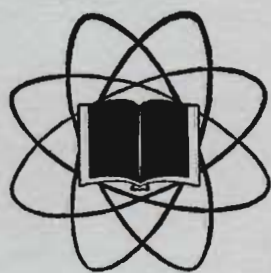


Journal

of the

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

December, 1960

Vol. 12

No. 4

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. Since open discussion is encouraged, opinions and conclusions are to be considered those of the authors and not necessarily held by others in the organization.

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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.

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Christian Education in the Space Age

ROGER J. VOSKUYL

Recently President Eisenhower received a visitor at the White House. Radio-Astronomer A. C. B. Lovell, Director of Britain's Jodrell Bank station, reported to the President about the historic last days of Pioneer V, man's most successful deep space probe. The United States had launched Pioneer V expecting to follow its course by means of messages sent from its radio transmitter for about five million miles. One hundred and six days later the Jodrell Bank station still heard six-minute messages reporting the cosmic conditions through which Pioneer V was speeding. Its estimated distance from the earth was than 22,462,740 miles. Truly this is a remarkable demonstration of the fact that this world and its inhabitants are now in the Space Age. (*Time*, 7/18/60, p. 52.)

Scientific laboratories of this nation as well as many other privileged countries throughout the world are producing new developments at a pace which, if plotted against time, would follow an exponential curve. Trinity, a project which exploded the first atomic bomb in 1945, has been followed by fifteen years of amazing progress in the atomic field at the Los Alamos laboratory. Here are some of the accomplishments of this laboratory during the past decade and a half:

Isolation of the first visible quantities of plutonium, and much of the development of plutonium metallurgy.

The world's first nuclear and thermonuclear weapons.

The world's first homogeneous reactor and first "fast" reactor.

The world's first camera operation at 15 million frames per second.

Detection of the free neutrino.

Direct conversion of reactor heat to electric power.

Development of remote control critical assembly systems.

Development of whole body radiation counters.

Controlled thermonuclear reactions.

(*Santa Barbara News-Press*, 7/16/60.)

Parallel to the exponential rise of the development of science is the concern of the men of science and the men of government for the effects of nuclear development and the related advances upon the future history of the world.

Dr. Voskuyl is president of Westmont College. He received his Ph.D. in Physical Chemistry at Harvard University. His work included research on heavy water with the Manhattan District, and teaching with ranks up through professor. He was dean of Wheaton College before going to Westmont.

Edward Teller gives special reasons to discuss and to seek peace since "we who have been so involved have to think about the consequences of our acts; not that it is given to any of us to control these consequences, but just in order to act with our eyes open."

(*Bulletin of the Atomic Scientists*, Vol. XVI, No. 6.)

Max Born expresses the opinion that "Mankind has been surprised by this technological development; his moral progress has not kept up with it and is today at an all-time low level."

(*Bulletin of Atomic Scientists*.)

In January of this year, Editor Rabinowitch (*Bulletin of Atomic Scientists*, Vol. XVI, January, 1960) states hopefully in an editorial, "in recognition of these new hopeful elements in the world picture, we are moving the 'clock of doom' on the *Bulletin's* cover a few minutes back from midnight."

But after this has come the U-2 incident, failure at the Summit conference, Castro, Polaris launched from the submerged George Washington, Echo I, and who knows what before the end of the first year of this new decade.

Thus, we have entered the Space Age and are a long way in it. Man's imagination is carrying him perhaps to the Age of the Cyborgs (Cybernetic organisms). These are the men whose body organs and systems are automatically adjusted for life in unearthly environments by artificial organs and senses. Whether or not the Orwellian nightmare will be upon us by 1984, or whether it will come much sooner, or whether in the Providence of God withheld entirely, must be the concern of each one of us.

Needless to say, we need educated people in a day such as this. We need people educated in science to keep up the progress in order that we may successfully meet the competition of those who seek world dominion and to produce protective deterrents to a major conflict. Understanding men, wise in this scientific age, to interpret science and to provide leadership in this frightening dilemma in which we find ourselves, by general agreement is our greatest need. At the same time we recognize that the most progressive society in the world is a democratic society. Education therefore must be widespread and all-inclusive. The debate in America is not where shall the leaders lead us, but where shall the educated democratic layman in his collective thinking bring us.

Everyone who has sat on a committee realizes the inefficiency of democratic action. The thought of democratic decisions made by the democratic process in an age of split-second nuclear missiles is appalling.

For example, the 1200-mile flight of Polaris at 12,000 miles per hour doesn't leave much time for anything.

Notwithstanding, we must educate and provide understanding of science. This has been summarized very well in a report, "Education for the Age of Science," issued by President Eisenhower's Science Advisory Committee from which I quote: "A democratic citizenry today must understand science in order to have a wide and intelligent democratic participation in many national decisions. Such decisions are being made now. They cannot be postponed for 20 years while we are improving our present education system so that its products will constitute a significant fraction of the mature voting population. There is, therefore, no escape from the urgency of providing high-grade and plentiful adult education in science, now, planned for those who are unprepared even in the fundamentals."

Much has been said and much could be said about the needs for higher education from sheer statistics alone. As in 1960 there were 3,780,000 students enrolled in higher education, in 1970 we must expect at least 6,376,000. This is going to require facilities and faculty and finance in a way which has never been heard of prior to this time.

One cannot help keeping an eye on our chief rival, the Russians, as far as education is concerned. They are, to be sure, training an army of scientists and technologists, but as reports Nicholas DeWitt of Harvard's Russian Research Center, they want no generalists—only specialists. (*Time*, 7/18/60.) As for humanities, says Expert DeWitt, "the ax will fall." There is little room for humanities in managing an industrial state. United States educators may dispute the quality of Soviet training, but at the present time the United States is short of engineers, physicians, and teachers where Russia is not. DeWitt reports that Russia now spends as much on education as the United States though it is less than half as wealthy. "We will have to do much more for the betterment of our own education before it is too late."

To say that the world is "in a mess," to say that we are in the most desperate situation ever, would be the understatement of the day. If there is anyone who understands the seriousness of the times, it is Charles Malik, the Lebanese diplomat who last year was president of the 13th session of the United Nations General Assembly. In a recent address he states, "The world is completely uncontrollable and there is absolutely no end to what can and should be saved. The dike of corruption cannot be plugged at every point because the points are infinite." He goes on to say that as a result Christians at times get themselves overworked about the state of the world and are busy day and night trying to save the world. We must do what we can to be sure, but he says, "The heart of the whole matter is faith in Jesus Christ." In other words, we cannot expect to save the world, but what we can

expect with the Lord's guidance and direction is to put one finger in one of the holes of this crumbling dike of corruption which seemingly may overwhelm the world.

Perhaps this is the place of Christian education even though it may be small—one finger in the right place at the right time in God's hands and for His purposes can be a means of salvation far beyond human expectancy. However, to look at Christian education as a finger in the dike reduces it to a purpose far beneath the dignity for which it was first called forth.

1. *The Basis for Christian Education.* Christian education is a command of God. God first set apart people peculiar unto Himself. He gave them this commandment: Deuteronomy 4:9 and 10—"Only take heed to thyself, and keep thy soul diligently, lest thou forget the things which thine eyes have seen, and lest they depart from thy heart all the days of thy life: but teach them thy sons, and thy sons' sons; specially the day that thou stoodest before the Lord thy God in Horeb, when the Lord said unto me, Gather me the people together, and I will make them hear my words, that they may learn to fear me all the days that they shall live upon the earth, and that they may teach their children." In the same book: Deuteronomy 11:19—"And ye shall teach them your children, speaking of them when thou sittest in thine house, and when thou walkest by the way, when thou liest down, and when thou risest up." This is the commandment of God to His people. Hebrew parents and Christian parents have a parental obligation placed on them by God Himself. The author of Proverbs has given us this well-known admonition: "Train up a child in the way he should go: and when he is old, he will not depart from it." Through the Apostle Paul, the several members of the family have their admonitions. One of them is found in Ephesians 6:4—"And, ye fathers, provoke not your children to wrath: but bring them up in the nurture and admonition of the Lord." Colossians 3:21—"Fathers, provoke not your children to anger, lest they be discouraged." In this day of juvenile delinquency, the best minds are seeking the cause and the cure. The delinquent parent must come into consideration as well as the child.

Usually there are questions raised when quotations such as these are presented as a statement of the basis of Christian education. Can not the Christian be trained in the home and in the Sunday school; or perhaps, under released time or in the Vacation Bible School? We reply: This training can never be as effective as that done in a Christian school.

As speaker this year at Westmont in his baccalaureate address: Dr. Bernard Ramm asked these seventy young people: "What will be your thinking ten years from now? Will your mind have become secularized? Life can be lived in America from cradle

to casket completely within the system of secularism." He pointed out that for most people work is secular; our social life is secular; our welfare institutions are secular; our marriages and burials can be secular; our educational community is primarily secular; our government is secular. Each one of us as Christians is in a battle arena in which we must choose life in the circumference of secularism or life with Christ. Public schools, wonderful as they are, contribute greatly to the secular mind. Even as we bear this message, a struggle is going on in Florida to remove from the schools the last vestiges of a Christian foundation, the public reading of the Scriptures.

Shortly before his death, President Eliot of Harvard wrote: "Tens of millions of men and women apparently take no interest in any religious doctrine or practice. Their children are not baptized or christened. Children get no religious instruction whatever at home or abroad. They grow to maturity without knowledge of Christianity or any other religion and densely ignorant of the fundamental moralities and good manners. No such experiment on so vast a scale has ever been tried since time began as this considerable fraction of the American people is now trying, namely, bringing up their children without any religious instruction."

We have only to examine the average college student today to see the results of this experiment. Further evidence can be found in the records of the juvenile courts. Bernard Iddings Bell wrote recently: "Public schools and colleges are not antireligious; they simply ignore religion. Give a child twenty-five hours a week for nine months a year for 10 to 16 years. The child views religion at best as an innocuous pastime preferred by a few to golf or canasta." A definition of secularism which I came across recently has shaken my thinking deeply: Secularism is "practicing the absence of God." Every one of us could well ask ourselves, What per cent of our activities, our decisions, our thoughts are secular, that is, totally unrelated to God? If we were to indulge in a bit of self-examination, I am sure that we would be startled to realize the secular frame of mind in which many of us work. Those of us who are in Christian education, of course, have a far greater opportunity of relating our thinking to God.

Jesus was put to the test by a young lawyer of the Pharisees who asked the question, "Master, which is the great commandment in the law" (Matthew 22:36)? Christ gave the answer which depicts the way of life, the pattern of thought, and actions, the objective of intellectual commitment, which has never been equaled. "Thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy mind."

What does it mean to love the Lord with all "thy mind"? When I study chemistry, when I read in geology, when I seek to think through philosophy,

when I sharpen my pencil on some mathematical calculations, I may well ask: Is God related to these processes? When I love Him "with all . . . [my] mind," the reasoning process, thinking process, integrating processes are all related to God. To the Christian with eyes opened and enlightened by the Holy Spirit, history is the panorama in which God is out-working His plan; sociology is an application of that second commandment, "Thou shalt love thy neighbour as thyself"; mathematics is a tool which the Lord has given us in order that we might better understand and comprehend His creation. The geological periods are but confirmation of the statement in the Psalms, "As for man, his days are as grass. . . . For the wind passeth over it, and it is gone" (Psalm 103:15, 16). A nuclear explosion is a superb demonstration of the omnipotence of the Creator.

All of these concepts are part and parcel of Christian education, an attempt to follow in a small measure that command of God, "Thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy mind, and with all thy strength."

If we were to elaborate on the other portions of this commandment, we would point out that the social life on the campus of a Christian college, as well as the academic life, the physical activity, as well as the intellectual, all components of a college education, fall within the realm of this commandment.

Historically, education and in particular higher education in the United States was Christ-centered. Here is a quotation from the original *Rules and Precepts* for Harvard College (1643): "Let every student be plainly instructed and earnestly pressed to consider well that the main end of his life and studies is to know God and Jesus Christ which is eternal life (John 17:3) and therefore to lay Christ and the Bible as the only foundation of all sound knowledge and learning."

It has been interesting to make a study of the mottoes of some of the institutions of higher learning. I give a number to you:

Harvard University: "Veritas"

Huntington College: "The Truth Shall Make You Free"

Brown University: "In Deo Speramus"

Hope College: "Spera in Deo"

Wheaton College: "For Christ and His Kingdom"

Hiram College: "Let There Be Light"

Loyola University: "Ad Majorem Dei Gloriam"

Westmont College: "Christ Pre-eminent"

If we were to take these mottoes literally in every institution, the emphasis on truth and the search for truth, hope in God, keeping Christ pre-eminent would lead us to believe that education today is committed to know the truth and the whole truth. We who are Christians recognize all truth as one. Truth cannot be compartmentalized. It is inconsistent to emphasize on Sunday one phase of truth, that of God and His

special revelation, and on Monday within the framework of our secular world endeavor to think only man's thoughts after him. Somehow or other this concept still needs to be explored and developed far more than it is at present.

A motto on the Science and Commerce Building at the University of California in Berkeley reads: "Ye shall know the truth and the truth shall make you free." The names of Galileo, Currie, Newton, Balboa, Morse, Drake, Agassiz, which are just under the cornice, are supposed to have brought us to this knowledge of the truth.

The Christian turns to his Bible, however, and finds that the statement is taken out of its context: "Then said Jesus to those Jews which believed on him, If ye continue in my word, then are ye my disciples indeed; and ye shall know the truth, and the truth shall make you free." Revelation in God's creation cannot be separated from revelation found in God's Word. Those of us who are privileged to be engaged in Christian education find the tremendous challenge of keeping the whole revelation of God intact. It is overwhelming, intriguing, inviting, inspiring as no other motivation can be. This, then, is the basis for Christian education. Christian education is not just a finger to be placed in a hole of the dike. Christian education is dignified by the fact that it is one of the commandments of God to educate our youth in His name; that it is one of the highest challenges that we have—to think God's thoughts after Him whether in medicine, or history, or chemistry, or sociology; that it is a means by which in heart, in soul, and mind we can glorify the Lord. "Whatsoever ye do, do all to the glory of God." The word "whatsoever" becomes all-inclusive.

2. *Purposes of Christian Education.* The purposes of Christian education are at least threefold: to serve the Christian; to serve the church; to serve the world. Examine any statement of objectives of any Christian college and you will find that basically the purpose of the college is to serve the Christian. Evangelization is part of the program, but if an educational institution limits its Christian program to an evangelistic emphasis, it has failed in a vital objective. The whole curriculum should be designed to take responsibility for the edification of the saint. Justification is a work of grace by God. Glorification likewise is a work of the grace of God. Likewise sanctification is a work of grace by God. God can use the means of the study of His Word, the communion and fellowship of the saints, the instruction by Christian teachers, giving Christ the glory in scholarship, in social life, and in co-curricular activity. Christian schools then are primarily for Christians. They are one of the strongest forces that I know to combat the overwhelming tide of secularism. Christian education meets the needs of the Christian in a superior way as far as his personal objectives are concerned, whether it is to find a wife or husband, to secure a good education, to prepare for a vocation, or to find purpose in life.

The second purpose of Christian education is to serve the church. I do not have in hand nor have I ever seen the per cent of those actively engaged in the work of the church, such as pastors, missionaries, Christian education directors, Sunday-school teachers, Christian writers, and the like, who have had their training in Christian schools. I think such a study should be made. From the vantage point of the desk of a college president, the observation can be made that very few faculty people who are qualified for teaching in a Christian college come from secular schools exclusively. Workers in the church and in the area of Christ's kingdom come from Christian colleges, Bible colleges, and Bible institutes in numbers all out of proportion to those who come from secular schools.

A third purpose of Christian education is to provide people who will serve their fellow man in the world. Most of us from Christian educational institutions find that our alumni are not a good source of contributions and support to the college because they are in those service occupations for which there is small remuneration. This is not a mark against the Christian worker. It is a point against the Christian layman. It has been my observation, qualitatively speaking, that the more evangelical the institution, the more young people will be engaged in the lesser paid vocations. As one examines a list of educational institutions, one finds also that the less evangelical the institution, the greater the number who will go into medicine, law, business, and the higher paid professions. We therefore find that the basis of Christian education rests in the commandment of God, the teachings of Scripture. The purposes of Christian education are to serve the Christian, the Christian Church, and through these, the world.

3. *Accomplishments of Christian Education.* The accomplishments of Christian education are difficult to evaluate. Perhaps they would run parallel with the accomplishments of the small college in terms of what graduates are doing, how successful they are, the leadership they have been able to demonstrate. Studies of the small college reveal that the ministry, medicine, sciences, education, sociology, and these service professions have been entered by graduates of the small college far out of proportion to those of the larger schools and universities. Examples of such small colleges in the public eye are Hope in Michigan, Reed in Oregon, Wheaton in Illinois.

Results that can never be measured are the effect on the lives of young people in the strengthening and deepening of the life of the spirit, the Christian homes established, the uncounted blessings to second and third generations, to say nothing of the "spheres of influence" of each person who has benefited by Christian education. There are many schools which as small colleges have been a blessing to thousands. There are others which as nominally Christian colleges have helped many young people to develop into upright

citizens. And then there are a number of schools which as genuine Christian colleges have earnestly sought to put into practice the principles of education based on a well-thought-out philosophy of Christian education.

How to classify these colleges—confining our thought to the institutions of higher education for the moment—is a difficult if not impossible task. There are perhaps as many shades of Christian education as there are denominations and splinters of denominations. One even hesitates to begin any kind of classification lest he be misunderstood. I would like to share a few samplings which I have taken to give some kind of idea of the place of Christian education in this country today.

According to the Education Directory 1959-1960 of the Office of Education of the U.S. Department of Health, Education, and Welfare, there are in California:

- 8 branches of the University of California
- 12 state colleges
- 60 community colleges
- 21 professional colleges
- 1 proprietary college
- 14 seminaries
- 4 Bible colleges
- 15 Roman Catholic colleges
- 13 denominational Protestant colleges
- 14 private colleges

Of these fourteen private colleges, only four might be called church-related even though they prefer to be called independent. Occidental comes from Presbyterian origin; Pepperdine from the Church of Christ; Whittier from the Friends. Then there is Westmont, the only truly independent, church-related but related to no church. How many of these are evangelically Christian? I would not care to judge, but including the four Bible colleges, perhaps less than ten—and these by their own admission.

In another study to satisfy my curiosity, I listed all of the colleges which advertised in the June issue of *Christian Life* and came up with the following summary:

- 23 Bible colleges and institutes, 9 of which are accredited by the Accrediting Association of Bible Colleges and Bible Institutes
- 11 were not listed in the directory of the Office of Education
- 15 liberal arts colleges
 - 6 accredited by their regional associations
 - 7 denominational colleges
 - 6 independents
 - 2 not listed in the directory
- 5 seminaries of which 3 were denominational and 2 independent

This sampling is of course small but gives some basis for the following generalizations:

1. Presumably all of the colleges which advertised in

Christian Life take what may be called a creedal evangelical position.

2. Denominational colleges by and large do not advertise in such a medium, namely, an interdenominational evangelical magazine. The same issue of *Presbyterian Life* advertised twelve colleges, and of the twelve, ten were listed as Presbyterian affiliated colleges and two as privately controlled institutions. All were accredited by their respective regional associations. In the *Advance* are listed twenty-seven Congregational Christian colleges and seminaries. I have never noted any of these advertising in *Christian Life*.
3. The number of evangelical institutions in this summary from *Christian Life* which are accredited is less than half, both colleges and Bible colleges.
4. Information from another source indicates that in California nearly 90 per cent of the students enrolled in higher education are in public institutions. From these statistics less than one per cent would be enrolled in what might be termed an evangelical institution.

We have been discussing institutions as being evangelical or not without stating what is meant by the term when applied to education. These are some of the hallmarks of such institutions:

1. A board of trustees committed to the evangelical position and doing everything in their power to maintain the original stated purposes of the college.
2. A statement of Christian doctrine subscribed to by the trustees, the administration, and the faculty.
3. A president whose primary motive in furthering the college is that of seeking to embody every area of the college in a cohesive unit governed by Christian principle.
4. A faculty committed to Jesus Christ in their own personal lives and called to their profession with a sense of mission—the interpretation of their subject matter in the framework of the Christian world and life view.

A faculty basically committed to the evangelical position but given freedom to think for themselves, to openly discuss problems as they arise in the several branches of science, philosophy, theology, and the other fields of knowledge, so that their students will be dogmatic on the essential of faith and practice but will be able to withhold judgment on matters of diversified interpretation.

The instilling of such qualities of insight, discretion, tolerance, and above all love should be one of the primary objectives in all teaching, curricular and co-curricular.

5. A student body who enroll in the college because it has a distinctive education—thoroughly Christian. They expect social, academic, athletic programs to be different from the secular or nominally Christian educational institution because the center of orientation is Christ.
6. A constituency which is supporting Christian edu-

- cation because of the conviction that this is an arm of the church for the furtherance of the Gospel in all walks of life and in every corner of the world.
7. Compulsory chapel, prayer in classes, standards of conduct, student Christian activities are but by-products of the basic philosophy of education incorporated in such a Christian college.

4. *Needs of Christian Education.* The needs of Christian education are simply stated as the needs of all education today. They are as follows:

- A. *Freshmen.* This may seem like an anomaly but every college needs high-quality freshmen if it is to become a school producing effective graduates. Some schools have as their distinctive purpose serving a clientele which may be below average in ability. They can be good schools in the light of their specific objective.
- B. *Facilities.* Some schools are crowded beyond normal capacity and the influx of increasing numbers of students in the next few years will augment the problem.
- C. *Friends.* Tuition in a private college covers only a fraction, although in most cases a major fraction, of the cost of education. The difference must be made up with gifts from friends. In addition to financial contribution, friends are very necessary for the general support, the good will, advertising, and usefulness which every college needs.
Prayer support is vital, for we wrestle not with flesh and blood but against satanic attack continually.
- D. *Funds.* The need of Christian education has always been and will always be one of the primary needs of an institution. Those of us in Christian education, and I am sure in every

branch of the Lord's work, often wonder why the seemingly non-Christian institution has more financial resources. The Lord knows what He is doing. Given ample and sufficient resources and capable personnel, most of us would become independent in our thinking and lose sight of the fact that in a world such as this, we are a part of the Lord's program and our dependence must be in Him and Him only.

- E. *Faculty.* To find faculty well qualified academically is possible. To find faculty who are likewise Christian is less possible. To find faculty who have the vision for truly Christian education, who have a concept of their work to the glory of God and share total commitment of mind and heart, with compelling purpose to foster in their students the concept of unity in truth—this is sometimes well-nigh impossible.

Many of us are thrilled with the idea of the proposed Christian university and will do all that we can to further its cause. The establishment of a Christian university with the rating of a Harvard or a Stanford would be one of the greatest accomplishments of this decade, not only in the field of education but in the progress of our western culture. A Christian university in the plan of God would be one of the greatest dynamic forces in holding back the "dike of corruption" as Charles Malik called it.

Thus, we have presented a limited picture of Christian education in the Space Age. If ever we needed men of God to educate students for God in the will of God, to accomplish the purposes of God, now is the time. May the indwelling Holy Spirit lead each one of us to a deeper experience of commitment to the Lord Jesus Christ with all of our intellectual, spiritual, and physical resources.

New Testament Christianity and the Morality of Racial Segregation

RICHARD H. BUBE

The concept of segregation is a basic one to the testimony of both the Old and New Testaments. Opposing and complementing the concept of segregation is the concept of unity. It is the purpose of this paper to point out the Biblical record on the distinction between segregation and unity, the spheres to which they apply, and the purpose of their institution.

The first picture that the Bible presents is that the human race as a whole, outside Christ, constitutes a unity. All men have a unity in the fellowship of sin. "Wherefore, as by one man sin entered into the world, and death by sin; and so death passed upon all men, for that all have sinned."¹ All men have a unity in the nature of their physical existence. "And hath made of one blood all nations of men for to dwell on all the face of the earth."² All men have a unity in their spiritual death. "For the love of Christ constraineth us; because we thus judge, that if one died for all, then were all dead."³ All men have a unity in their need for a Saviour. "But the scripture hath concluded all under sin, that the promise by faith of Jesus Christ might be given to them that believe."⁴ Thus we may conclude that the human race shows a unity in that all men are created with the same source of life, of one blood, by the same Creator, in that all men are under the bondage of sin, and in that all men need the same Saviour, the Lord Jesus Christ, to deliver them from that bondage. There is certainly no basis in the characteristics of human nature to support a principle of segregation.

The dictionary definition of "to segregate" is "to set apart" or "to separate." The Bible has a great deal to say about the "set apart ones," whom we commonly call the sanctified or the saints of God. All through the Biblical record, the people of God, those to whom God comes as Sovereign and Redeemer, have been a segregated people. Israel was a segregated people; Christians today are a segregated people. God is the Author of this segregation. He was the One who called Abram, "Get thee out of thy country, and from thy kindred, and from thy father's house, unto a land that I will shew thee."⁵ God segregated Abram and his children from the rest of the world. He set them off and separated them unto Himself, that they might be His people and that He might be their God, as He said to Moses.⁶ When

Pharaoh would not let Israel go, that separation of Israel became visible. The angel of death was sent by God to prove the separation that He had placed between the people of Israel and the people of Egypt. "But against any of the children of Israel shall not a dog move his tongue, against man or beast: that ye may know how that the Lord doth put a difference between the Egyptians and Israel."⁷ When God made a covenant with Israel through Moses and established the basis of their relationship, He clearly set forth their segregation: "I am the Lord your God, which have separated you from other people. . . . And ye shall be holy unto me: for I the Lord am holy, and have severed you from other people."⁸

What was the reason behind this segregation imposed by God? It was not because of the power, the culture, the wealth, the number, or the righteousness of Israel. The Bible gives the answer: God segregated Israel because He loved them and to keep the oath which He swore to Abraham.⁹ The basis of the segregation was the sovereign will of God.

The children of God have always been a segregated people by the commandment of God. They are in the world but not of the world. They are the salt and the light of the world, but they must not be spotted by the world. They are the ambassadors of the kingdom, the minutemen of the King. What was said of Israel, is said also of the New Testament Christians: "Ye are a chosen generation, a royal priesthood, an holy nation, a peculiar people."¹⁰ Christians are also a peculiar people unto God, a special, segregated, separated, set apart people. The Old Testament command is repeated to the New Testament church: "Wherefore come out from among them, and be ye separate, saith the Lord, and touch not the unclean thing; and I will receive you, and will be a Father unto you, and ye shall be my sons and daughters, saith the Lord Almighty."¹¹

This segregation of the people of God from the world causes a division in the unity based on human nature. The oneness of the common creaturehood is shattered by the choice of God which raises some to the position of sons of God. God's act of segregating His people leaves the world in two camps, each de-

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1. Romans 5:12.	7. Exodus 11:7.
2. Acts 17:26.	8. Leviticus 20:24, 26.
3. II Corinthians 5:14.	9. Deuteronomy 7:6-8.
4. Galatians 3:22.	10. I Peter 2:9.
5. Genesis 12:1.	11. II Corinthians 6:17, 18.
6. Exodus 6:6, 7.	

fined by its attitude toward the Lord Jesus. "For we are unto God a sweet savour of Christ, in them that are saved, and in them that perish: to the one we are the savour of death unto death; and to the other the savour of life unto life."¹² But the segregation of God's people from the world is for the purpose of creating a new, better, and more perfect unity among His children, a unity evidenced by the common workings of the Holy Spirit. This group of God's people is called by Him the body of Christ. Just as important as is God's segregation of His people from the world, so is the unity of His people in Christ. The watchword of the church can be paraphrased: "The body is segregated from the world; but let there be no divisions within the body!"

Paul taught the church at Corinth, "Now I beseech you, brethren, by the name of our Lord Jesus Christ, that ye all speak the same thing, and that there be no divisions among you; but that ye be perfectly joined together in the same mind and in the same judgment."¹³ Segregation between God's people and those who are not God's people—and let us emphasize we are speaking of spiritual and not physical segregation—must never be confused with segregation among different groups of God's people. Separation among Christians is abhorrent to God; it is a tearing apart by men of the body of Christ; it is equivalent to spiritual divorce. "For as the body is one, and hath many members, and all the members of that one body, being many, are one body: so also is Christ. For by one Spirit are we all baptized into one body, whether we be Jews or Gentiles, whether we be bond or free; and have been all made to drink into one Spirit."¹⁴ "For we are members of his body, of his flesh, and of his bones."¹⁵

In His high priestly prayer the Lord Jesus prayed for the unity of the church. "Neither pray I for these alone, but for them also which shall believe on me through their word; that they all may be one; as thou, Father, art in me, and I in thee, that they also may be one in us: that the world may believe that thou hast sent me."¹⁶ All those who put their faith in Christ are bound together in as intimate a unity as that which exists between the Father and the Son. The manifestation of this unity to the world by the external actions of the church organization is to be the way that the world is to receive proof of the integrity of Christ.

There have always been problems of distinctions being drawn between members of the household of faith. Whenever they arise, the witness of the New Testament exhorts us to overcome them that true unity may be evident among all those who put their faith in the Lord Jesus Christ as Saviour and Sover-

eign. An interesting case history of such distinctions is given in the second chapter of James. It is evident that the members of the early church fell victim to the natural tendency of showing greater respect to rich and powerful members of the fellowship than to poor and non-influential members. James soundly rebukes this practice. "My brethren, have not the faith of our Lord Jesus Christ, the Lord of glory, with respect of persons. . . . But if you have respect to persons, ye commit sin, and are convicted of the law as transgressors."¹⁷ To place separations between Christians is sin; it is sin if the separation comes because of wealth and power; it is no less sin if the separation comes because of the color of the skin pigments.

In addition to these evidences from the New Testament, we might add one or two more that emphasize beyond all shadow of doubt that saving faith in the Lord Jesus supersedes and removes all possible barriers between men. "For ye are all the children of God by faith in Christ Jesus. For as many of you as have been baptized into Christ have put on Christ. There is neither Jew nor Greek, there is neither bond nor free, there is neither male nor female: for ye are all one in Christ Jesus. And if ye be Christ's, then are ye Abraham's seed, and heirs according to the promise."¹⁸ "Where there is neither Greek nor Jew, circumcision nor uncircumcision, Barbarian, Scythian, bond nor free: but Christ is all, and in all."¹⁹ Are we not constrained to add, in the present context, "neither black nor white" to this last verse?

Is there any room for arguing racial characteristics, economic problems, genetic consequences of miscegenation? If we take a stand on the record of the New Testament church and believe God, we must trust Him for the solution of all such problems. As in all aspects of the Christian life, it is but our duty to obey the commandments of God, leaving the fulfillment of His purpose in His hands.

At last there shall be but one body of Christ; Jesus Himself said so. "And other sheep I have, which are not of this fold: them also I must bring, and they shall hear my voice; and there shall be one fold, and one shepherd."²⁰ Those who still attempt to force a separation between the peoples of God will have cause to remember the words of Gamaliel: "But if it be of God, ye cannot overthrow it; lest haply ye be found even to fight against God."²¹

12. II Corinthians 2:15, 16.

13. I Corinthians 1:10.

14. I Corinthians 12:12, 13.

15. Ephesians 5:30.

16. John 17:20, 21.

17. James 2:1, 9.

18. Galatians 3:26-29.

19. Colossians 3:11.

20. John 10:16.

21. Acts 5:39.

*The Principle of Uniformity**

WILLIAM J. TINKLE**

When we were children it was hard to believe phenomena outside our experience. The earth could not be round, for we could see that it was flat; likewise it was hard to believe that the stars are larger than the earth. Soon, however, we learned to accept the statements of persons whom we considered authorities, parents in particular, and of others whom we trusted. Later we found ourselves believing reports outside our experience provided they were of like nature with that which we had observed, or agreed with what our authorities told us.

Mankind never gets away from the notion that certain reports should not be believed. We have a deep-seated idea that nature is uniform in her action, so that a cause which produces a certain effect today will produce the same effect tomorrow. We reject reports to the contrary, for no one wishes to appear credulous, feeling that to believe uncritically is a mark of low intelligence.

Yet when we apply the principle of uniformity certain questions arise. Does the likeness apply to action alone or does it include also the rate of action? What exceptions can be admitted? Where can we draw a circumference and declare that nothing could be true outside that boundary?

The movements of the solar planets are notoriously regular. In our almanacs the sunrise and sunset are predicted a year ahead to the minute and second, showing that the rotation of the earth is uniform. Our years are of equal length—or would be if we made the leap year correction every year instead of less than one year in four—because the earth travels around the sun at the regular rate of eighteen and one-half feet a second. A striking proof of this regularity is the prediction of an eclipse of the sun or moon a number of years ahead, which is fulfilled to the minute.

Animals, on the other hand, are far from uniform in their reactions. While we can make general statements about the response certain animals make, as for instance that crayfish retreat from light to rest, it is impossible to predict what a given animal will do.

It has been taken by common consent that the small, simple animals have less choice of reaction than the large, complex ones, but experiments tend to show that they are alike. The amoeba is as simple as any, although it is not the smallest, appearing like a barely

visible dot to the naked eye. William Seifriz had on the stage of his microscope a needle controlled by a system of small levers, with which he could touch any object in the field of vision. When he prodded the amoeba sometimes it would contract into a ball, at other times it would run away, showing that it had a choice of reactions.¹

When he held down the edge of the animal with the needle point, the soft flesh was pulled out long as it strove to get away. Then, showing itself a true animal regardless of size, the amoeba pinched off the portion held beneath the needle point, freeing itself just as a muskrat gnaws off a foot caught in a steel trap. Another experimenter, H. S. Jennings, drew the conclusion that if the amoeba were as big as a dog we would ascribe to it all the mental states ascribed to the dog, such as fear, anger, and courage.

Considering now the action of small, lifeless particles, their action is well illustrated by Brownian movement. In a drop of water under a microscope, tiny particles such as soil are seen to be in motion which is an irregular oscillation. This motion is due to the impact of molecules upon the particles. The moving molecules themselves are too small to be seen under a conventional microscope but the larger particles are struck by them and respond by moving in the same direction. This reveals the characteristic action of molecules wherever they are free to move, as in a liquid or gas. In sharp contrast to the orbit of a planet, this motion is oscillatory, erratic, and unpredictable.

Nuclear physicists tell us that the motion of electrons also is irregular. While electrons travel in orbits around the nucleus of the atom, the orbit of a given electron can not be predicted.

We may wonder at this apparent inconsistency. Why is there such dependable regularity in planets, seeing that their minute component parts are irregular in motion? It is because the eccentricities of the particles cancel each other, leaving a simple motion for the large body. If we tried to make a law describing the motions of bodies in general, we could have nothing more exact than a statistical statement.

Further illustration of this principle is found in meteorology. While many correct predictions of the weather are being made, these forecasts are much less exact than those of eclipses and we cannot expect them to be always exact. For the meteorologist deals with molecules in gases, where they are free to move, while the astronomer has them bound together in large solids.

1. Wm. Seifriz, *Protoplasm*. McGraw-Hill, 1956, p. 58.

*A paper presented at the Fourteenth Annual Convention of the American Scientific Affiliation, June 1959, Chicago, Illinois.

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Scientific discoveries such as those given above have been used as objective bases for philosophy. Flushed with the brilliant discoveries of Galileo, Kepler, and Newton, philosophers advocated materialistic determinism. The realm of nature, including man, was claimed to be an unbroken chain of cause and effect. Just as the earth goes around the sun, its orbit determined by gravity and inertia, so man is propelled by forces just as objective, although more complex.² But later research reveals that they founded their philosophy upon a special case, an exception to the rule. When we consider animals and even lifeless particles we find much ground for indeterminism. Man can be expected to have even more freedom, and God, very much more.

Now let us consider the bearing of the principle of uniformity upon the development of the earth. Before the eighteenth century there was very little study of geology but extravagant and bizarre guesses were made. For instance, the heat of volcanoes comes from wind blowing into caves, causing friction. Earthquakes are the protest of Mother Earth against wicked men who mine gold, silver, and iron.

Georges Cuvier (1769-1832) along with all other modern geologists insisted that the present action of nature should be observed. Referring to former theorists, he wrote, "The necessity they have experienced of discovering different causes from those now in action has given rise to many extraordinary speculations, and has involved them in so many and so contrary suppositions, that the very name of their science has long been a subject for railery for some prejudiced persons."³

James Hutton (1726-97) was the author of the doctrine that all geologic action has been done by forces like those acting today, and at the same rate. His famous negation, that he found no evidence of a beginning of the earth and no prospect of an end, is answered very well by Roger Voskuyl in "Modern Science and Christian Faith."⁴ We now know that the earth had a beginning in time because radioactive elements such as uranium and thorium have not all broken down. It is clear that the universe is progressing toward an end because usable energy such as heat is being dissipated through space, predicting a time when no useful energy will be left. But as will be stated below, there is prospect of God's intervention before life stops because of frigidity.

Hutton states his doctrine of uniformity thus: "When a geologist shall indulge his fancy in framing, without evidence, that which had preceded the present order of things, then he either misleads himself, or writes a fable for the amusement of his reader. A theory of the earth . . . can have no retrospect to that which had preceded the present order of the world; *for this order alone is what we have to reason upon*; and to reason without data is nothing but delusion."⁵ (Italics mine.)

Here we have both true and untrue reasoning in

the same paragraph. Science is nothing without evidence, but Hutton rules out some valuable evidence in the geologic record. Some of this evidence, observed by Cuvier, deserves a better hearing than it has received. This French scientist believed that, in addition to geologic action of the same rate as at present, there were periods of more forceful and rapid action. Among other evidence he mentions land animals buried under heaps of marine productions; overturned blocks of rock in the Alps too massive to be moved by present agencies; large animals buried and frozen so quickly that the flesh has not decayed.

"It (the last catastrophe) left behind also in the northern countries the carcasses of the great quadrupeds which are found embedded in the ice and preserved down to the present day with their hair, hides, and flesh. On the other hand, this perpetual frost did not previously occupy the areas where we now find it, for these animals could not live at so low a temperature. It was therefore at one and the same instant that these animals perished and that the glacial conditions came into existence."⁶ These quadrupeds include large numbers of mammoths, rhinoceroses, bears, and horses.

Another line of evidence for fast action was the fossil shells found by Cuvier. At present shells are washed about and worn smooth before being covered, if covered at all. In contrast, note the condition of Cuvier's fossil shells: "Sometimes the shells are so numerous as to constitute the entire body of the stratum. They are almost everywhere in such a perfect state of preservation that even the smallest of them retain their most delicate parts, their sharpest ridges, and their finest and tenderest processes." It would seem that a flood of great power and fast action covered these shells. Before being covered they must have been washed together, for we would not expect shellfish to live piled upon each other. The same can be said of dinosaurs in the Morrison formation in Utah and Colorado where more than 300 dinosaurs have been found.

When fish die at present they rise to the surface, float to the shore, the flesh decomposes, the bones are scattered, and very few are covered to become preserved as fossils. Note the contrast in fossil fish described by Hugh Miller (1802-56). "At this period of our history some terrible catastrophe involved in sudden destruction the fish of an area at least a hundred miles from boundary to boundary, perhaps much more. The same platform in Orkney as at Cromarty is strewn thick with remains which exhibit un-

2. Laplace, quoted by James Ward, *Naturalism and Agnosticism*. London: A. & C. Black, 1906, Vol. I, p. 41.

3. Georges Cuvier, *Discourse on the Revolutions of the Surface of the Globe*. Phila.: Cary & Lea, 1831, p. 27.

4. Wheaton, Van Campen, 1950, pp. 2, 3.

5. Fenton and Fenton, *Giants of Geology*, 1958, pp. 49, 50.

6. Georges Cuvier, *Essay on the Theory of the Earth*. Blackwood, 1817, p. 8.

equivocally the marks of violent death. The figures are contorted, contracted, curved; the tail in many instances is bent round to the head; the spines stick out; the fins are spread to the full, as in fishes that die in convulsions. The *Perichthys* show its arms extended at their stiffest angle, as if prepared for an enemy. The attitudes of all the ichthyolites on this platform are attitudes of fear, anger, and pain. The remains, too, appear to have suffered nothing from the afterattacks of predaceous fishes; none such seem to have survived. The record is one of destruction at once widely spread, and total so far as it extended."⁷

H. S. Ladd writes of widespread catastrophic death of fish in the Gulf of Mexico in 1953, in which the surface of the water was covered with dead pinfish, grunts, and pigfish.⁸ There is a significant difference, however, in that if the modern fish become fossils—as probably very few will—they will not show any marks of the kind of death they suffered. For they will not be covered quickly but will float about until they decompose and perhaps only a few vertebrae will ever become fossils.

Charles Lyell (1797-1875) was one of the most noted proponents of uniformitarianism in geology. He traveled widely and wrote much which no one denies, for it now has become common knowledge, but his criterion for the rejection of data seems to be open to question. "By degrees many of the enigmas of the moral and physical world are explained, and instead of being due to extrinsic and irregular causes, they are found to depend on fixed and invariable laws. The philosopher at last becomes convinced of the undeviating uniformity of secondary causes; and, guided by his *faith* in this *principle*, he determines the probability of accounts transmitted to him of former occurrences, and *often rejects the fabulous tales* of former times, on the ground of their being irreconcilable with the experience of *more enlightened ages*."⁹ (Italics mine.)

Here Lyell falls into the common error of assuming that his own century, the nineteenth, is superior to any preceding one; even to the extent that if reports which have come down from the past do not agree with the temper of our own time they must be branded as false. What if reports of the nineteenth century do not fit the fashion in the twentieth? He implies that one can recognize truth by noting the date on its tag. Reasoning such as this has done much to discredit the Bible and other early records.

It was a matter of surprise to the present author that Lyell does not mention the contrary views of Cuvier in his voluminous "Principles of Geology." It was not that he was ignorant of his opponent or thought ill of him. In 1829 Lyell visited Cuvier in Paris and wrote his sister a letter praising the French scientist for the methodical arrangement of his laboratories and offices. He even quotes Cuvier as an authority on durability of the bones of men,¹⁰ identity of Egyptian mummies with living species,¹¹ fossils

found in oolite rock,¹² extinction of the dodo,¹³ and other matters where his reputation would settle a point. But Cuvier's catastrophism, based upon field observation, is ignored.

Later a fashion grew up, seemingly founded upon Lyell, which made changes even slower than the master had advocated. Lyell had mentioned some geologic work which was fairly rapid. The shore of Chile rose four feet in a day, turning oyster beds into land. Waves cut the shore of Yorkshire away at the rate of seven to fifteen feet a year since the Norman Conquest. At Sheringham a fifty-foot cliff changed into a harbor twenty feet deep since 1781.

But in the latter half of the nineteenth century, if there was doubt about the speed of an action, Lyell's followers decided it had been *slow*.

It may be in place to mention here the rapid rate of formation of the stony meteorite called chondrite, as determined by H. C. Urey. "A very short time is indicated for the period. . . . It seems that they could have accumulated in days and that substantial recrystallization could have occurred in not more than years. . . . The chondrites form the most numerous class of the stony meteorites."¹⁴

Clarence King (1842-1901), the first director of the U.S. Geological Survey, was another who protested against narrow limits of uniformity. "Earth's present, of course, was the key to its past; depression, uplift, and erosion have gone on in every geologic age. But the rate of operation has varied; at some times it was moderate but at others it was rapid. Tracing the roots of mountains long worn away, King concluded that 'the harmless indestructive rate of geologic change of today' could not be 'prolonged backward into the deep past.'"¹⁵ This is the reasonable view of a man to whom we are indebted for much of the knowledge of western United States.

Another hurdle for the apostles of uniformity is climate. The fossil record indicates that plants of warm zones once lived in every part of the world. Later the northern hemisphere at least was so cold that ice did not melt year after year. There are various theories to account for these changes, but they are not explained by the principle of uniformity.

A suggestion of the reason for some of our puzzles is given in interesting style by a modern geologist, Hans Cloos:

"How fortunate that ice still exists for comparison! Where would we be if . . . the earth's climate today were such that no water would ever be found any-

7. Hugh Miller, *The Old Red Sandstone*, 1860, p. 221.

8. *Science*, Vol. 129, No. 3341, 9 Jan. 1959.

9. Chas. Lyell, *Harvard Classics*, Vol. 38, p. 159.

10. Chas. Lyell, *Principles of Geology*, 1837, Vol. I, p. 159.

11. *Ibid.*, Vol. I, p. 502.

12. *Ibid.*, Vol. I, p. 154.

13. *Ibid.*, Vol. II, p. 74.

14. *The Planets*. Yale U. Press, 1952, p. 203.

15. Fenton and Fenton, *op. cit.*, p. 58.

where in the solid state? Could we then visualize the geological effects of ice? Would any human brain have had the intricate notion that water can crystallize and form large cohesive masses which flow through valleys, overrun plains, climb over hills and mountains, and permanently alter the face of the earth? And if someone had thought of it, would such a humorous hypothesis ever have been taken seriously? And, finally, are we not today in the same serious situation with respect to other terrestrial phenomena, a situation in which, accidentally, no events take place now which can be compared to the geological events of the past? May this not be the reason for the difficulty in interpreting many geological events, and for the controversies these interpretations raise?"¹⁶

We have discoursed at length on the occurrences of nature, which the Christian believes to be the work of God. The Supreme Being usually works in a uniform manner, within wide limits, but is it impossible for Him to do otherwise? Those who hold to the strictest uniformitarianism say that God cannot do otherwise than to act according to law. For instance, Charles Darwin's biographer, William Irvine, who is not unduly critical, says that Darwin rejected miracles "because they were similar to other mythologies, because they rested on dubious and conflicting testimony, and because they contradicted the uniformitarianism he had learned from Lyell."¹⁷

Anyone who believes in God as a Supreme Being will not doubt His ability to act contrary to law on special occasions, in other words, to perform a miracle. But some seem to feel that He would be more ethical if He always acted in accordance with law.

Such persons do not realize the difference between a civil law and a scientific law. One who breaks a civil law is punished or at least bears a moral stigma even if he is not caught. A scientific law, on the other hand, is simply a general statement about the working

of nature, and infers nothing as to moral obligation.

God usually conducts the universe in a uniform manner within rather wide limits but not because of necessity. One reason He does so is to fulfill His promise given after the Flood: "While the earth remaineth, seedtime and harvest, and cold and heat, and summer and winter, and day and night shall not cease."¹⁸ Another reason He does so is because He is a God of love. It would be unpleasant to live in a world that was not dependable, where fire might not make one warm, and where water might not quench thirst.

But miracles also may be a manifestation of love, a special aid to an individual, and most of the Biblical miracles are such.

The Apostle Peter predicts a time, however, when God will change the order of nature to the extent that the world will be destroyed by fire.¹⁹ Thus there will be time after the period of regular seasons, just as there was time before that period, when the promise of uniformity will not apply. Uniformitarians will doubt such a prediction, just as people before Noah doubted the Flood, because it never had occurred before. Our experience with atomic explosions is making it easier for us to see how the world could be destroyed.

The idea of uniformity within strict and necessary limits seems to be founded upon special cases and ignoring the contrary evidence. It does not make other action impossible. "The outside limits of the principle of uniformity are to be set by the will of God, not by an abstract ideal set by science."²⁰

16. *Conversation with the Earth*. A. A. Knopf, 1953, pp. 53, 54.

17. *Apes, Angels and Victorians*. McGraw-Hill, 1955, p. 109.

18. Genesis 8:22.

19. II Peter 3:3-10.

20. E. J. Carnell, *His Mag.*, Dec. 1951.

BIOLOGY

I. W. Knobloch, Ph.D.

The Role of Students in Intellectual and Political Advance

Too often we tend to think that advances in the various fields of knowledge are made by the professionals such as teachers and statesmen. That this is generally true, there can be little doubt. A fine subject for a Ph.D. thesis would be the role that students have played in shaping our destinies. One calls to mind the student revolts in many of the South American countries, in Hungary, and elsewhere. That these have had an effect must go without debate. A recent pamphlet of the Society for Freedom in Science, "Opposition Aroused in China by Marxist Planning of Scientific Research," Occ. Pamphlet No. 19, Dec. 1959,* points up the argument given above. It appears that China recognizes that it cannot get a place in the sun without her intellectuals and yet she does not wish them to have unrestricted power and freedom. Both students and faculties in various universities have revolted against thought control forced upon them by the state. The government is committed to a policy of socialism and all her intellectual effort must be channeled in this direction. Those who are freethinkers have had and will continue to have rough sledding.

*This pamphlet may be obtained from Dr. John R. Baker, Dept. Zoology, Univ. Museum, Oxford, England, at 1/9. One may join this society for \$1.50 per year American money by applying to the gentleman mentioned above. (Additional material by Dr. Knobloch this quarter appears in the Book Review section.--Editor.)

BOOK REVIEWS

Darwin, Evolution and Creation, Paul A. Zimmerman, Editor. St. Louis: Concordia Publishing House; 1959; 231 pp.; \$3.95.

Reviewed by I. W. Knobloch

Here is a book on science and religion written by Lutherans and which presumably will replace the books written by Theodore Graebner. There is an introduction which is followed by six chapters, an excellent bibliography, subject and author indices, and finally an index to Scripture passages. Apparently Lutherans have come a long way in their thinking since the 1930's because there are touches of a faint liberalism here and there. For example, it is conceded that species can be changed and that the earth may be older than 6,000 years. Also, the word *min* or kind as given in Genesis is not to be equated with the Linnaean species (p. 14). The question of light being created before the sun, is taken up nicely by showing that phosphorescence and the aurora borealis are forms of light with no direct connection to sunlight. It is believed that creation encompassed six normal days and the reasons are given for this stand. The reviewer has contended elsewhere that if any God-fearing Christian doubts that God could create the world in six days, then he is not really God-fearing. Noah's ark is treated briefly and the difficulty is pointed out of Noah sacrificing 8,500 birds and 14,500 mammals, hence the dropping (in this book) of the belief in the fixity of species. Difficulties in the theories regarding the origin of the solar system are dealt with delightfully by Zimmerman. He also has a nice section on DNA and later, one on the age of the earth. He apparently understands radioactivity but distrusts it greatly as a measure of time. He believes the earth is younger than scientists would have us believe, but he does not subscribe to the Ussher chronology. I am a little puzzled by his statement that the uranium-lead method is limited to rocks of less than a million years in age. Another author in the volume freely admits that changes have taken place since the first creation, but he completely discredits all the mechanisms known to produce these changes. This seems somewhat inconsistent. He also fails to mention the phenomenon of hybridization in any detail, the best authenticated method of speciation known. It might have been better, in speaking of apes versus man, to have said that apes have an opposable thumb and an opposable big toe whereas man has only an opposable thumb.

If one were an atheistic scientist, one could point out counter arguments to many of the points raised,

but since I am not, I will say, in conclusion, that the book is well written, timely, and should be on the shelf of all serious students of either science or religion.

Darwin's Biological Work, Some Aspects Reconsidered, P. R. Bell, Editor. Cambridge University Press; 1959.

Reviewed by I. W. Knobloch

This book is a collection of papers by distinguished British scientists. There is not really too much new material here nor is the old material presented any differently than heretofore, but the book is well worth reading. Haldane emphasized that it is possible to believe in evolution as a historical fact and yet reject Darwin's theory of how it happened, wholly or in part. This makes good sense. Actually, selection is not a primary mechanism of speciation. Mutation, recombination, and others are the primary mechanisms. Once these mechanisms have operated to produce a variant, selection may take over and preserve it or eliminate it, if the variation has selective value. If not, chance may preserve or eliminate it. J. Challinor, in his chapter, makes some interesting statements. He says that 1000 feet of strata in one place may be represented by 100 feet in another region not many miles away. Erosion differences may account for the disparity. He refers to the fossil evidence in one place by saying that the few oft-cited cases of evolutionary series are given as if they were representatives of a host of such cases, instead of stressing the fact that such cases are rare. In regard to the trilobites, he cites the great wealth of material in this group, but says that there is here no clear plan of evolution discernible.

The Theory of Evolution, John Maynard Smith. Pelican Books; 1958.

Reviewed by I. W. Knobloch

Although this little volume is meant to be a résumé of evolutionary theory, some points are made here and there which allow one to suspect that the theory is still capable of being modified. For example, it is stated that the australopithecines of Africa are probably not directly ancestral to man because they are too recent. A reservation of our judgment on man's ancestry is thus indicated. Existing wild horses are slightly smaller than were their ancestors in the Pleistocene, Smith says. This illustrates the point that change is not always toward larger forms but may be toward smaller ones. The tiny deer of Java and the huge elk also illustrate the point. Although Haeckel's theory "Ontogeny Recapitulates Phylogeny" is not accorded the respect it once had, it is interesting to note that Smith can emphasize that the gill pouches of mammals resemble more the gill pouches of an embryo fish than they are like the gill slits of an adult fish. This would be agreed to by De Beer and is in opposition to Haeckel. It is emphasized

that reptiles have structures which could not possibly have been found in any reptile ancestor such as an amnion, allantois, yolk sac, etc. It might be asked, From what group did the reptiles inherit the genes for these characters?

Christian Theology and Natural Science, E. L. Mascall. New York: Ronald Press; 1956.

Reviewed by I. W. Knobloch

It is possible that although this book is four years old, it has not fallen into the hands of some of our members. The author seems to be a man well versed in the philosophy of religion with the result that the volume, of 328 pages, is a veritable mine of interesting viewpoints. Some of the more interesting areas deal with the theories of science, creation, modern physics, the body and soul, and man's origin and ancestry.

He points out that, in contrasting the "running down" universe versus the "steady state" universe, the latter, by spreading out creations out of nothing over a long period of time, both intensifies the mystery of creation and increases the necessity for God. This is so because, as far as we know, something never comes from nothing. The laws in nature simply do not permit this.

His argument on original sin is not too convincing. Original sin, he claims, is not so much a positive entity as an absence of original righteousness. Therefore no physical mechanism (e.g., genes) is needed to transmit the *absence* of something. While the present reviewer does not wish to champion original sin, it can be pointed out that we seem to have instincts and certain familial personality traits with which we are born and these would seem to require a gene-chromosome mechanism, although the exact nature of this is unknown. Greed, jealousy, anger, and other undesirable traits seem to be present in the very young and at an early age. Some Christians believe these traits stem from man's sinful nature whereas the true evolutionist believes them to be part of man's animal ancestry.

Space does not permit one to deal with all of Mascall's points but possibly enough has been said to whet the appetite of those interested in the subjects covered by the book.

Evolutionary Theory and Christian Belief, the Unresolved Conflict, David Lack. London: Methuen & Company; 1957; 128 pp.

Reviewed by I. W. Knobloch

This is a rather small book but written by the man who made "Darwin's Finches" well known. Although it touches upon some deep topics, it is written in a clear, easy style and should be intelligible to almost any adult. Strictly an evolutionary book, it yet indicates that evolution cannot account for certain features, hence the "unresolved conflict" part of the title. The ten conclusions reached by the author are given below, to demonstrate the scope of the book.

1. Animal evolution is a historical fact, and fossils

have been found which link man with apelike forms, so that there is every reason to hold that man evolved from other animals.

2. Various statements concerning natural history in the first three chapters of Genesis are factually wrong. But these chapters should be regarded as allegorical, or at least as allegorical history, which is probably what their writers intended them to be. This need in no way lessen their spiritual truth, which is concerned with matters that come outside science.
3. Evolution is comprehensible in terms of the natural selection of hereditary variations, and so far as known, does not take place in any other way. The variations are random in relation to the needs of the animal, and the directions of evolution are determined by natural selection.
4. For this and other reasons, the concept of either an internal urge or an external Life Force directing the course of evolution is inadmissible. It is also unnecessary and undesirable to postulate that animal evolution has been helped by supernatural interferences with natural laws.
5. The fear that the course of evolution has been entirely "fortuitous" or "random" is due to a misunderstanding, since evolution has proceeded in accordance with natural laws. The alternative fear that its course has been rigidly predetermined by mechanistic forces is likewise due to a misunderstanding, since evolution has taken a particular historical course; and the true nature of scientific laws and of historical sequences, and their connection with causation and determinism, are hard problems in philosophy on which the theory of evolution throws no special light.
6. That the universe appears to be run according to natural law does not, in itself, provide a compelling argument for either theism or atheism, though such a claim has been made both ways. While, too, some have vividly felt the existence of God from the grandeur of the universe or the beauty of living things, others have felt nothing of the kind.
7. All should accept the finding of science in the field of science. The agnostic T. H. Huxley—"follow humbly wherever nature leads"—and the parson Charles Kingsley—"science is the voice of God"—speak to the same effect on this point. Hence though it may be hard for some Christians to reconcile natural selection with the God of mercy, or for some secular humanists to reconcile man's evolution by natural selection with morality or beauty, such difficulties provide no valid reason for doubting scientific evidence.
8. On the other hand, it is important that the claims made by scientists in the name of science should relate to genuinely scientific matters, and that when they really refer to philosophical problems,

this should be made clear. In particular, the claim that man has evolved wholly by natural means is philosophical and not scientific.

9. The theory that man's moral behavior has been evolved, directly or indirectly, by natural selection fails to account for the essential aspects of the moral experience. Yet no other means of evolution is admitted by biologists.
10. Science has not accounted for morality, truth, beauty, individual responsibility, or self-awareness, and many people hold that, from its nature, it can never do so, in which case a valid and central part of human experience lies outside science. But if man evolved wholly by natural means, it might be supposed that all human nature should be interpretable in scientific terms. It might therefore be argued that man cannot have evolved wholly by natural means. But others would disagree, since there are unabridged gaps and unreconciled contradictions in every view of the meaning, or lack of meaning, of the universe.

Creation and Evolution, Jan Lever. Trans. by Peter G. Berkhout. Grand Rapids International Publications; 1958. Distributed by Kregel's, Grand Rapids 6, Michigan.

Reviewed by I. W. Knobloch

The author is professor of zoology at the Free University at Amsterdam and has written a very interesting book of 243 pages. It deals with the Bible and Reality, the Origin of Life, the Origin of the Types of Organisms, the Concept of Species, the Origin of Man, and Creation and Evolution. One valuable aspect of the book is that the thinking of European scientists is given, in translation. Most of us do not have the time to read foreign journals. In fact, it is difficult to keep up with the literature in this country. It is not always easy to sift Professor Lever's opinions from those of others but several examples of his ideas can be given. He believes that man is distinguished from other animals by the use of fashioned tools; thus one should allow at least 500,000 years for his existence here (since fossils and tools have been found dating to the Pleistocene). The first page has a quotation from Portmann and since Lever does not dispute this, we may assume that he agrees with it. The quotation is as follows:

Measured in relation to the ultimate purpose in the investigation of reality, the theory of evolution is a bold attempt at understanding the meaning of a tremendous mass of facts. However, in all its details, it is still the object of criticism and discussion, which, in its final inferences, on every side projects beyond the scientific facts into the area of faith.—A. Portmann, *Biologische Fragmente zu einer Lehre von Menschen*, Basel, 1951.

The book is probably too "heavy" for the average layman. Scientists will, no doubt, profit from a close perusal of it.

PSYCHOLOGY

Stanley Lindquist, Ph.D.

Person and Personage

An interesting concept in some schools of psychology that aid in understanding of ourselves and others is the idea of "person" and "personage."

The personage is the mask or front that everyone puts on. It is developed primarily because we think that the "person" is not adequate to be accepted as is, or else because the "person" is too tender to be exposed to difficulties of face to face relationships.

The person is the true part of oneself. It is that which we are when our defenses are down, and when the personage is stripped from us. In a sense, I suppose, it is that which God sees when He views us—without the social amenities or other defenses we put up—the psychological "fig leaves" that are part of us.

If we truly felt and accepted ourselves as we are, there would be no need for the development of a personage. But we don't, and therefore have to set up this mask to hide our true selves.

The question comes, Do we ever show our real person? Perhaps there are moments when our mask slips off, and we do reveal our real selves. In real love, which seems to wrest us from the commonplace, our person shows. In psychotherapy, when a person is trying with extraordinary honesty to reveal himself to a therapist, perhaps the personage is set aside.

One might well speculate as to the necessity for revealing the "person." Why not be content with the personage? Is the "person" worthy of revelation?

The last question could be answered first. God has placed a value of infinite proportions on our soul, which certainly must be inclusive of the "person." If it is worth that to Him, shouldn't it be to us? And if so, isn't it worth revealing?

The first question—of being content with the "personage" being our basic personality representation is to be satisfied with something not quite true.

But more important, because there is a disparity between the person and personage, there is a constant strain to keep the front up. This may be unconscious, and the resultant conscious correlate may be weariness, boredom, and in some cases psychosomatic illness.

The inability to feel able to be "oneself" or to let the "person" be our true representation creates tension. There can be no freedom in our life and personality with this tension.

This may well be what Jesus was talking about when He spoke of being made free indeed. Free from

the sham of appearing as what we are not. Free to accept our true selves as God has created us. Free from the tension of trying to maintain a personality different from what we really are. Free from the imprisonment of a manner of behaving not as we feel we are but as others expect us to act.

A book written by Dr. Paul Tournier, *The Meaning of Persons*, is an excellent treatise on this subject.

SOCIOLOGY

R. Heddendorf, M.A.

The Christian's Role: The Frame of Universalism Part III

In the previous articles on this topic of the role of the Christian, it has been stated that deviancy, relative to the cultural values, is a necessary requisite on occasion. It is necessary when one's Christian responsibility conflicts with that of a secular role in a concrete situation. The college instructor sees the need to present the truth as he understands it as a requisite for the continued performance of his role. The imposition of certain limitations on academic freedom would require him to deviate from the imposed restrictions in order to maintain the necessary responsibilities of his status. Similarly, the Christian must know what responsibilities circumscribe his modern Christian status and deviate from behavior patterns which would not permit fulfillment of these responsibilities.

Deviancy, therefore, is seen as a derived requirement for the Christian status. Similarly, the Christian Church must be organized in such a way that it provides for possible deviancy on the part of its members. If not, the tension accruing from conflict with cultural values may cause a strain pattern which could not be resolved. Such religious deviancy usually stems from the general concept of universalism, which is based upon the primary sociological question of how a group goes about recruiting its members. A religion may do this by either limiting membership to a specific group such as a class or society or, at the other end of the continuum, by opening membership to all. Universalism is of the latter type and would include Christianity.

Hence, the fact that Christ said, "Go ye into all the world. . .," is of sociological as well as missionary, consequence. A religion which makes salvation available to all must transcend all social systems and, as a result, finds itself dissatisfied with traditional, provincial views of the world. Instead of being based on national goals and values, the universalistic religion must be founded upon spatially and temporally

universal goals if it is to have a common denominator for all. Though usually founded upon some aspect of the divine, this is not always a requirement for a very general form of a "universalistic religion." Communism has often been referred to as a religion and, in this sense of world-wide membership, would have a characteristic of universalism.

Universalism does not imply a mere separation of church and state with an attendant criticism of the latter by the former.* Indeed, it is a Christian responsibility to submit to the state. (I Peter 2:13.) If the political structure is such that the Christian Church cannot agree with its social views, the individual is still obligated to fulfill his requirements to the state in his status as citizen. In his status as Christian, however, and, perhaps in a larger sense, in fulfilling his obligations as a human being, he is obligated to deviate from the expected pattern of social behavior imposed upon him by the state. On occasion, the state will be in complete agreement with the prevailing universal religion of the society. In this case, deviancy may not be a necessary requirement for religious role performance.

Such a compatibility of state and religion, however, is an inherent threat to the continued existence of universalism. It is at this point that both the church and the individual may lose sight of their missionary goals and concern themselves with the secular goals of the state. The transfer of such secular goals to a position of ends motivating religious behavior is the next possible step in the sequence of events. The secularization of Puritanism in America developed in such a manner. Ultimately, the process of secularization may reach the absolute bases of the religion which are the source of universalism, thereby shutting off attempts to spread beyond the immediate social group. The resulting provincialism can only intensify the de-emphasis of a universalistic religion, since there is no longer requisite evangelism.

Hence, the greatest security for universalism lies in constant deviancy. It is only by opposing secular thought and action patterns that the universal religion may be confident of remaining true to its religious bases. It is not implied here, however, that the deviancy be militant. This form of deviancy will occur only when the secular majority stimulates such a reaction by its attitudes toward the religion. Nor should this deviancy be largely sponsored by the religious group. An organized deviancy of the church will require it to include the limited goals necessary for such action within its value system, thereby restricting the achievement of the universal goals. Rather, such deviancy should be manifested through individual social action. For this reason, a universalistic religion must support a belief in the value and freedom of the individual.

This last statement implies that the individual may be not only an instrument of universalism but also an end. It is necessary that the universal religion see the

individual as the object of salvation and devoid of cultural and social significance. The history of Protestantism has shown that the Social Gospel movement arose when society, not the individual, was considered to be in need of salvation. Such a view frames the religion within a cultural context, thereby weakening the universalistic basis. Indeed, universalism needs to cultivate an atmosphere conducive to the development of leaders who will rise above the mechanism of organization. When a universal religion loses sight of the original deviancy of its charismatic leader and relies upon an administration of its affairs by means of a bureaucratic organization, its primary goals are again going to be supplanted by the secondary goals of the bureaucracy.

The basic problem before a universalistic religion, therefore, is the question of how to maintain its deviant nature. Any movement having charismatic origins and attempting to prevent bureaucratic routinization faces the same dilemma. In the case of universalism, its greatest hope seems to lie in its method of member recruitment, for it is this which provides its peculiarity and is a need which must be met. As long as there are some in the world needing salvation, the religion is concerned with them, not in terms of their social positions, but because of their spiritual need. In order to reach them, the religion must resist an attempt from any earthly power to prohibit the achievement of this goal. If it weakens and conforms, then its basic functional requirement is not met and universalism, as a unique religious entity, is no longer able to exist.

*See Yinger, *Religion, Society and the Individual*. New York: Macmillan, 1957, pp. 230-75. Though developing much fruitful material in this area, the author is too limited on this point.

1960 A.S.A. Convention at Seattle Pacific College



Rowland—Seattle

Front Row—*Left to Right*: 1. John A. Sutherland, Jr., 2. Scott McDermet, 3. S. Daryl Larson, 4. J. Lowell Butler, 5. Ludlow Corbin, 6. E. B. Payne, 7. G. F. Fielding.

Row 2—*Left to Right*: 1. H. Harold Hartzler, 2. Henry Weaver, 3. Walter R. Hearn, 4. Frank Cassel, 5. John R. Howitt, 6. R. M. Page, 7. Norman D. Lea, 8. Irving A. Cowperthwaite, 9. F. Alton Everest, 10. Hendrik J. Oorthuys, 11. Robert C. Frost, 12. J. David Price, 13. John C. Sinclair.

Row 3—*Left to Right*: 1. Mrs. H. Hartzler, 2. Mrs. M. Hoover, 3. Martin Z. Hoover, 4. Mrs. J. C. Brougher, 5. John C. Brougher, 6. Alex Hall, 7. Harvey C. Roys, 8. Enoch E.

Mattson, 9. Margaret R. Fair, 10. Donald C. Fair, 11. Lois E. Kent, 12. Frances Hopfer, 13. Gretta Rice, 14. Jean McAllister, 15. R. D. McAllister, 16. Richard A. Hendry, 17. Erma Bower, 18. Una Sinclair, 19. Harold T. Wiebe.

Row 4—*Left to Right*: 1. Roger Voskuyl, 2. Charles T. Hurley, 3. Ian J. Tinsley, 4. David O. Moberg, 5. John A. Carlson, 6. Robert S. Allen, 7. R. E. Hoisington, 8. Donald W. Patten, 9. Tom Cummings, 10. Walter Liefeld, 11. Dick Bower, 12. Royal F. Hiebert, 13. Earl Worthington, 14. Herbert L. Hergert, 15. Lois M. Hergert, 16. Ruth D. Oorthuys, 17. Noel E. Olsen, 18. Merton H. Pubols, 19. John Ellis.

LETTERS

Editor:

The recent articles regarding evolution in relation to God's creation which appeared in the Journal of the A.S.A. of June, 1960, prompt me to write some of my own observations and thinking in this regard.

The real issue, as I see it, is whether (1) we believe that it was mere "chance" that made things by the outworking of so-called resident forces, or whether (2) we believe in the God of revelation who by His sovereign will and plan made things by His own method, as revealed in part at least in His Word, whether by nonresident forces or by both nonresident and resident forces.

The assumption that, since the former belief is held by atheists who are opposed to theism, the propositions it puts forth must be diametrically opposed to the latter in every respect, is in my opinion unwarranted. God made His creation by the method He chose and has seen fit to let us partially at least into the secret of how He did it. We find this out by searching the Scriptures as His revelation to us, not by presupposition based upon the notion that all of the ideas of the believer in God must be exactly opposite to the atheist's notions.

In the first place, God's revelation of creation needs clarification. The Hebrew word for create, *bara'*, does not mean create directly out of nothing, as some theologians would tell us. Such a meaning is (1) contrary to the usage of this word and its cognates in Genesis, and (2) contrary to the explanations of creation given in the Bible text.

From the Hebrew word *bara'* is derived the word *bar*, meaning son. In other words, *bara'* not only refers to *creation* but also to *procreation*. This implies that life was derived from pre-existing substance and/or pre-existing life and that living creatures were not made directly out of nothing.

Moreover, in Genesis 5:2 we are told that God created the male of the human species and that He also *created* the female of the human species. Yet Genesis 2:21, 22 tells us that He made the female by taking away some of the living tissues of the male from which He made the female. Most certainly we cannot turn around and say that, since the word *bara'* is used here, God made her directly out of nothing.

Again, the Genesis account tells us plainly that God did *not* create man directly out of nothing. In Genesis 2:7 is the definite statement that God formed man out of the dust of the ground. In other words, there was at least one intermediate stage, namely, the formation of the dust of the ground out of nothing before God

formed man out of the dust of the ground. If there was one intermediate stage, there may well have been others which are not mentioned.

Indeed, may we not assume that, since in the instances where details of the creative process are mentioned, there is utilization of pre-existing substance and of pre-existing life, this method may possibly represent God's normal method of creation rather than the exceptional?

I feel that many evangelical Christians make the mistake of imagining that since creation must have been a miracle, it also must remain a total mystery. This is not necessarily true of miracles. For instance, the parting of the waters of the Red Sea so that the children of Israel could pass through on dry land was obviously a miracle. Its coming to pass at the place and time and for the duration it was needed was altogether a miracle. Nevertheless, the fact that we are told that this miracle was caused by the blowing of a strong wind (Exodus 14:21) makes it no less a miracle. Well has it been said, "To understand something of the machinery whereby God brings an event to pass in no ways destroys the wonder of the miracle," as quoted in *Daily Notes on the Scripture Portions* for Friday, October 7, 1960, published by the Scripture Union of London, England.

For those who cannot see God's machinery at work in our everyday life, but attribute all of God's grace and goodness to chance happenings, it is obvious that the machinery used in creation is going to be attributed to chance, if at all possible, instead of to God.

To disprove the belief that all is working out by chance, we do not need to repudiate the machinery. But we can show how absurd it is that the machinery can keep on moving and doing its job unattended whether in the past or in the present.

For instance, it seems preposterous that random resident forces could go to work to produce a male of a new species and at the same time and at the same place produce a female of this same new species so as to propagate after their kind.

The Genesis narrative of the formation of the woman out of the man is far less fantastic, if fantastic it seems to some. We may add in this connection that it should be observed that the Hebrew word translated *rib* in Genesis 2:22 occurs nowhere else in the Bible and there is considerable uncertainty as to its meaning. It would appear more logical that for the formation of the woman germ plasm was taken out of the side of Adam rather than a rib and this makes considerable sense in the light of modern genetics.

Indeed, geneticists now tell us that they formerly thought they knew what sex was, but that they now are rather sure they don't know as they grope around in the midst of what is almost a chaos of chromosomal sex (genetic sex), gonadal sex (germinal sex), body sex (somatic sex), apparent sex, social sex, legal sex, and intersex.

Much still remains a mystery, but the patterns and

machinery of creation outlined in the Genesis account of creation remain most logical.

One of these patterns presents in the light of modern genetics more of an answer as to how God made His creatures as male and female, than any evolutionary theory based on chance happenings could ever give. Indeed, herein lies the answer to the old philosophical question as to which was first, the hen or the egg. Taking God's creation of mankind as a pattern for the creation of all animal life, which it well might be, the answer to this query is that it was neither the hen nor the egg, for God first created the rooster. This becomes the more logical when one considers that it is the male of the species which has germ cells differentiated as male and female progenitors in contrast to the undifferentiated germ cells of the female of the species.

The most logical explanation of God's method of creation seems to me to lie in His use of chromosomes as a scaffold, altering the scaffold to the need of the building as He saw fit. In the light of modern scientific investigation and concepts, intersex and parthenogenesis may also have had a possible role. However, these matters are highly speculative and are merely mentioned as conceivable mechanisms. The important thing is that the whole creation constituted the outworking of the power of God's almighty hands. Chance happenings can offer no explanation to the Christian since he does not recognize nor worship at the shrine of a god of chance.

But the objection is raised that any relationship to even the remote ancestors of a monkey is abhorrent. Actually, isn't it more abhorrent to say that we were made out of the dust of the ground? Yet we were. Genesis 2:7. It may indeed be abhorrent. Our origins can only bring us to the position which Job took in the light of the fall of man, when he said, "I abhor myself" (Job 42:6). We cannot say our beliefs must be diametrically opposed to what we abhor. That is basing our beliefs on our emotions rather than on facts. Our faith must stand on God and His revelation.

We must first of all from an entirely unbiased point of view decide what Genesis really says. Then a comparison with the concepts of science is in order, realizing that these latter concepts may alter with advancing knowledge and for this reason complete harmonization may not be possible in our present state of knowledge.

Personally, I have held essentially these views for nearly forty years. I feel duty bound to share them at this time with a view to possibly helping others in thinking through these matters under the guidance of the Holy Spirit. My ministry through the years has not centered about this issue, however, but about Jesus Christ and Him crucified. I thank God for the fruitful ministry He has given me through the years both as a medical missionary overseas and here in the United States.

(Name withheld by request)

DECEMBER, 1960

OF INTEREST

Planning Commission

Recognizing the need for long-range planning in developing new projects and improving the work of the A.S.A., the Executive Council has authorized a Planning Commission to consider these matters.

The appointments are Henry Weaver, Jr., *Chairman*, Alfred C. Eckert, Robert B. Fischer, G. Douglas Young, Charles E. Hummel, and David F. Busby.

At a recent local A.S.A. meeting in St. Paul, a brain-storming session yielded some 120 suggestions. The committee's first work is to sift through these for possible future projects. They will also welcome other suggestions.

Editorial Board

As the official organ of the A.S.A. the *Journal of the American Scientific Affiliation* requires more assistance in developing policies. To implement this, the Executive Council has appointed an Editorial Board.

The following have been appointed to the Board: Hendrik J. Oorthuys, John A. McIntyre, David O. Moberg, Robert F. DeHaan, Cordelia Barber, and Lawrence H. Starkey. Mr. Oorthuys has agreed to be the *Book Review Editor*.

The Board will recommend *Journal* policies to the Executive Council and assist the editor in judging suitability of manuscripts for publication, among other duties that may arise.

New Columnist

Dr. Stanley E. Lindquist has joined the *Journal* staff as contributor to the Psychology Column.

Dr. Lindquist received his Ph.D. in psychology from the University of Chicago in 1949. Among his experiences are seven years as Associate Professor and Dean of Men at Trinity Seminary, and seven years at Fresno State College as Professor of Psychology, as well as maintaining a Consulting Psychologist practice. He is a member of the American Psychology Association, Psychonomic Society, American Academy of Mental Health and Religion, and other professional organizations. In addition he has authored papers on psychology.

We welcome Dr. Lindquist to the Contributing Staff of the *Journal*.

* * * * *

Practical Anthropology in its 1960 Supplement reprints 16 articles from the 1953-57 issues of PA. The selection has been limited to those articles now out of print.

Bulletin of the Evangelical Theological Society, Spring, 1960. "Science and God's Revelation in Nature"—Carl F. H. Henry.

Eternity—June, 1960

"Can Outside Forces Control Your Mind?"—Dr. John R. Brobeck, Chairman of the Department of Physiology of the University of Pennsylvania, discusses the various processes of thought control: mental, electrical, and chemical, and the Christian answer to the problem.

—July, 1960

"Evolution and/or Creation"—Dr. W. L. Bullock, a biologist, discusses various possible alternatives in trying to settle this issue in one's own mind.

—August, 1960

"Will Scientists Create Life"—An editorial suggests a good answer to this problem, that it should cause no concern but God should be given the glory, for He created the biologist who accomplished the task.

Christianity Today, September 12, 1960

"The Scientist's Vocation"—Oscar T. Walle discusses the question of how a Christian scientist might differ in his scientific career.

"Evolution and Christian Thought Today" is given an encouraging review by Thomas H. Leith, who has some interesting thoughts himself in the field of science and faith. He also has a review, a different one, however, about the same book in *Eternity* for September, 1960.

"International Co-operation on Vacuum Standards and Literature Abstracting" is an article by B. B. Dayton, member of the A.S.A., which appeared in *Advances in Vacuum Science and Technology*, Volume I, 1960. Mr. Dayton was chairman of the Standards Committee, American Vacuum Society, 1953-57.

NEW MEMBERS

The following persons have been accepted as full members in the American Scientific Affiliation:

Band, Hans E., 6 Meadowbrook Road, Bedford, Massachusetts, is Staff Physicist at Pickard and Burns, Inc., Needham, Massachusetts. He earned an A.B. degree from Harvard College, an A.M. degree from Boston University, and is presently a candidate for the Ph.D. degree. His major field is physics.

Bleecker, Allan L., Box 156, Wanaque, New Jersey, is an instructor in biology at Shelton College and a teaching assistant at Rutgers University. He holds a B.S. from Rutgers, where he is presently working on an advanced degree in ecology.

Brown, William H., 28 Bogart Avenue, Port Washington, New York, is a junior high school general science teacher. He earned a B.S. in general agriculture from the University of New Hampshire.

Eckelmann, Herman J., Jr., 117 Christopher Circle, Ithaca, New York, is pastor of the Faith Bible Church and is Research Associate at Cornell University Center for Radiophysics and Space Research. He holds a B.E.E. degree from Cornell University and a B.D. degree from Faith Theological Seminary.

Ellis, Richard J., 492 W. Terrace, Altadena, California, is a teaching assistant at Washington State University. He received his B.A. degree in biology from the University of California at Santa Barbara.

Haynes, John D., 18 Park Place, Nanuet, New York, is Research Statistician and Acting Head, Statistical Design and Analysis at Lederle Laboratories, a division of American Cyanamid Company. He earned a B.A. degree from Houghton College in mathematics and his M.S. in experimental statistics from North Carolina State College.

Howe, George F., 801 Cold Springs Road, Santa Barbara, California, is Assistant Professor of Biology at Westmont College. He earned a B.S. degree from Wheaton College, and M.Sc. and Ph.D. degrees from Ohio State University in botany.

Matsuura, Richard M., 229 Arthur Avenue, S.E., Minneapolis 14, Minnesota, is a Research Assistant at the University of Minnesota. He has earned a B.S. degree from Oregon State College in horticulture.

Mecherikoff, Michael, 1577 Ramona Lane, Santa Barbara, California, is Assistant Professor of Psychology at Westmont College. He received a B.A. degree in psychology from Westmont College and an M.A. degree in psychology from the University of Minnesota. He has course work completed toward his Ph.D. in psychology.

Mills, Gordon C., 118 Barracuda, Galveston, Texas, is employed at the University of Texas Medical Branch, Galveston, Texas, as Assistant Professor of Biochemistry and Nutrition. He holds Ph.D. and M.S. degrees in biochemistry from the University of Michigan and a B.S. in chemistry from the University of Nevada.

Munn, Hector J., 803 E. Vermillion Street, Newberg, Oregon, is Assistant Professor of Science at George Fox College. He holds a B.S. in premedical science from Seattle Pacific College and an M.S. from Oregon State College in general science.

O'Brien, Larry Joe, 114 Old Hickory Drive, Albany 4, New York, is Assistant Professor in the Department of Physiology, Albany Medical College. He earned his B.A. degree in chemistry from Hardin Simmons University, his M.A. in biology from North Texas State College, and his Ph.D. in physiology from the University of Texas Medical Branch.

Pav, Peter Anton, 1920 Cuyler Avenue, Berwyn, Illinois, is a graduate student. He holds an A.B. degree in physics from Knox College.

Pattison, E. Mansell, U.S. Medical Center, Springfield, Missouri, is Staff Psychiatrist at the U.S. Medical Center for Federal Prisoners. He received a B.A. degree from Reed College in biology and his M.D. from the University of Oregon Medical School.

Siemens, David F., Jr., 3524 Muscatel Circle, Rosemead, California, is an instructor at the Pasadena City College and Los Angeles City College. He holds a diploma from Fort Wayne Bible College, a B.A. degree in Bible from Defiance College, and an M.A. degree in philosophy from Indiana State Teachers College. He has also done three years of graduate work at the University of Southern California in the field of philosophy of science.

Watkins, John A., Wells, Minnesota, is a self-employed physician. He earned his M.D. from the University of Minnesota.

Woodburn, John H., R.R. 4, Urbana, Ohio, is a biology teacher from Mad River Township Board of Education. He earned his B.S. degree from Wheaton College in botany.

Correction—Harold E. Snyder was listed as an associate member in the June, 1960, *Journal*; whereas he is a full member.

The following persons have been accepted as associate members in the American Scientific Affiliation:

Gardiner, Lion F., 76 Summit Avenue, Sea Cliff, New York, is a Second Lieutenant in the U.S. Army, Chemical Corps Training Command, Fort McClellan, Alabama. He received a B.S. degree in zoology from Wheaton College.

Kempher, Dorothy Jean, Route 1, Lafayette, Ohio, is a first grade teacher at Shawnee School, Lima, Ohio. She holds a B.S. in elementary education from Kent State University.

Kolsrud, Ralph T., 1139 Monument, Pacific Palisades, California, is a pilot and mechanic for Santa Monica Aviation. He holds a B.S. in physical education from the University of Minnesota.

Sire, James W., 59 East Drive, Columbia, Missouri, is an instructor in English at the University of Missouri. He holds a B.A. degree in chemistry from the University of Nebraska and an M.A. degree in English from Washington State College. He is presently working on his Ph.D. degree in English.

Stoddard, James A., D and D Missionary Homes, Inc., 4020—58 Avenue N., St. Petersburg, Florida, is employed by the Central American Mission, as administrator, Huehue Academy, Huehuetenango, Guatemala, and as a missionary. He received his B.A. degree from Columbia Bible College in education.

Yoder, Elmer S., 12960 Etter Road, N.E., Hartsville, Ohio, is an instructor of science and health at Fairhope Elementary School. He received his B.A. degree from Kent State University in history.