "because there are the widest possible individual differences, it is most questionable whether we should try to make *all* human beings conform to one dogmatic and invariant code."³¹

This brief sketch has indicated that some social scientists directly attack or condemn Christian sexual mores, but that more, perhaps all, tend to undermine them unconsciously and imperceptibly through teach-

ing anti-traditionalism, scientific objectivity, the relativity of moral standards, knowledge about venereal diseases and contraceptives, the incidence of immorality, an ethical casuistry which holds that whatever is common is right, and Freudian psychology with its emphasis upon repression into the unconscious. When emphasis on individual differences makes the individual a standard unto himself alone, or when there is semantic confusion in the use of the term "normal" the problem is accentuated. (I do not intend to imply that most of these should be eliminated from social science curricula, but only that care must be exercised in teaching them.)

The contemporary search for personal adjustment, happiness, peace of mind, romantic love, and the like no doubt also contributes to the breakdown of Christian sexual mores, for it often leads to a self-seeking indulgence that pays little or no attention to others. The overwhelming emphasis on sex in advertising and the mass media of communications and numerous other characteristics of American society undoubtedly have a large impact upon this problem as well.

Positive Influences

Are New Testament standards of sexual behavior practical? Do they lead to maladjustment and mental illness in our culture? Is there any tangible scientific evidence to support them? In this section I will indicate five ways in which, in my opinion, the social sciences support Christian sexual mores.

1. Social scientists emphasize the importance to the efficient functioning of the entire social order of the regulation of sex. While there are variations in the specific arrangements, all societies contain family groups, forbid incest, sanction marriage, approve more highly of legitimate than of illegitimate births, and look upon marriage as the most highly approved outlet for sexual expression of adults.³² A sex code with restrictions upon sexual relations outside marriage is essential for the protection of children and the maintenance of the family. This clarification by social scientists supports such standards as Christian sexual mores.

2. Many social scientists have indirectly supported Christian sexual mores by refuting the arguments of those who crusade for "sexual freedom" and other forms of nonmarital sexual relations. Typically they emphasize the demonstrated practicality of adhering and the impracticality of not adhering to traditional sexual moral standards, and they indicate that arguments against conventional mores are purely theoretical.³³ Many of them stress the necessity of self-control which is essential to the well-being of persons and of society.

3. Social scientists have demonstrated that religion is an effective source of sexual social control. Even the Kinsey reports found that the religiously devout were less likely to have premarital coitus than the re-

ligiously inactive,³⁴ and that the "active incidence of extramarital coitus had been more affected by the religious backgrounds of the females in the sample than by any other factor. . ."³⁵ Burgess and Wallin reported religion to be even more significant as a deterrent of intercourse by engaged couples than education.³⁶ Christensen found that couples who had religious marriage ceremonies were less likely to have premarital pregnancies than those with civil ceremonies;³⁷ Porterfield and Salley discovered that premarital coitus was experienced most often by students who were not church members, less often by church members, and for the males least often by ministerial students.³⁸ In summarizing conclusions of such studies, Ogburn and Nimkoff state that one of the reasons for the possible increase in premarital intercourse is the gradual breakdown of religious codes of behavior.³⁹ If the trend continues "away from the traditional morality toward an ideology of sexual humanism the inhibitions imposed by religion will be viewed unfavorably."⁴⁰ Nevertheless, religion is still recognized as an important control over sexual behavior. As Bowman has indicated, the iconoclastic viewpoint of sociologists who have an anti-religious bias that religious training does not influence conduct because it is little or nothing more than "an elaborate pattern of speech reactions which affects thoughts and feelings but not behavior" does not find empirical support even in the Kinsey studies.⁴¹

4. The social sciences have also supported Christian sexual mores through their empirical demonstrations of the ill effects of immorality. Psychologist Fromme has indicated the dangers of adultery to a marriage as well as some of the underlying problems it symptomatizes,⁴² and he has treated fornication as a common source of marital maladjustments.⁴³ Burgess and Wallin devote an entire chapter of the report of their follow-up study of engaged couples to the assessment of premarital intercourse and conclude that in our culture "it can seriously interfere with the most important function of courtship, the testing of compatibility in temperament, personality, common interests, and values."⁴⁴ Even though they "take no stand for or against the desirability of premarital sexual relations" and present both advantages and disadvantages listed by the hundreds of couples studied, the bulk of their evidence favors adherence to conventional sexual mores. Blood's analysis of romance and premarital intercourse also substantiates conventional mores; the tendency in our culture for a couple's idealized, romantic images of each other to be shattered by physical intimacies may contribute to fears they are mismatched or even to breaking an otherwise desirable engagement.⁴⁵

Additional evidence supporting Christian sexual mores comes from the studies of happiness or adjustment in marriage. The results of research by Davis,

Hamilton, Terman, and Burgess and Wallin support the conclusion that virgins at the time of marriage are the most likely to be happily married, couples who have had sexual relations only with each other next most likely, and the most promiscuous before and during marriage are the most likely to have unhappy marriages.⁴⁶ Locke's comparison of divorced and happily married couples indicates that both premarital and extramarital intercourse were more common among the divorced than among the happily married.⁴⁷ Christensen found that even when age at marriage, type of ceremony, and other factors were controlled, a high divorce rate was associated with premarital pregnancy.⁴⁸ Goode concluded that even after divorce there are "far more complications and difficulties" for those who seek sexual pleasures than for the morally strict.⁴⁹ Thus the bulk of the empirical evidence that social scientists and others have gathered in our society indicates the wisdom of adhering to Christian sexual mores.

5. Finally, the social sciences can help support Christian sexual mores by clarifying Scriptural truths. For instance, (1) Jesus said that the kingdom of God is within us (Luke 17:21). This immediately reminds the social scientist that the most effective social controls are those which are internalized so that moral codes are a part of the person's conscience and automatically operate to support proper conduct. As the laws of God and the will of God are written in the heart, to use Scriptural terminology, they will lead to correct behavior.⁵⁰

(2) Jesus said both "He who is not with me is against me" (Mat. 12:30; Luke 11:23) and "He who is not against us is for us." (Mark 9:40; Luke 9:50). The social sciences help us to recognize that all are biased and that some of the most strongly biased persons are those who insist they have none. In the area of moral issues, says Dr. Mace, "Neutrality and impartiality are theoretical, not practical attributes."⁵¹ The marriage counselor, college professor, social scientist, or anyone else who deals with the subject of sex will ere long reveal his biases, even if he insists upon his impartiality and non-judgmental position, through indirect and often highly intangible cues. Whether we recognize it or not, we are either for or against Christ in every practical situation, and the context may determine the side we are on more than the language we use.

(3) The social sciences have also helped clarify the importance of motivation in human conduct. Basic to satisfactory marital relationships is the love (not lust) of husband and wife. True love is best illustrated in the person of our Lord; it does not seek its own; it is the fulfillment of the law; in its highest form it derives from faith in Jesus Christ. As social scientists study love and the relationships that flow out of it, they help us understand and appreciate Scriptural in-

junctions more.

Conclusion

We have seen that the social sciences help both to break down and to support Christian sexual mores. In the final analysis, it is not social science *per se* that does either the one or the other, but social scientists.⁵² Those who keep clear the distinctions between ends and means in the realm of sex, who realize that sexual standards are made for man and not man for sexual standards, and who recognize their own biases while committed to the service of God and man can contribute to increased clarity of the meaning and importance of Scriptural injunctions to refrain from immorality. As Houser has said, "when rigor of logic and observation characterize either theory or research, there is rarely anything inimical to Christianity."⁵³

FOOTNOTES

1. Alfred C. Kinsey, W. B. Pomeroy, and C. Martin, *Sexual Behavior in the Human Male* (Philadelphia: W. B. Saunders Co., 1948), and Alfred C. Kinsey et al., *Sexual Behavior in the Human Female* (Philadelphia: W. B. Saunders Co., 1953).

2. Claude C. Bowman, "Social Change as Reflected in the Kinsey Studies," *Social Problems*, 2:1, July 1954.

3. Walter R. Stokes, M. D., in W. R. Stokes and David R. Mace, "Premarital Sexual Behavior," *Marriage and Family Living*, 15:237, August 1953.

4. For an excellent relevant discussion of prostitution, see Maurice J. Karpf, "The Effects of Prostitution of Marital Sex Adjustment," *Marriage and Family Living*, 15:65-71, February 1953.

5. For interpretations of the Christian sex code see Sylvanus M. Duvall, "Sex Standards and Christian Teaching," *Religion in Life*, 17:494-502, Autumn 1948; Sylvanus M. Duvall, *Men, Women, and Morals* (New York: Associated Press, 1952), Chapter 16, pp. 298-310; Joseph K. Folsom, "Kinsey's Challenge to Ethics and Religion," *Social Problems*, 1:164-168, April 1954; Seward Hiltner, *Sex Ethics and the Kinsey Report* (New York: Associated Press, 1953); Otto A. Piper, *The Christian Interpretation of Sex* (New York: Charles Scribner's Sons, 1951); and Simon Doniger, Ed., *Sex and Religion Today* (New York: Associated Press, 1953).

6. Cf. Dr. Duvall in Symposium, "Premarital Sex Relations: The Facts and the Counselor's Role in Relation to the Facts," *Marriage and Family Living*, 14:229-230, August 1952. She states, "There was a lot of material on the psychology of sex, and other aspects of sex, but almost none on the facts. We know almost nothing about how sex conduct affects people, except in limited biological areas. So I started to find out what we think we know . . . I felt like the Curies did when they went through 100 tons of pitchblende to secure an ounce of radium."

7. Stokes and Mace, *op. cit.*, pp. 234-249.

8. *Ibid.*, p. 248; see also his comments in Symposium, *op. cit.*, pp. 229-238, and Albert Ellis, *The Folklore of Sex* (New York: Charles Boni, 1951).

9. Albert Ellis, "Marriage Counseling with Couples Indicating Sexual Incompatibility," *Marriage and Family Living*, 15:53-59, February 1953, and "Letters to the Editor," *Marriage and Family Living*, 15:249-254, August 1953.

10. George F. J. Lehner and Ella Kube, *The Dynamics of Personal Adjustment* (New York: Prentice-Hall, 1955), p. 347.

11. Symposium, *op. cit.*, p. 235.

12. Margaret Mead, *Male and Female* (New York: William Morrow and Co., 1949); William G. Sumner and Albert G. Keller, *The Science of Society* (New Haven: Yale University Press, 1927). Vol. III, pp. 1674-1693, 1764-1776; George P. Murdock, "A Comparative Anthropological Approach [to

- sexual behavior],” *Journal of Social Hygiene*, 36:133-138, April 1950.
13. Cf. Lawrence K. Frank, “The Psychocultural Approach in Sex Research,” *Social Problems*, 1:133-139, April 1954, and John J. Honigsmann, “An Anthropological Approach to Sex,” *Social Problems*, 2:7-16, July 1954.
 14. Albert Ellis in Symposium, *op. cit.* p. 231.
 15. *Ibid.*, p. 237.
 16. See Nelson N. Foote, “Sex as Play,” *Social Problems*, 1:159-163, April 1954.
 17. W. F. Ogburn and M. F. Nimkoff, *Technology and the Changing Family* (Boston: Houghton Mifflin Co., 1955), p. 5.
 18. *Ibid.*, p. 52; E. W. Burgess and Paul Wallin, *Engagement and Marriage* (Chicago: J. B. Lippincott Co., 1953), p. vii.
 19. Austin L. Porterfield and H. Ellison Salley, “Current Folkways of Sexual Behavior,” *American Journal of Sociology*, 52:216, November 1946.
 20. Lewis M. Terman *et al.*, *Psychological Factors in Marital Happiness* (New York: McGraw-Hill Book Co., 1938).
 21. Leslie B. Hohman and Bertram Schaffner, “The Sex Lives of Unmarried Men,” *American Journal of Sociology*, 52:501-507, May 1947.
 22. Burgess and Wallin, *op. cit.*
 23. Kinsey, Pomeroy, and Martin, *op. cit.*, and Kinsey *et al.*, *op. cit.*
 24. J. K. Folsom, *op. cit.*, p. 164.
 25. Kinsey *et al.*, *op. cit.*, p. 326. (See p. 436 regarding adultery.)
 26. Symposium, *op. cit.*, p. 234.
 27. Francis E. Merrill, “The Kinsey Report: Manifest and Latent Implications,” *Social Problems*, 1:169-172, April 1954.
 28. Cf. Symposium, *op. cit.*, p. 237.
 29. John Dollard and Neal E. Miller, *Personality and Psychotherapy* (New York: McGraw-Hill Book Co., 1950), p. 220.
 - Cf. Lehner and Kube, *op. cit.*, pp. 125-126; Hubert Bonner, *Social Psychology* (New York: American Book Co., 1953), pp. 131-132; Clifford T. Morgan, *Introduction to Psychology* (New York: McGraw-Hill Book Co., 1956), pp. 83, 259-260, 267; Norman Cameron and Ann Magaret, *Behavior Pathology* (Boston: Houghton Mifflin Co., 1951), pp. 337-371.
 30. Ira S. Wile, *The Sex Life of the Unmarried Adult* (New York: Garden City Publishing Co., 1940), p. 305, as quoted with approbation in Louis P. Thorpe, *The Psychology of Mental Health* (New York: Ronald Press Co., 1950), pp. 626-627.
 31. Symposium, *op. cit.*, p. 231.
 32. Ruth S. Cavan, *The American Family* (New York: Thomas Y. Crowell Co., 1953), pp. 368-371.
 33. One of the best brief presentations of this kind is found in Ray E. Baber, *Marriage and the Family* (New York: McGraw-Hill Book Co., Second Edition, 1953), Chapter 16, “Conflicting Sex Patterns,” pp. 576-605. A typical popular book with this emphasis is by marriage counselor Paul Popenoe, *Marriage Before and After* (New York: Wilfred Funk, Inc., 1943).
 34. Kinsey *et al.*, *op. cit.*, pp. 304-307; summary for both sexes, p. 331.
 35. *Ibid.*, p. 424.
 36. Burgess and Wallin, *op. cit.*, pp. 337-342.
 37. Harold T. Christensen, “Studies in Child Spacing: I—Premarital Pregnancy as Measured by the Spacing of the First Birth from Marriage,” *American Sociological Review*, 18:53-59, February 1953.
 38. Porterfield and Salley, *op. cit.*
 39. Ogburn and Nimkoff, *op. cit.*, pp. 5, 50-57, 138-139, 261-262.
 40. C. C. Bowman, *op. cit.*, p. 5.
 41. *Ibid.* (It is possible, of course, that the observed correlation between religion and conventional morality is not a resultant of a strictly “casual” relationship.)
 42. Allan Fromme, *Sex and Marriage* (New York: Barnes and Noble, 1955), pp. 215-225. (Also published as *The Psychologist Looks at Sex and Marriage*, (New York, Prentice-Hall, 1950).)
 43. *Ibid.*, pp. 86-87. Cf. Ira L. Reiss, “The Double Standard in Premarital Sexual Intercourse—A Neglected Concept” *Social Forces*, 34:224-230, March, 1956.
 44. Burgess and Wallin, *op. cit.*, p. 389. (Chapter 12, pp. 353-390).
 45. Robert O. Blood, Jr., “Romance and Premarital Intercourse—Incompatibles?” *Marriage and Family Living*, 14:105-108, May 1952.
 46. See summaries in Clifford Kirkpatrick, *What Science Says About Happiness in Marriage* (Minneapolis: Burgess Publishing Co., 1947), pp. 24, 32; Burgess and Wallin, *op. cit.*, pp. 367-371; and Lemo D. Rockwood and Mary E. N. Ford, *Youth, Marriage, and Parenthood* (New York: John Wiley and Sons, 1945), p. 247. The only contrary finding of which I am aware is that of Carney Landis’ study of 295 women, 25 per cent of whom had experienced premarital intercourse; Landis concluded that more women who had good marital adjustment had had complete premarital sex experience (cited in Rockwood and Ford, pp. 47, 247).
 47. Harvey J. Locke, *Predicting Adjustment in Marriage* (New York: Henry Holt and Co., 1951), pp. 132-139, 148-155.
 48. Discussion in Stokes and Mace, *op. cit.*, pp. 245-246.
 49. William J. Goode, *After Divorce* (Glencoe: Free Press, 1956), p. 213.
 50. Cf. William M. Baxter, “The Relationship of Faith to Sexual Morality,” *Journal of Pastoral Care*, 9:77-82, Summer 1955.
 51. Stokes and Mace, *op. cit.*, p. 241. See also Psychiatrist Laidlaw’s comments, p. 247.
 52. Many, perhaps a majority, of social science books dealing with love, courtship, and marriage openly support the conventional moral standards, even if only because of guilt feelings frequently incurred from their violation in our culture.
 53. Frank A. Houser, Sociology Section, *Journal of the American Scientific Affiliation*, Vol. 6, No. 4, p. 18, December 1954. I am grateful to Mr. Houser for many excellent suggestions both in this column and in his critique of a preliminary version of this paper. The comments of Dr. Arthur Volle have also been helpful in making the final revisions.

In Continuance Fashioned

PAUL E. ADOLPH, M.D., M.Sc. (Med.) F.A.C.S.

Wheaton, Illinois

Ever since the appearance of Darwin's "Origin of Species", much has been written with a view to presenting various viewpoints concerning how the various forms of life, and man in particular, came into being. On the one hand, many have erroneously assumed* (1) that the last word on Biblical interpretation with regard to the Bible's description of the creation has long ago been spoken. On the other hand, much confusion has come about through the fact that theories designed to explain scientific facts have embodied within them certain unproved presumptions. It is to be pointed out that the admixture of these presumptions does not *per se* prove all the concepts, that have been elaborated, to be false.

In particular, two outstanding concepts appear to comprise the background of much of the thinking regarding the way things came into being, and it would appear that there are important elements of truth in these concepts. They are: (1) that the creature world and man himself came into being as the result of a continuous process which progressed from the simple to the more complex, and (2) that resident forces were present within these creatures to account for certain phenomena.

The fact is that the Bible itself presents much the same concepts. The main difference between the Biblical concepts and others has been (1) in expressing the degree of continuity involved in view of the gaps which have become more and more obvious as the orderly progression of the appearance of species has been studied, and (2) in delimiting the bounds within which the resident forces act. Actually it would appear that the deeper we carry our investigations into Biblical interpretation and into scientific facts, the closer is the agreement of the conclusions drawn from them.

In considering these matters, let us examine some of the most pertinent passages in the Bible.

In Psalm 139:14-16 we read: "I will praise Thee; for I am fearfully and wonderfully made: marvellous are Thy works; and that my soul knoweth right well. My substance was not hid from Thee, when I was made in secret, and curiously wrought in the lowest parts of the earth. Thine eyes did see my substance, yet being unperfect; and in Thy book all my members were written, which in continuance were fashioned, when as yet there was none of them."

From this passage we learn that God in fashioning man utilized substance which had not yet been perfected into its final human form. Moreover, in a con-

tinual process He was fashioning man before he was man ("when as yet there was none of them") by a curious process in the lowest parts of the earth, presumably the geological strata in many of which fossils have been preserved as mute evidence of what took place in bygone ages. On this basis we may assume that the various lower forms of life, some extant, some extinct, were, in some degree at least, stages in the process by which God fashioned the higher forms of life.

The process of the creation of the things in the world is also described in Heb. 11:3 where we are told: "Through faith we understand that the worlds were framed by the Word of God, so that things which are seen were not made of things which do appear." The creative process is further epitomized in Gen. 2:7 which informs us, "God formed man of the dust of the ground."

Correlating these Scripture passages with Psalm 139, we note: (1) that man is composed of no other chemical elements than those which are found in the dust of the ground, a really profound scientific fact; and (2) that the continuous process by which man was brought into being involved the production of certain now extinct form of life (impliedly referred to as things which do not appear in Heb. 11:3), forms which constituted human "substance yet being unperfect" (Psalm 139:16), as by-products.

As to the exact duration of this continuous process we are not informed precisely either by the Scriptures or by science but in both instances the implication would appear to be that it was a prolonged period of time. Scientists have made various estimates and this need not be gone into here except to point out that all these estimates involve a prolonged period of time well beyond the range of a six-day creative week of 24 hours per day.

That the six days of creation referred to in the Bible represent prolonged periods of time is to be deduced on the basis of the seven considerations enumerated below.

1. It is an anachronism to suppose that the days of creation could have been delimited as from sunset to sunset before the sun was created in the midst of the fourth day. Only the fifth and sixth days could conceivably have been measured from sunset to sunset and that would be at most only 33⅓% of the six days of creation. The other 66⅔% of the days were undoubtedly delimited according to some other criterion than from sunset to sunset and this means

that it is very likely that all the days were thus delimited and were therefore not 24-hour days.

2. The Hebrew word *yom* as used in the Scriptures and translated *day* is obviously of broad meaning, corresponding to our current use of the word *day* in many respects, for in Genesis 1:5 the word is used in the first part of the verse to indicate the presence of daylight while in the second part of the verse it is used to indicate the period of time composed of one component of evening and one component of morning.* (2)

3. The six days of the first chapter of Genesis are called one day in Gen. 2:4. This would be impossible if all these days were precisely 24 hours in duration. It is therefore to be assumed that the days must have been periods of time, presumably none of them as short as 24 hours.

4. The six days of the first chapter of Genesis are represented as being each composed of evening and morning. By connotation the Hebrew words for evening and morning in the original text may simply mean (1) a period of quiescence ("evening calm") followed by (2) a period of activity ("breaking forth"), a symbolism which may well denote the ebb and flow so evident in the various phases of natural phenomena.

5. In II Peter 3:4-9 it is pointed out that there are certain things of which people have allowed themselves to be willingly ignorant *with reference to the creation* and in this connection we as Christians ("Beloved") are especially exhorted that we "be not ignorant of this one thing, that one day is with the Lord as a thousand years, and a thousand years as one day."

6. The possible, if not probable, implication of the Psalm 139 passage referred to above is that the process of creation was long enough to involve the laying down of geological strata to be covered in turn with other more superficial strata so as to make these strata lower than others.

7. The phrase "in continuance" in this connection lends itself to the concept of a prolonged period of time. Without the concept of a prolonged period of time, the rationale of referring to the process as a continuous one is lacking and the context becomes almost inexplicable.

A ready illustration of this continuous process is found in the so-called "evolution" of the Ford automobile, in which we may note in passing that there is in this concept of evolution not the slightest notion that the 1956 Ford car in any wise made itself out of the 1914 model-T Ford. Actually there has been a continuous fashioning by master minds so that the present 1956 Ford car is so different that its resemblance to the 1914 model is scarcely more than in name. At the same time it may well be said that the parts of the 1956 Ford were being continually fashioned over the years when as yet there were none of

them.

The fact is that the construction of our roads has so changed in the past four decades that the makers of the Ford car, being intelligent beings, could not help but make progressive changes in the Ford car to adapt it to changing conditions. Moreover, as new devices have suddenly been incorporated in newer models of cars there have been certain gaps between oncoming models and former models made in connection with the continual fashioning process which correspond very much to the gaps which one observes between various categories of animals. Besides, it might be pointed out that, while certain models have been superseded so far as Ford cars are concerned, there is also a persistence of certain forms in that year by year new models of Lincolns, Mercurys, Fordson tractors, as well as the various types of regular Ford cars appear on the scene.

The production of new kinds of automobiles involves (1) a new pattern conceived by master minds and outlined in blue prints, and (2) the remaking of matrices, molds, and dies in accordance with this new pattern. Similarly one may reasonably surmise that perchance in the creation of a new species of plant or animal, (1) God set before Himself a perfect pattern for each new species fully adapted to a set purpose and economy within its environment, and (2) God by His almighty power rearranged and readjusted the chromosome mosaic in an already existing seed or egg for the production of this pattern. Certainly the emphasis upon the seed in the first chapter of Genesis (Gen. 1:11, 12, 29) would seem to point to the probability of its having a significant role in the process of creation. Beyond presenting the above analogy as a plausible concept of the outworking of the creative process, however, it would not seem to be wise to speculate further.

One important dissimilarity between "new creations" in automobiles and God's creation of the creatures of this earth is to be noted. Besides the above reasons for new models in cars and the visual appeal to human nature of new styling, it is also true that new models of cars appear because of improvements made over previous imperfections. This is in contrast to God's creation in that He made everything perfect at the start with well defined function and complete adaptation to the respective intended sphere of existence in each case. The fact that some of God's creatures have become extinct is perchance a reflection not on their imperfections, but possibly on a change in their environment to which they did not prove to be adapted.

In the first chapter of Genesis the order in which the various things created are listed as brought into being, corresponds reasonably well with the sequence in which fossils appear in the strata of the earth and with the so-called phylogenetic order of development

(the sequence in which parts are observed to appear in embryonic life), and this in general represents advance from the simple to the more complex in structure. This is just another facet of information concerning the curiously wrought substance in the lowest parts of the earth which eventually blossomed forth in man, as God worked on the members, yet being imperfect, "which in continuance were fashioned, when as yet there was none of them," much as a potter works on his lumps of clay until he perfects his finished product, often perchance making other vessels suited for other purposes as side issues, as it were, in his overall plan.

Certainly, if God says, as He does say, that He used a continuous process in creating man, utilizing substance which was not yet man but constituted unperfected members, we humans, who must rely on revelation in these matters to a great extent at least, cannot do better than to accept that this is just the way God saw fit to create man.

That God *can* make a man directly out of nothing is not to be refuted. That He *did* do so is to be flatly denied. (1) In the first place the Bible tells us that there was the intermediate stage consisting of inorganic materials, "the dust of the ground" (Gen. 2:7). (2) In the second place we are informed that there were intermediate stages of presumably living substance ("my substance"—Ps. 139:16) which preceded the completed human body ("yet being imperfect . . . when as yet there was none of them"—Ps. 139:16). (3) In the third place the fact that the woman was created from the man (Gen. 2:21,22) intimates again that the trend in God's creation is that of utilizing already existing forms of life in the production of new forms. The problem here is not whether God could not have made the woman directly out of nothing but what method God said He used and the pattern shown in that method as related to His other creative activities.

The other aspect of creation which comes up for discussion is the matter of resident forces. The fact is that God in His Word defines very definitely the resident forces which He gave to the things which He created. These resident forces are such as to cause the yielding of "fruit after his kind" (Gen. 1:11). Over and over again the boundary which God set for His creatures in reproducing life is stated to be "after his kind" (Gen. 1:21,24,25). Research along the lines of mutations in connection with the slight variations, that are observed to take place in successive generations, shows that the only resident forces present in God's creation are such as to secure the reproduction of the same kind of animal or plant, ordinarily within the confines of the same species, and most certainly within the limits of genus, family and other.* (3)

Neither man nor the animal or vegetable creation

has the intrinsic power of producing new species beyond these limits. Quite properly did the Psalmist exclaim, "Know ye that the Lord He is God: it is He that hath made us, and not we ourselves" (Psalm 100:3). It appears illogical to assume that there are resident forces to make new kinds of life beyond these boundaries, for there are no evidences in the world today of such new kinds of life making themselves nor of resident forces that could do so. Moreover, natural selection, as has well been pointed out, may explain the survival of a form of life, but it does not explain its arrival, for it is not a creative force.

The intimation that there are resident forces to bridge the gaps between the various kinds of plants and animals not only seems to contradict the Bible, but also is hard to justify on the basis of purely scientific thinking since the extension of the operation of the resident forces to the production of such new forms of life still leaves unexplained the basic resident forces which would then supposedly have first produced life out of the inanimate, i.e. spontaneous generation, a thing that science so firmly declares impossible in all other instances except this one in the dim past. Moreover proof of this exception would seem to be difficult.

We therefore may conclude that resident forces are a totally inadequate explanation of the origin of new forms of life, (1) since they can seemingly in the above manner be shown not to have produced certain forms of life, namely the first forms of life out of inanimate substance, (2) since they have never been shown to have the power to bridge the significant gaps between the vegetable and animal kingdoms and between subkingdoms, phyla, classes, and orders, and (3) since it would be highly improbable that these blindly acting resident forces would produce two, one male and one female, of an entirely new species at approximately the same time and place without extrinsic directional force and that these two would mate to produce offspring.

God is supreme in His creation. He made the creature world and man the way He saw fit, and man is not in a position to ask, "Why hast Thou made me thus?" (Rom. 9:20) Much less is man in a position to state that God did not make man in the way He said He did! It is by His power and by His continuous process outlined in the Bible that man came into being. The fact that it was a continuous process does not give man any subterfuge to think that it was so gradual that he might have somehow exerted some part in making himself or anything else.

All things have come from God. He drew the "blueprints" and executed the fashioning of all forms of life. The resident forces He implanted in these creatures were and are limited in power and that limit is fixed in that reproduction does not exceed the boundaries of their own species or at most genus,

family, or order. Even common sense would lead us to assume that God would not be so foolish and wasteful as to let His creatures produce new grotesque forms of life as their whims (or "chance", the existence of which in this God-controlled world may well be denied) might dictate only to suffer undue hardship in their environment because of lack of intelligent planning such as experience has shown must go into all new models of cars so as to insure their survival (or, competitive) value.

From the above discussion it would appear that we can draw the following conclusions:

1. The Bible and science both seem to point to a *continuous process* exerted in creation carried on over a prolonged period of time.

2. *The power* which created all things is to be found in *God Himself* since this is the assertion made in the Bible and since no other force adequate to the task has been discovered. In particular, it is to be observed that resident forces, to whatever extent they exist, do not constitute an adequate explanation of how things came into being.

3. The *facts* of God's revelation in His Word, the Bible, appear to be in perfect harmony with the *facts* of science.

4. While there are in God's revelation instances of His working through sudden outbursts of activity, it is noteworthy that in the creation of man there was

apparently a continuous process accomplished in a more or less gradual manner, or at least a spreading out of minor sudden outbursts over a prolonged period of time. By the same token, even though we recognize the new birth is an instantaneous transaction, we may anticipate that God's Spirit will accomplish the work of His *new creation by a gradual process* in many instances "precept upon precept, line upon line, . . . here a little, and there a little" (Isa. 28:10) to the end that Christ may be formed in us (Gal. 4:19). In this process, that which is to be the new creature may be experiencing the perfect work of God even though not yet perfected. Note that Psalm 139:16 refers to this phase as "unperfect", not imperfect, doubtless implying that God's perfect work is viewed in an incomplete stage of development.* (4) We do well then to be patient as we seek to labor on behalf of others until Christ be formed in them. The process may prove to be one in which God "in continuance" is fashioning.

REFERENCES

- (1) Short, A. R.: *Modern Discovery and the Bible*. 4th Ed., London, 1954, p. 88.
- (2) Lehman, C. K.: *Biblicism and Science*. Journ. of the Amer. Scientific Affiliation, 6:3-7, Dec. 1954.
- (3) Mixter, R. L.: *Creation and Evolution*. Monograph 2, The American Scientific Affiliation, 3rd Ed., 1953.
- (4) Robertson, G. M.: *Embryology in an Ancient Book*. Christian Medical Society Journal, Vol. 7: No. 2, p. 21, (Mar.-Apr.) 1955.

Time and The Timeless God

JOHN F. GATES

The King's College, Briarcliff Manor, N. Y.

Time is the shadow of eternity upon the wall of existence. Time is the island of man's opportunity in the ocean of God's eternity. The relationship between time and man (a creature of time) is essential, but the relationship which exists between God and time and time and God is even more essential; both theologically and practically speaking. Does God know time? Is God aware of time? Does the passage of time affect the Deity? Is He in time, with time, from time, or above time? No less a serious scholar than Archbishop Temple has devoted himself to this question in his work, "Nature, Man and God." While Samuel Alexander gives a penetrating, though far from conservative analysis of the phenomenon of time in his work "Space, Time and Deity".

A rather prosaic concept of time is that it is a measuring stick for the sequence of events, as when a student half complainingly says to his instructor, "I want you to know Sir, that it took me two and a half hours to do this assignment". But time has a philosophical, theological, and religious aspect as well as a mere practical one. We shall therefore divide this discussion as follows: 1) The Greek concept of time, 2) The Kantian concept, and 3) The Biblical concept of time.

Time for the Greeks

Perhaps the first Greek philosopher who ever dealt seriously, though not directly, with time was the thinker Heraclitus. For him the most pronounced feature of nature was that comprehending change. Everything flows and nothing is permanent. You cannot step into the same river twice; we are and are not; everything passes into something else; from One is everything and everything is from One. "God is day and night, summer and winter, war and peace, repletion and hunger".(1)

Now in order for there to be change there must be, according to the above philosopher, the accompaniment of time. We also clearly recognize that God, in Heraclitus, is contingent upon time, and in a way is bound to it. This is so because time is not here considered as a part of the creation. In fact it is doubtful if Heraclitus took any stock in a doctrine of the creation, but rather conceived of the universe as both eternal and dualistic in its nature.

Passing into Plato and Platonism we observe that time belongs to "number" which implies limitation, which timelessness belongs to that which can not be numbered and thus implies infinitude. In fact, the

problem of time did not directly interest Plato because he conceived it to be strictly a feature of the world of sense perception, as divorced from the immutable eternal world of ideas. Man's body for him was indeed a thing of time. According to his best biographers he himself occupied the prison house of the body for some eighty odd years. But the soul of man was of an eternal and hence a timeless nature, free from the dialectic of time itself.

Aristotle following Plato is more precise as to his concept of time. He says in "The Physics" that man cannot say of any given second it is *right here now*, for by the time that the concept is vocalized it is no longer precisely that second. For example, I may observe as I write these lines that it is now exactly twenty and one-half minutes after five in the evening; but in the amount of time that it takes my typewriter to record that datum it is no longer precisely that time. The movement of the dialectic has progressed however slightly sufficiently beyond that point to make my assertion not completely true. Of course, for the business of life it is so but philosophically speaking it is not quite to the point. Aristotle's concept of motion from which through a series of retrogressions he adduces the argument for the Unmoved Mover, is based on the legitimacy of the chronological concept. Naught can be moved without a mover to effect its motion. But motion can not go on forever. No matter how many intermediary movers there may be, one must at last come to the end of the ladder of ascent. When one does so, he reaches the Unmoved Mover who is by very definition timeless and therefore eternal.

That the Greeks also held in general to the theory of cycles is a well-known fact. The idea of an eternal succession of existence—of alternating periods of dissolution and renovation—of the destruction of worlds and the continual rebirth of new ones upon their old ruins is at the bottom of these circular theories of existence.

Cicero, the Roman lawyer, makes mention of his belief that there is a recurring cycle not only for the universe itself but for individuals within the universe. Parmenides thought that he remembered distinctly the various phases of his former lives; when he was a rose, a tree, a bush, a boy. Another philosopher apparently sincerely told his followers that he had taken part in the siege of Troy, although, he actually lived centuries thereafter. That these conclusions were erroneous need scarcely be said.

However, it is not great wonder that early speculators should draw such conclusions as they thought upon the various problems relating to life and time.

The Kantian Concept of Time

Perhaps the next most significant contribution to the concept of time is that proposed by Immanuel Kant. There are those who question if the concept is really Kantian or if it stems from David Hume. Such quibbling all to one side, however the idea is simply that time arises not from nature or the things observed but has its origin in the mental processes of the observer. To use technical language, time is a "mental constitutive concept". That is to say that the very idea of time is derived "ab extra naturae", that is beyond the concept of that which we see in nature. It is we who carry the idea of time within our own make up. It is not something exterior, it is something interior.

Reality exists beyond the boundaries of space and time. If one will be permitted to employ an illustration that we have used in our own teaching: at the threshold of each mind there stand, as it were two little gnome-like creatures called space and time. As reality, "X" passes over the threshold of the mind, these two little gremlins converge slipping the spacial and chronological sack over the head of reality so that it can never be known in and of and by itself, but only as it appears to exist spacially and chronologically. In other words time, for Kant, has more or less spoiled reality, in that we are ignorant of reality simply because we only know it from where we are (space) and at a given moment (time).

The neo-supernaturalistic theologians are more indebted to Kant in his concept of time than they themselves perhaps would care to say. Their whole concept of God as the wholly Other is founded on a Kantian concept of time. The Divine human encounter can never be assessed accurately because it is the eternal breaking through the barrier of time in an effort to reveal itself to man. Time is thus really a hindrance to either revelation or salvation, as far as this type of theology is concerned. Though neo-orthodoxy is not without its insights into the problems of time, the orthodox preacher and teacher (as well as the reader) should carefully consider the implications underlying some of their figures of speech before being too prone to utilize them.

The Biblical Concept of Time

Though the Bible never furnishes a prolonged or sustained excursus on time, it nonetheless takes full knowledge thereof both directly and indirectly. The very first phrase of Scripture "in the beginning" indicates that we move in the realm of time. Augustine, the Bishop of Hippo, the pre-reformation thinker, addressing himself to this problem, points out: to ask the question, "What was God doing before the creation?" is a meaningless one. The words "before" and

"after" have meaning only in the context of the time relationship.

Whatever may be one's view of the question of the "Days of creation" this much is beyond cavil, that the Genesis record is "time conscious". "And there was evening and there was morning, one day", (Genesis 1:5b). "And God called the firmament heaven. And there was evening and there was morning a second day." (Genesis 1:8b). "And God saw everything that he had made and behold it was very good. And there was evening, and there was morning the sixth day." (Genesis 1:31). No matter what may be our particular view of the "age question", time is implied and inherent with the creation. Time is therefore a part and parcel of the creation. As the rocks, stars, mountains, etc., are part of the material creation, so likewise time is to be considered as one of the immaterial creative acts of God. Joseph, as the revealer of the purpose of God, could declare that there should come seven years of plenty, followed by seven years of famine. (Genesis 40:29, 30). It was given in prophetic vision to Abraham that the Children of Israel would sojourn in the land of Egypt for "four hundred years". (Genesis 15:14). The prophet Jeremiah predicted that the southern kingdom of Judah would remain in the land of their captivity for a period of seventy years. (Jer. 25:11, 12)

In the mysterious fiery writing upon the wall of the palace of Belshazzar, Daniel announced to the impious monarch, "God hath numbered the days of thy kingdom and finished them" (Daniel 5:25).

In the 90th Psalm, verse 10, the Divine Sovereignty has set the limits of the life of mankind in general at three score years and ten. The apostle Paul held the doctrine that the Incarnation occurred in the "fulness of time" (Galatians 4:4). Salvation is set forth in terms of "today" by the same Apostle in II Cor. 6:2.

Thus, time is in and under the directive will of its Creator. Time issues from Him who is the Alpha and the Omega of time. Thus, on the terms of the Biblical revelation, God is neither in or subservient to time, but supratemporal. However, this does not imply that the Deity does not know time, though He transcends it. Transcendancy however, can not be forced to mean an impervious Deity, or an unmoved Mover, nor a "Deus Absconditus". Time is thus set forth in the categories of Scripture as God's creation, Man's probation, and the stage of revelation.

Time is the processional from eternity to eternity. "Time is the reduction of future possibilities into present actuality." Time is like the river flowing from out the future into the present, and at length into the past, deep, wide, mysterious. Time, the burden of boyhood, the opportunity of virile manhood, the mockery of old age, the vestibule to eternity. The

shadow of eternity grows long on the wall of existence. The trumpet sounds! Time recedes. The timeless remains forever. Blessed be He!

(1) Zeller, Eduard: *Outlines of the History of Greek Philosophy*, New York: The Noonday Press, 1955 Pg 62.

Comments On Dr. Gates' "Time and the Timeless God"

WILLIAM W. PAUL

Shelton College, Ringwood, N. J.

I admire the rhetoric with which Dr. Gates opens and closes his paper. In between the author has undertaken the rather large task of summarizing three historical viewpoints on time (Greek, Kantian, and Biblical) in what may be too brief a space, especially if one wishes to relate the analysis adequately to the concept of a "Timeless God". We are not told specifically what bearing it would have for our view of God were we to hold to the ancient cyclical theory or to Kant's Theory that time like space is a mode or form of thinking in terms of which I experience or intuitively conceive reality. Professor Gates' handling of his own (Biblical) perspective is admirable (with the exception that I question whether he meant to imply that time is a thing like "rocks, stars, mountains" that God creates or destroys). His historical survey is not without importance in that it reminds us that there have been many views of time, and that we cannot decide whether to refer to the Creator God as timeless until we have formulated a definition and philosophy of this crucial concept. Perhaps my few remarks may best be directed toward this end.

We may start with the definition which Mr. Gates calls "prosaic" and "merely practical," namely, that "time is a measuring stick for the sequence of events." Man, living as he does in this solar system, has come to divide up this "stick" into various units: minutes, days, seasons, years, epochs, light years. These, like time itself, are relational concepts—relating my experience in some meaningful way and with varying degrees of precision to the succession of some desig-

nated or tacitly understood events. The complexity of this relational aspect of time is indicated when we say, "He did his assignment in two and a half hours" (work time); "He ran the mile in four minutes", and "A light year is the distance light travels in a year" (time relative to motion in space); "The King James Version of the Bible was produced in the age of Shakespeare," and "Fossiliferous strata appear in the Cambrian period" (era of time); "It seems ages since I've seen you," and "I thought that class would never end!" (psychological time); "I am pressed for time" (the dialectic of time reflecting the tensions of life); "Christ was born in 4 or 5 B.C." (*chronos*, or clock time); "In the fulness of times God will put all things under the headship of Christ" (*kairos*, at the right or appointed time), and "When time shall be no more" (poetic ? time).

With such an array of usage before us it would seem questionable whether the question as to God's timelessness is subject to an easy yes or no answer. Time is the category or context of this wide range of events some of which are susceptible to quantitative measurement and others are definitely qualitative. The main point to be emphasized is that the God of the Bible who created and gave us the universe as well as who saves and shows His active providence toward men is not *unrelated* to or *unconcerned* about any aspect of the context of event-relationships. Hence He is not timeless or wholly Other. But God is *not dependent* as are finite beings upon that which He has created with its temporal aspect. God is sovereign and eternal. In this sense, as Dr. Gates says, He is supratemporal and transcendent.

May I conclude by calling attention to Dr. J. Oliver Buswell's profitable discussion of Aristotle's influence upon Augustine's and Thomas' conceptions of God as timeless in his *Thomas and the Bible* (Shelton College, 1953). Dr. Buswell offers an abstract mathematical definition of time as "the mere abstract possibility of relationships in sequence" pp. 68-9). "Abstract time," he says, "is not necessarily an aspect of *finite* things or of actual movables or movements. Abstract time is abstract truth, and so is an aspect of the character of God."

A New Opportunity In Christian Witnessing

HERB SEAL

P. O. Box 123, San Francisco, California

I feel somewhat in the same classification that President Theodore Roosevelt stated when he said "Every good movement has it's lunatic fringe", for in a strict sense the field that I represent is not a physical science, nor a life science, but rather a fringe area that needs the findings from both so that it can be an acceptable social science. Psychology is little more than a hundred years old though one can go back much farther than that to find excellent psychological treatises. As an academic discipline it is in its infancy, but then so is nuclear physics. My only hope is that our field will be more considerate in its inventions than the nuclear physicists were in theirs!

The general field of psychology has more or less divided itself into 4 areas:

- 1.) Research, commonly referred to as "rat & dog" psychology in honor to Pavlov and others who did physiological/psychological experimentation.
- 2.) Abnormal, which is closely allied with psychiatric therapy. This area is more closely related to the life science field in that physiological processes are more often than not involved to an high degree. Experiments are now going on to determine if an imbalance in the glandular excretions have any predictable bearing on psychopathy.
- 3.) Applied, here is the general area which includes industrial psychology which has been one of the most important steps in employer-employee relationships in the past decade; mental health, which has been widely heralded as the most significant advance in this century with the medical profession taking a leading role. The dynamic society that we live in has exacted a heavy toll with more than 50% of the available hospital beds filled with persons in some stage of mental illness.)
- 4.) Guidance and Counseling, which might also be part of Applied Psychology, but because of its rapid growth as a separate field warrants a separate category. The field of educational psychology is closely interrelated for it is from their testing devices that the conclusions have been drawn. In this field we would have to also include Child and Adolescent Psychology and a new field which is coming into prominence, Marriage Counseling. I will speak more on this a bit later.

If I were to ask this group the question, "How

many have given counsel to another person in the past couple of months?", I am sure that 100% would reply in the affirmative. It is the practice of most schools to use their teaching faculty as counselors to students, with the inherent problem of a student oft-times being counseled by one who has a totally different field of interest. We question the validity of such a practice but are unable to offer any alternative that does not add a considerable amount to an already tightly pressed budget. When industry realizes its stake in the educational setup and begins to support higher education with more than token grants, and when college trustees are given the intrinsic value and the economic saving of professional guidance we will not have the problem of students studying in fields for which they have no aptitude or graduating with degrees in fields for which they have no love nor concern. Vocational guidance should begin on the secondary level so as to avoid indecision and non-direction in advanced training centers.

Counseling at a professional level involves more than vocational or psychological counsel for there are several fields which use counsel to an high degree, the legal, medical, theological, and educational professions. My particular concern is with three of the aforementioned. Having worked in the San Francisco school system during my master's program I am acutely aware of the psychological counselor's problems and limitations of effectiveness in helping children from poorer socio-economic backgrounds and especially those who come from homes where there is emotional insecurity and where the child is often in the cross-fire of quarreling parents. My concern for better family relationships drew me into the field of Marriage Counseling where if given the opportunity to counsel young people *before* entering such an exacting relationship problems can be averted, or at least means of dealing with the myriad problems of such intimate association are explored and they do not come as bomb blasts to wreck an harmonious home. Pre-marital counseling is preventative therapy and is usually far more effective than attempting to untangle the complex interreactions of marital complexities.

In the past year more than a dozen principals have called me to help in a particular problem in their schools and most of these schools were without adequate psychological help available. Dr. Clyde Narramore recently stated, "Almost every school system with more than 2,000 students recognizes the need of professionally trained counselors and is attempting,

as much as the budget will allow, to hire psychometrists and/or psychologists, for there is bound to be a significant percentage needing professional help."

What are the qualifications for a "professionally trained counselor"? Most school systems have not been too specific in this regard. How often we have found the situation where an English or Science teacher who has gotten a little too old to control a class situation, yet is not quite old enough to retire, is made a "counselor". A child is sent down to the office and he inquires, "Well, what did you do?"

"Ah, nothing."

"You must have or the teacher wouldn't have sent you down, now listen to me, you go back and apologize and don't let me see you down here again."

What a travesty of counseling. The child's problem has not even been touched. Fortunately superintendents and principals are realizing that behavior problems are more than isolated acts of disobedience and that patterns of behavior need adequate understanding, dispassionate analysis, and frequently some discipline.

Perhaps one of the most important attributes of a counselor would be the ability to understand people, what makes them tick—not physiological knowledge alone though that is necessary. Dr. Peter Marshall the famed Scottish preacher who became Chaplain of the Senate was called to the fashionable New York Presbyterian Church of Washington, D. C. and found less than a score of young people in all departments, then in a year after he came there were more than 200. Why? A teenage girl who heard Dr. Marshall in a high school assembly that was notorious for booing speakers right off the platform stated, "We kids liked to hear Peter Marshall because he spoke our language. He didn't talk over our heads, and he put the responsibility for what we made of our lives squarely on us." He knew what made them tick. Every successful youth leader is somewhat of a psychologist though he may not be clinically trained.

A second attribute would be a friendly personality with few annoying habits. Some people are very irritating in both public and personal audience. I once had a professor who constantly pulled at his ear. And there is a very famous preacher who I can't stand to watch because he is always pulling his handkerchief thru his hands. I am reminded of the story of a lady threatened with a nervous breakdown and was persuaded to consult a psychiatrist. After their first session, he gave her a list of things to do and made a weekly appointment for her. Two weeks later he telephoned her and asked why she had failed to keep her appointments.

"But, Doctor," she explained, "you said for me to stay away from people who irritate me, and I don't know anyone who irritates me more than you do."

A third qualification of a good counselor would be the ability to listen sympathetically and not condes-

cendingly. You don't need to be orientated to Dr. Carl Roger's non-directive approach to be able to do this either. Though I am a disciple of non-directive therapeutic counseling there are many situations which require giving specific information or as it is referred to by Rogers, an "authoritative approach". Many counseling sessions are a total failure because the client feels that he or she has been dominated and then their own defenses rise up to form a barrier between the counselor and client. The eclectic approach is probably what the greater majority of counselors use.

The fourth and perhaps most important attribute so far as the client or student is concerned is that the counselor must know how to keep confidences. One of the major reasons for the cathartic value of the Roman Catholic confessional is the absolute confidence of the parishioner that the man listening in will never divulge the conversation to another. To a professional counselor this too is essential for there will be an inability to get the client to speak freely and thus explore the cause of difficulty if the client feels such information might be divulged. A "blabbermouth" has no place in the counseling profession.

I indicated in the title that I would suggest a "new way or new opportunity in Christian witnessing". I am vitally concerned with this subject, having spent the last fourteen years helping Christians realize their divinely appointed responsibility. God did not save us and then whisk us up to our celestial home. Instead he gave us the privilege of spreading His Gospel to all the world. In Pasadena City College I met a Christian Mathematics and Astronomy professor who used personal contacts as well as classroom discussion to present the need of faith in a personal God. He was a founder of the ASA, Mr. Peter Stoner, and he used his daily life as an opportunity for a Christian witness.

He typified what Dr. Wm. Evans wrote in his practical and scholarly volume, "Personal Soulwinning" (p.28), "An opportunity is defined as a time with favoring or propitious circumstances; a favorable chance . . . the personal worker (Christian witness) must be an opportunist; he must believe in opportunism. As men in the gold fields are constantly on the lookout for gold veins, so should the personal worker be on the lookout for souls."

In answer to the question, "How is counseling a "new way" of Christian witness" we can say:

- 1.) It is a new and growing field, hence subject to either good or evil influence (equating good with Godly and evil with ungodly influence.)
- 2.) It is interrelated with the total environmental conditioning of a school and its teaching philosophy, therefore it can be a positive force in helping moral and spiritual development.
- 3.) It is more or less an individual contact basis,

thus affording maximum privacy when dealing with people about eternal verities. Men like Dr. Narramore in Los Angeles, Chief Consulting Psychologist for the County Superintendent of Schools, Mr. Paul Wilkerson, Counselor in a Junior High School in Akron, Ohio, and Dr. Augustine of the Graduate School of Psychology at Penn State and Head of Guidance and Counseling of Erie County, Pa. have been encouraging Christian young people to come into the field and help make this discipline a vanguard for Christ.

The question may arise . . . Is it ethical to use a clinical counseling conference as a place to evangelize or give a Christian witness. Dr. Wallace Emerson with a somewhat prejudicial viewpoint stated in his "Outline of Psychology", "The most important study in the world is not of things, but people. Things have no importance, so far as we can tell, except as they relate to people." (An astronomer might take exception to this!) He continues, "When a person becomes a Christian, from that moment on, his *chief business* in life ought to be *people*. Since there is nothing here on earth that has eternal destiny except people, it is the business of Christians to influence that destiny in whatever walk of life they may find service." We have a divine imperative . . . scientist, teacher, preacher, there is no distinction when Jesus said, "Ye shall be my witnesses . ." John 15:16.

BIOLOGY

by

Irving W. Knobloch, Ph.D.

Phylogenetic Trees

Most general biology books grace one of their pages with a diagram bringing together our present knowledge on the time of origin of the major groups of organisms and the relationships that may exist between these major groups. The one in Pauli's "The World of Life" is called "The Tree of Life". This one starts with the viruses, bacteria, blue-green algae and others and derives, by implication, all of the "higher" plants and animals from the more "simple" forms. The diagram shows a branching "tree". The tree effect is obtained by employing several assumptions among which are (1) the fossil record is reasonably complete and (2) that phyla are connected by ancestral forms with other phyla. The trees in some books show less anastomosing than others, so much so that the ancestral trunk has been eliminated and only the tips of the branches remain.

If the biblical account is to be taken literally, it would seem that God created creatures capable of liv-

ing on land, in the air and in the sea. If one furthermore assumes that this is fiat creation, then there is no room for the derivation of all living things from simpler forms of life, as taught in the theory of evolution. One solution to this dilemma has been proposed by the writer in a series of articles in this magazine. Briefly, the thesis given was that certain types were created by fiat and from these our present forms have evolved by the various means known to science. This thesis can neither be proved nor disproved by evidence of a conclusive nature but the same is true of organic evolution *per se*.

The purpose of this article is to examine certain facets of the phylogenetic tree concept. It is not planned to exhaust this topic but only to mention such evidence as bears upon it in a general fashion.

Something needs to be said briefly at the outset upon the dating of the rocks. The basis of rock dating still depends largely upon the use of index fossils. Certain fossil species are characteristic of certain periods and were not found before or after that time in history. A case in point would be the now extinct passenger pigeon. Should any of these have become buried and fossilized and later dug up, future scientists would say that these were one of the characteristic forms of the life of the quaternary period. They must be careful not to push this too far however. *We* know that the passenger pigeon would only be characteristic of such quaternary deposits laid down in parts of this hemisphere.

Similarly, paleontologists dealing with more commonly known fossils, must beware of assuming that plant and animal life of the past was *uniformly* distributed over the face of the earth. This may have been so, but it is quite hard to prove in all cases.

If rocks are dated by fossils, how do we know the order of evolution; how do we know which fossils are older than others? It is quite logical to assume that rock layers underneath other layers are older than those above. No fault can be found with this reasoning except in these cases where the strata have obviously been overturned. (Lewis overthrust).

It is only fair to state that at no place on the earth is there a series of rocks running from the archaean up to and including the most recent rocks of the cenozoic era. We cannot therefore see the entire story at any one place. It is necessary to "bring in" strata from various places (dated by the fossils) and superimpose one series upon the other. The need for cautious interpretation on this procedure has been indicated. Dr. Kulp, of our own organization, has kindly written me telling of two series of deposits where the series are extensive enough to be helpful. In the gulf coast region there are deposits (he writes) at least 30,000 feet thick "going" from the Pleistocene (ice age) down to the Cretaceous (of the Mesozoic era). A larger series is that in the Appalachian syncline

where the rocks encompass the period between the Cambrian and the Mississippian periods.

A method superior to dating of rocks by fossils is the radioactivity method. If and when enough dates can be established, we will have a fairly reliable time table for the pre-historic development of life on the earth.

Another aspect of the problem is the completeness of the fossil record. Opinion among sound scholars is divided on this point. Undoubtedly there were many soft-bodied creatures living in the past, of which we have no record. The rocks probably have faithfully preserved most of the shelled creatures and others capable of being preserved but, as it has been said, the record is very incomplete with respect to *all* the kinds of organisms living at any one time. Our estimates, therefore, as to when a phylum or class first made its appearance cannot be based with complete assurance on the fossil record. G. G. Simpson, in his book "Major Features of Evolution" says that paleontologists do not always seem to realize how exceedingly spotty is the geographic sampling of most of the fossil record.

With these points in mind, we turn to a cursory study of the fossil record itself, for after all, a phylogenetic tree is constructed largely on the basis of fossil remains.

Fossils are found in pre-Cambrian rocks but their remains belong to smaller, relatively unspecialized organisms.

In the Cambrian rocks are found remains of all the animal phyla except too-soft bodied ones and the chordates. One writer ventures the guess that over 5,000 species are found in the Cambrian rocks. I would welcome confirmation or refutation of this figure from some reader. All fossil species fall into the major existing groups, according to Austin Clark. Our "tree" therefore must have most of its animal phyla lines going back to the Cambrian. There has been no evolution of phyla since the Cambrian except for the Chordates, and it is very unlikely that the Chordates arose full blown and suddenly in the next period (Ordovician). It must also be emphasized that very complicated creatures shared the Cambrian seas with their simpler neighbors.

The sudden appearance of abundant fossils in the Cambrian is remarkable and is not easily explained, according to Schuckert and Dunbar ("Outlines of Historical Geology").

Ostracoderm fishes are found in Ordovician rocks and probably arose from simpler, as yet undiscovered fishes, of the Cambrian period or—they were created. There does not seem to be any creature in either Pre-Cambrian or Cambrian times which might have given rise to such a creature as a fish.

The oldest known amphibia have been found in the upper Devonian of East Greenland, according to

Gregory (Evolution Emerging). Very few amphibia have been fossilized, due possibly to their skeletal composition.

(To Be Continued)

PSYCHOLOGY

by

Philip B. Marquart, M.D.

Dr. Junis Romein of Mitchell College, Kentucky has written an eminent volume dealing with those two neighboring areas to our own, education and philosophy.* Needless to say, it deals with psychology too. The author seems to have a cognizance and sympathy with a Christian Theistic viewpoint.

The author takes up the various current practices in education and the schools of thought upon which they are based. These include the humanistic classicists, embracing also the Thomistic group. They propose the older traditional methods. The second school is John Dewey's pragmatists who support progressive education. The third school is a diverse group who build upon the pragmatic contribution with an especial emphasis upon social and economic issues. The more radical in this school are actual supporters of Soviet practices. The fourth school is called the Christian viewpoint. However, the Neo-orthodox is the only Biblical viewpoint supported. The author leaves no place for a truly Biblical Christianity and its implication upon education. His commendation for the Neo-orthodox (Neo-reformed) educational program is largely acceptable, but he sounds no warning about some of their unacceptable tenets.

The currently dominant progressive program of John Dewey and his reconstructionist successors are given much space. Dewey was a philosopher, the leader of a pragmatism school, which was naturalistic, and inclined toward materialism and mechanism. Its educational expressions are called progressive education. Its psychological implications are known as functionalism, which means that personality is nothing but process or function. Progressive education is largely a matter of method. The author feels that much of this method is acceptable, provided we reject its setting.

Progressive education is founded on the assumption that all learning comes by experience and that the learner learns by doing. Hence an "activities program". Of course this leaves out all learning of Christ by revelation. There is also a revolt against everything, and especially all absolutes, whether theological or philosophical. Reality is only known through sense

*Romein, Tunis, *Education and Responsibility*, University of Kentucky Press, Lexington, 1955.

experience. There is an attempt to put the learner's thinking on a scientific basis and to reject all else. Human nature is continuous with all nature and has nothing transcendent to animal nature except in a quantitative sense. Pragmatism is the faith of the progressivist. "Democracy is its faith in action."

A later emphasis of Dewey and his reconstructionist successors was a Depression stress upon improving the environment and especially the economic environ-

ment. This places the progressivist on the same basis of thinking as the radical soviet dialecticism. The author does not emphasize this similarity, nor does he mention that Dewey was an American Socialist supporter of Norman Thomas. However, these facts should emphasize that Christian thinking is the only basis for a patriotic American, even though some progressive methods may be countenanced in school.

OFFICIAL A.S.A. REGISTRATION LIST

NAME	MAILING ADDRESS	INSTITUTION REPRESENTED
1. Richard A. Hendry	Dept. of Chem., Univ. Illinois, Urbana, Illinois	Univ. of Illinois
2. Wayne U. Ault	Lamont Geological Obs., Palisades, N. Y.	Columbia Univ.
3. Geo. K. Schweitzer	Dept. of Chem. Univ. of Tenn., Knoxville, Tenn.	Univ. of Tenn.
4. Joan Beltz	George Fox College, Newberg, Oregon	Geo. Fox College
5. Mr. and Mrs. A. Taylor	Toronto, Ontario	- -
6. John R. Howitt, M.D.	Box 930, Port Arthur, Ontario, Canada	- - M.D.
7. W. R. Rusk and family	Route 4, Knoxville, Tennessee	Univ. of Tenn.
8. H. Harold Hartzler	107 W. Plymouth, Goshen, Indiana	Goshen College
9. V. Elving Anderson	Bethel College, St. Paul 1, Minn.	Bethel College
10. H. J. Oorthuys	435 Robinson St., W. Lafayette, Ind.	Purdue University
11. Paul M. Wright	Wheaton College, Wheaton, Ill.	Wheaton College
12. Irving A. Cowperthwaite	10 Willoughby Rd., Milton, Mass.	Thompson Wire Co.
13. B. P. Sutherland	Box 74, Rossland, B. C., Canada	Consolidated Mining & Smelting Co.
14. J. P. Sutherland	- -	- -
15. James O. Buswell, III	Wheaton College, Wheaton, Illinois	Wheaton College
16. C. W. Taylor	410 Greyhound Bldg., Calgary, Alberta	M.D.
17. Philip B. Marquart	Wheaton College, Wheaton, Illinois	Wheaton College
18. F. Alton Everest	947 Stanford Ave., Santa Monica, Calif.	Moody Inst. of Sci.
19. Stanley Horton	615 W. Williams, Springfield, Mo.	Central Bible Inst.
20. Maurice Dube	Box 567, Rosalia, Wash.	Helix Hi School, Oregon
21. Richard M. Snow	137 Shore Dr., Laconia, N. H.	- - Optometrist
22. John E. McLennan, M.D.	Box 876, Palos Verdes Est., Calif.	- - - M.D.
23. Russell Maatman	50 Winding Way, Haddonfield, N. J.	Saony Mobiloil Co.
24. R. E. Hoisington	Stillman Valley, Illinois	Rockford H. S.
25. D. Ropp	Monroe Center, Illinois	Stillman Valley H. S.
26. Thomas Key	Box 4427 Greenville, S. C.	Bob Jones Univ.
27. Irving A. Wills	John Brown Univ., Siloam Springs, Ark.	John Brown Univ.
28. Ruth E. Wills	John Brown Univ., Siloam Springs, Ark.	John Brown Univ.
29. Karl K. Turekian	Dept. of Geology, Yale Univ. New Haven, Conn.	Yale Univ.
30. M. C. Tenney	Grad. School of Theol., Wheaton College, Wheaton, Illinois	Wheaton College
31. P. P. Phillips	904 Monmouth Ave., Durham, N. C.	B. P. Church
32. A. Gschaedler	The King's College, Briarcliff Manor, N. Y.	The King's College
33. Wm. J. Tinkle	2008 E. 4th St., Anderson, Ind.	Anderson College
34. Mrs. Wm. J. Tinkle	2008 E. 4th St., Anderson, Ind.	Anderson College
35. Wayne Frair	The King's College, Briarcliff Manor, N. Y.	The King's College
36. David O. Moberg	Bethel College, St. Paul 1, Minn.	Bethel College
37. R. E. Jongewaard	Scranton, Ia.	- -
38. Paul C. Davis	North Chili, New York	Roberts Wesleyan College
39. Ted. D. Nickel	Meade, Kansas	Meade Bible Academy
40. LeRoy Scott	243 N. Warrington Rd., Des Plaines, Ill.	Maine Twp. H. S.
41. Wm. E. Wilson	220 S. Beech, Oxford, Ohio	Miami Univ.
42. Holger C. Langmack	Rt. 2, Plainfield, N. J.	Writer
43. W. D. Morrison	1483 Haig Blvd., Port Credit, Ontario	Toronto Elevators, Ltd.
44. G. C. Taylor	1557 Rometain Dr. Port Credit, Ontario	- - -
45. W. N. Potts	1302 Central, Jackson, Miss.	Pastor
46. Douglas G. Young	5636 Blaisdell Ave., Minneapolis, Minn.	Northwestern College
47. David Rice	24 Convent St., Bourbonnais, Ill.	Olivet Nazarene Coll.
48. Charles S. Tucek	1679 W. Minnehaha Ave., St. Paul Minn.	Bethel College
49. Deryl F. Johnson	1200 So. Maple, McPherson, Kansas	Central College
50. Wallace A. Erickson	842 N. Wells St., Chicago 10, Illinois	Wallace A. Erickson & Co.
51. Willis H. Riesen	1540 N. State Parkway, Chicago, Illinois	- - -
52. Art Erickson	842 N. Wells St., Chicago 10, Illinois	- - -
53. Lynne Cooper	3003 Bay Road, Redwood City, Calif.	- - -
54. Frank E. Houser, Jr.	422 E. Seminary, Wheaton, Illinois	Wheaton College
55. R. Laird Harris	Box 143 Clayton, St. Louis 5, Missouri	Covenant Seminary
56. C. T. La Enoj	Covenant College, Box 143, Clayton, St. Louis, Missouri	Covenant Seminary
57. Donald S. Stark	Wheaton College, Wheaton, Illinois	Wheaton College

- | | | |
|-----------------------------------|---|---|
| 58. Wilbur L. Bullock | R.F.D. 1, Portsmouth, N. H. | Univ. of N. H. |
| 59. John H. Mehrling, M.D. | 110-20 84 Ave., Richmond Hill, N. Y. | Medical Doctor |
| 60. Frank J. Neuberger | Wheaton College, Wheaton, Illinois | Wheaton College |
| 61. D. N. Eggenberger | 620 Lincoln, Downers Grove, Illinois | Armour & Co. |
| 62. J. V. N. Talmage | 4437 Dorsey, Bellaire, Texas | Bd. of World Missions |
| 63. Henry L. Brinks | 923 N. Scott, Wheaton, Illinois | Lawyer |
| 64. Helen M. Craig | 1515 W. Monroe, Chicago, Ill. | Illinois Med. School |
| 65. Mary Frances Lyon | 5528 North Kenmore, Chicago, Ill. | R & E Hospitals, Univ. of Illi. |
| 66. Jos. S. Maxwell | 95 Fairmont Ave., Fairmont, W. Va. | Medical Doctor |
| 67. James F. Jekel | 130 E. Bodley Ave., Kirkwood, Mo. | Wash. U. School of Med. |
| 68. Mr. & Mrs. Eldon T. Hitchcock | 507 S. 5th Ave. Ann Arbor, Michigan | Univ. of Mich. |
| 69. Dr. John F. Gates | The King's College, Briarcliff Manor, New York | The King's College |
| 70. Cora A. Reno | 129 E. Mosher St., Falconer, N. Y. | Falconer Central School |
| 71. M. K. Cressman | 1031 Dempster St., Evanston, Illinois | Evanston Hospital |
| 72. H. K. Cressman | 1031 Dempster St., Evanston, Illinois | Int. Min. & Chem. Corp. |
| 73. I. W. Brunk | 43 N. Glenview Ave., Lombard, Ill. | U. S. Weather Bureau |
| 74. Roy Shaffer | 808 N. Main, Wheaton, Illinois | Albany Med. College |
| 75. Harold N. Jones | 702 N. Waller St., Chicago, Illinois | Hines Hospital, Hines, Illinois |
| 76. Stanley Parmerter | Wheaton College, Wheaton, Illinois | Wheaton College |
| 77. L. E. Roth | Argonne National Laboratory, Lamont, Illinois | Argonne Nat'l. Lab. |
| 78. George T. Crout | Flanagan, Illinois | M.D. |
| 79. Carl S. Wise | 1911 N. Bigelow St., Peoria, Illinois | Nrthn. Utilization Res. Br., U.S. Dept. Ag. |
| 80. Edwin Y. Monsma | 719 Fuller Ave. S.E., Grand Rapids, Mich. | Calvin College |
| 81. H. J. Wassink | 835 Eastern Ave., S.E., Grand Rapids, Mich. | Calvin College |
| 82. H. Bengelink | 1201 Sigshill St., S.E., Grand Rapids, Mich. | Calvin College |
| 83. M. Karsten | 1403 Eastern Ave., Grand Rapids, Mich. | Calvin College |
| 84. Donald H. Porter | 4105 S. Wigger St., Marion, Indiana | Marion College |
| 85. Douglas A. Block | Wheaton College, Wheaton, Illinois | Wheaton College |
| 86. John W. Klotz | River Forest, Illinois | Concordia Teachers College |
| 87. Edward P. Mininger | 409 Prospect, Elkhart, Indiana | - - |
| 88. M. T. Brackbill | Eastern Mennonite College, Harrisonburg, Virginia | Eastern Mennonite College |