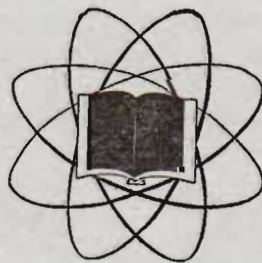


JOURNAL

of the

AMERICAN SCIENTIFIC AFFILIATION



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

Vol. 8

DECEMBER, 1956

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.

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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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EDITORIALS

Increased Dues for Fellows

A recent action of the Executive Council has been of some concern to the Fellows of the organization, namely, that of increasing annual dues. Naturally, an explanation is in order for such a substantial change.

This was no impulsive move. The Council has discussed this problem at its meetings over a period of several years, and at the last annual meeting the issue was brought before those present. Several reasons have promoted this action.

Foremost has been the increasing need for a permanent secretary. So far, all of the administrative work has been done on a volunteer basis, on personal hours after full time employment in other fields. This has naturally limited both the time and vigor to carry out some of the requirements of each office. In particular, the Secretary-Treasurer's task has become virtually a half-time employment and in recent years it has been difficult to find someone willing to take on so formidable a task. The President's burden has become quite large also, a great deal of which could be handled by a permanent secretary. Further progress in the Journal depends largely on having such a person to handle routine details of solicitation, proofreading, and contacting the printer.

More important is that a proper kind of permanent full-time officer could provide a tremendous impetus to the progress of the A.S.A., not only in numbers but in developing the unique fields of service in Christianity and science for which the Affiliation was intended. That this step would mean real progress is borne out by the experience of Inter-Varsity Christian Fellowship as well as by numerous other organizations.

At present the Journal constitutes the major expense item and it is obvious that an expansion of it would involve additional expense. Other publication ventures are possible only if they are self-liquidating or supported by outside groups. As an organization, we are in no different position than that of many of the large scientific groups with much higher dues than ours. Publication costs have forced either higher dues, additional subscription fees, or outside subsidization.

It was realized that such a step would be a burden to some and the Council has been very deliberate in passing such a motion and we hope that we have been led by the will of God in so doing.

The A.S.A. is an organization of Christians, with a unique Christian ministry. As such it is assumed that those interested in its purposes contribute with much the same attitude that they do toward other Christian ministries. There, of course, is no pretense

of trying to provide a tangible service to the individual equal to his dues.

Journal Publications

Apparently there is some misunderstanding regarding the content of papers published in this Journal. A review of the purpose of the A.S.A. and the resultant policy of publication is therefore in order.

Since a part of the objective is to examine those fields of science relating to Scripture, it is emphasized that there is *not* a uniform or official A.S.A. interpretation. The only bounds we have are the inerrancy of the original Scriptures. To publish only articles of a particular theological system would defeat the very purpose for which the Affiliation was founded.

It is not intended to "protect" readers from views that may seem unorthodox to some. It is doubtful that a clear-thinking individual is produced by avoiding thorny topics.

Articles and columns are presented over the authors' names and are to be considered their presentations, and should not be construed as A.S.A. policy. It is not uncommon for the Editor to strongly disagree with some points in the papers he selects for publication. Some papers that might appear to engender controversy are sent to referees versed in that particular field.

A few criticisms have seemed to demand an almost impossible degree of scholarly level and progress in every paper—a level not attained by professional journals in scientific or engineering fields. Of course, improvement is a continuous effort, but in the end, that, frankly, is up to each of you in providing the material to be published. It is probably safe to say that all the better papers are published.

Along that line it might be well to point out a few reasons why papers are rejected, as a guide for preparing them. (1) Scientific inaccuracy would rapidly destroy confidence in our work. (2) Some subjects have been overworked or pretty well exhausted in the light of present knowledge. New information of course is welcome. (3) Weaknesses in grammar and composition would lead to questioning our competence in other fields.

Again, we emphasize that the quality of publication is only as A.S.A. members supply material. Occasionally, an article by a nonmember is published but the basic supply is from within the organization.

Some plans for the future of the Journal involve distribution of duties with an assistant in charge of each department. In particular we hope to bolster the member news with a reporter from each major area, book reviews, and reviews of articles published elsewhere that may be of interest. The Editor would be very glad to hear from any who would volunteer to carry on any of these activities.

D.N.E.



ELEVENTH ANNUAL CONVENTION OF A.S.A., WHEATON COLLEGE, WHEATON, ILL., AUGUST 21-24, 1956

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The Relevance of the Quantum Principle of Complementarity to Apparent Basic Paradoxes in Christian Theology

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In a recent article¹, J. A. Wheeler, one of our most renowned theoretical physicists, has offered the support of his reputation to the basic applicability of the quantum principle of complementarity, not only for science itself, but even for other aspects of life. This is by no means the first time that this has been done, for Bohr himself, who formulated the principle of complementarity in the first place², envisioned its importance beyond the realm of the physical for the solution of a number of apparent paradoxes.

The principle of complementarity is simply this (following Wheeler's rewording): "The use of certain concepts in the description of nature automatically excludes the use of other concepts, which however in another connection are equally necessary for the description of the phenomenon."

In this paper we shall consider briefly the meaning of the principle of complementarity in physics and will find that we are naturally led, by its importance for the most basic understanding of nature, at least to speculate about its applicability to other problems outside of physics. We will be careful to recognize that the absolute validity of the principle, however, is still a matter of debate among philosophers of science, and that we must not imply that we have a principle which has been proven valid with finality even in physics itself.

The importance of our consideration will lie in:

(1) A comparison by analogy between the use of the principle of complementarity in physics and the use of a similar principle in illuminating our present position on certain apparent basic theological paradoxes;

(2) The suggestion that, as the complexity of nature has led scientists to formulate the principle of complementarity to bridge the gap between human ability to form concepts and the essence of nature itself, even so we may be forced to rely on a similar principle in trying to describe Truth in other forms in terms of idealized human concepts; and

(3) The possibility that the principle of complementarity may indeed have not only heuristic, but also real significance.

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Experiments on the nature of light have shown that it is necessary to think of light as having a dual nature, only one aspect of which is discernible at a time. Whenever light is absorbed, emitted, or scattered, for example, it behaves as if the light were composed of a stream of particles called photons, each with a fixed discrete energy equal to the product of Planck's constant, h , and the frequency of the light. The absorption of light by solids, showing a continuous absorption as a function of wavelength terminated by a sharp cut-off at a certain wavelength of light, can be described satisfactorily by considering the cut-off to be at that wavelength for which the photon energy is just large enough to produce ionization or excitation in the solid. Similarly, the emission of light by solids, as in luminescence, behaves as if photons were being emitted with an energy, and hence a wavelength, corresponding to the energy given up when an excited electron returns to its ground state. The photoelectric effect, in which electrons are ejected from solids as the result of the absorption of light, and the Compton effect, in which the wavelength of light is altered after collision with an electron because of a transfer of energy from the light to the electron, are other examples of cases in which the description of experimental results naturally calls for a particle (photon) picture of light.

On the other hand, whenever light is active in interference, polarization, or diffraction, the results are completely described by considering light to be a wave motion. The experiments may be treated in detail using Maxwell's wave theory with no mention of Planck's constant at all. The spreading of light after passing through a small opening, the bending of light around edges, and the phenomena which make the diffraction grating such a useful instrument, are all examples which naturally call for a wave picture of light.

But this duality of particle-wave nature is not restricted to light alone. It extends to all matter. Electrons, which were thought to be tiny charged particles because of such experiments as Millikan's oil-drop experiment, in which the charge of the electron was determined, and such experiments as the deflection of a beam of electrons in vacuum by electric and magnetic fields, were shown to have a definite wave nature by the Davisson-Germer experiment. In this experiment it was shown that electrons reflected from the surface

of a crystal show a selective reflection phenomenon; the direction of maximum reflectivity (hence the effective wavelength) varies with the velocity of the electron. The definition of the DeBroglie wavelength for an electron equal to Planck's constant divided by the electron momentum enabled the experiments to be explained by the wave nature of the electron. In the Ramsauer effect, it was shown that the diffraction of electrons with a wavelength of the same order as the atomic cross-section of the material scattering the electrons produced variations from the smooth dependence of scattering cross-section on electron velocity which would have been expected for particle-electrons. Similar results were found for alpha-particles (helium nuclei); in the study of radioactive decay in which alpha-particles were emitted, it was found that a particle with an energy smaller than the barrier preventing emission could still escape from the nucleus by "tunneling" through the barrier in a wave phenomenon similar to the classical case of total reflection.

Just as entities in matter which were thought to have particle nature have been shown to exhibit wave nature under the proper circumstances, so also experiments have shown the presence of discrete variations in nature. The basic need for a discrete-energy-state description of the atom to explain the absence of radiation from moving planetary electrons, for example, together with the characteristic line spectra emitted by excited atoms, shows that energy states in matter are quantized, i.e., matter partakes of a discontinuous particle-nature as well as a continuous wave-nature.

It was on the basis of a situation such as this, that Bohr³ formulated his principle of complementarity. Bohr⁴ believed that our whole attitude toward physical reality should undergo a major change. As summarized by DeBroglie,⁵ the point is that our understanding of nature has arrived at such grips with the very complexity of nature, that we should not expect our ability to formulate pictorial-concepts to be able to adequately describe nature. At one time one concept will be the most useful, at others another will be the most useful.

But, one may ask, is there no conflict between two such opposite pictures as particle and wave? The answer is that conflict is impossible because any attempt to force a conflict will run head-on into the Uncertainty Principle. The Uncertainty Principle set forth by Heisenberg⁶ is simply a statement of the fact that two complementary quantities cannot both be known with complete accuracy. This is because "every experiment destroys some of the knowledge of the system which was obtained by previous experiments." The Uncertainty Principle gets its name from the fact that its mathematical form states that the product of the uncertainties in two complementary quantities must never be less than Planck's constant in magnitude. Two such complementary quantities are

"position" and "momentum". The position and the momentum of an electron cannot both be known accurately at the same time; an effort to measure the position will destroy past information about the momentum and vice versa, because of an interaction between the measuring process and the quantities to be measured. If we come back to the opening question of this paragraph and consider an electron, we will find that conflict between the particle and wave pictures of the electron cannot occur because either (1) the electron will have a wavelength well-enough defined to interact with itself (to produce wave effects), in which case it is not localized in position and does not correspond to the particle picture, or (2) the electron is localized in position, in which case it no longer can interact with itself to produce interference or other wave effects.⁷ Basically, conflict is impossible because there is not present both a particle and a wave—there is present only one entity: an electron.

Bohr's principle of complementarity goes to the very heart of quantum theory itself.⁸ Being a human theory, it is bound by the same conceptual limitations as our other views of nature. It is possible to describe nature in the classical perspective of space-and-time, but then the description becomes non-causal because the Uncertainty Principle must be incorporated to limit the accuracy with which two complementary quantities may be simultaneously known. On the other hand, it is possible to describe nature by foregoing a description in terms of space-and-time and retain a causal description by using instead a mathematical formulation which is based on the "psi" function and the laws which apply to "psi" functions. One can go from one representation to the other by well-known laws of transformation. Thus in quantum theory itself, space-and-time description and causal description are complementary concepts.⁹

Most scientists have followed in the steps of Bohr in accepting the principle of complementarity as basic, at least in the field of science itself. In the words of Wheeler¹, "Complementarity is battle-tested. No one knows an acceptable alternative. The new viewpoint is part of the working attitude of the great majority of physicists of this generation. It would be hard to name a part of science better established than the quantum principle, more thoroughly analyzed for self-consistency, or able to account for a more fantastic range of experience. There is no going back on complementarity!"

But we would leave an incomplete picture if we intimated that there have been no dissenting voices. The most eminent of these was Einstein¹⁰ himself who looked throughout his life for a form of theoretical expression which would describe events themselves in nature and not just their probability as is the case with the "psi" formulation. Margenau,¹¹ as a philosopher-scientist, points out the major disadvantages of the

principle: (1) it leaves nature forever in a dilemma without any hope of a final resolution, and (2) it invites the speculation that other dilemmas outside of science are capable of no further elucidation beyond that interpretation of the complementarity principle. Bohr¹² himself warned against extremism in the latter direction.

But with these warnings noted, let us go on to consider some of the other complementary concepts which seem suited for discussion on the basis of the principle. We have spoken thus far of three such concepts: (1) position and momentum, (2) the particle-aspect and the wave-aspect of nature, and (3) a description of nature in space-and-time and a causal description of nature.

Another complementary set in physics is that of "energy" and "time"; it is not possible to know accurately the energy of a system and the time simultaneously.

Other complementary concepts quoted by Wheeler¹ are the following (1) the use of a word to communicate information and the analysis of the meaning of the word; (2) justice and love; (3) free will and determinism. Let us consider the last of these in somewhat greater detail to make clear the actual implication of considering these as complementary concepts. It may be simply shown that the experimental conditions which would have to be established to confirm the existence of determinism would automatically rule out the exercise of free will and vice versa. To demonstrate determinism, one would have to prove that the future of a person is determined by the past; to accomplish this, one would have to carry out detailed experiments on the potentials of various portions of the brain and the attendant bio-chemical functions of the body. Such an approach, however, would sever the natural course of existence for the person and make exercise of free will impossible. Similarly if the person is put in such a situation that the exercise of free will can be demonstrated, it is impossible to show that determinism is or is not acting. Thus Wheeler¹ argues that free will and determinism are not contradictory—but complementary.

It is not difficult to think of other complementary concepts in everyday life. The use of art forms, such as music or painting, to convey aesthetic impressions is complementary to an analysis of such art forms into their basic components of frequency-and-amplitude-variation and brush strokes. Such examples are directly analogous to that given above for the use and analysis of words.

When we turn to the subject of Christian theology, we again find a number of concepts which seem to partake of the nature of complementarity at least to some extent. Probably this "nature of complementar-

ity" can be redefined as the existence of two apparently contradictory concepts to fully describe reality, the cause of their contradictory appearance lying in our inability to pictorialize to an extent required by reality.

Certainly the basic concepts of the Unity and the Trinity of God, and of the divine nature and human nature of Christ partake of at least some of this quality of complementarity. We might also consider as complementary the concepts of the holy position of the Christian in Christ and the sinful state in which he yet lives this life. Faith and works also possess a definitely complementary nature as is evident by a comparison of Romans 4:1-4 with James 2:21-23. Even the duties of Christian burden-bearing are complementary as indicated in Galatians 6:2, "Bear ye one another's burden", and Galatians 6:5, "For every man shall bear his own burden."

But above and beyond these concepts of Christian theology there is the one apparent basic paradox that rests in the very deepest heart of the Scriptures, that apparent paradox upon which is centered our deepest understanding of God and His purpose: the co-existence of man's responsibility and God's sovereignty. There can be no doubt that the Bible teaches each of these doctrines with absolute finality. Let us consider a few examples:

(1) When God sent the king of Assyria against the Samaritans to carry out His sentence of judgment against them, the king of Assyria had no knowledge of being used in this way and acted out of his own evil motives. By one act the sovereign purpose of God was accomplished and the holy law of God was transgressed; the king of Assyria was held responsible for the sin which he had committed. (Isaiah 10:5-13).

(2) God announced to Solomon that He would take the kingdom from his descendants in judgment against him (I Kings 11:11). This judgment came into effect when Rehoboam, Solomon's son, accepted the evil counsel of his young companions to threaten the people with worse hardships than before, and ten of the tribes of Israel rebelled. God's purpose was achieved and yet Rehoboam was fully responsible for his sin before God.

(3) Jesus warned against the great sin of leading little children astray, and said, "Woe unto the world because of offenses! for it must needs be that offenses come; but woe to that man by whom the offense cometh!" (Matthew 18:7).

(4) The co-existence of God's sovereignty and man's responsibility is clearly brought out in the betrayal of Jesus by Judas Iscariot. Here are the words of Jesus:

"The Son of man goeth as it is written of him: but woe unto that man by whom the Son of man is betrayed! it had been good for that man if he had not been born." (Matthew 26:24)

"While I was with them in the world, I kept them in thy name: those that thou gavest me I have kept, and none of them is lost, but the son of perdition; that the scriptures might be fulfilled." (John 17:12)

"I speak not of you all: I know whom I have chosen: but that the scripture may be fulfilled, He that eateth bread with me hath lifted up his heel against me." (John 13:18)

If ever an event were part of God's eternal sovereign purpose, it was that His Son Jesus Christ should come to pay the penalty for men's sins by dying in their place:

"Him, being delivered by the determinate counsel and foreknowledge of God, ye have taken, and by wicked hands have crucified and slain:" (Acts 2:23)

And yet there can be no doubt on the basis of the Scriptural record that Judas was guilty and responsible for his sin of betrayal before God, since he acted in accord with his own evil will.

We can sum up the situation in this way: "Perhaps the most important fact to recognize in studying the scriptural revelation concerning God's purposes is that the truth is presented from two distinct points of view. Many passages present the truth of God's purpose from God's point of view. Many other passages present the same truth from man's point of view. If we fail to recognize that the *same* truth is being described in both cases, we find ourselves facing a paradox which seems to make God's point of view and man's point of view irreconcilable."¹³

Is not this the very same language as that of the principle of complementarity? We have here at the very heart of Christianity an example of complementarity which matches the scientific applications of the principle perfectly.

To be sure, we can soften this apparent paradox between man's responsibility and God's sovereignty without invoking the principle of complementarity, in a way which affords some satisfaction to Christians.¹³ By considering man's inheritance of an unregenerate nature as the result of the Fall, we can place man's responsibility on his own sinful actions dictated by the desires of his sinful will. By considering the saving grace of God's election by which He bestows salvation as a free gift upon those whom He has chosen, we can see the exercise of His sovereignty. But it is clear that we cannot see man's responsibility and God's sovereignty in action at the same time, so as to understand how all of men's actions infallibly fulfill God's purpose. We have softened the paradox and made it easier to build upon in our Christian life and service, but its essence remains unchanged as far as our knowledge in this life is concerned.

It may be that the principle of complementarity in physics is a result only of inherent limitations on our experimental ability and is not a final picture of the true nature of things. And it may be that some day

science will penetrate beyond the Uncertainty Principle by discovering hidden variables which permit both a causal and a space-and-time description of nature, as Einstein had hoped. These things must be admitted as possibilities, albeit seemingly unlikely ones at the present time.

Even if science were able to overcome this limitation, however, it is likely that our grasp of spiritual Truth—the created mind seeking after those things of the Creator—will never be able in this life to go beyond a position like that in which science finds itself today. Our feeble attempts to invent and use concepts to describe the purpose and the plan of Almighty God will very likely not get beyond those concepts such as man's responsibility and God's sovereignty which present an apparent paradox. Man will probably always find his best refuge in those heart-felt words of Paul: "O the depth of the riches both of the wisdom and knowledge of God! how unsearchable are his judgments, and his ways past finding out!" (Romans 11:33).

An understanding of the principle of complementarity demonstrates to us that the existence of apparent paradoxes in our theology cannot be used against the Bible as evidence of its falsehood; such apparent paradoxes are seen to be common in human experience and to exist even at the very heart of modern physics.

An understanding of the principle of complementarity also shows us that we need not retreat from the complete Scriptural revelation by denying either the real meaning of man's responsibility or of God's sovereignty, as some have been led to do in order to remove from themselves what they considered to be the intolerable burden of the apparent paradox.

We are led once again to the conclusion that the Bible is the infallible Word of God, presenting to us the truth of Himself and His purpose insofar as it can be revealed in human language to human beings.

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10. I. Rosenthal-Schneider, chapter in Ref. 3, p. 142.
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13. R. H. Bube, "To Every Man an Answer", Moody Press, Chicago, Ill. (1955), p. 200.

The Importance of Inspiration *

KENNETH S. KANTZER, Ph. D.

In II Timothy 3:14-16 we read, "But continue thou in the things which thou hast learned and hast been assured of, knowing of whom thou has learned them; and that from a child thou hast known the Holy Scriptures, which are able to make thee wise unto salvation through faith which is in Christ Jesus. All Scripture is given by inspiration of God, and is profitable for doctrine, for reproof, for correction, for instruction in righteousness: that the man of God may be perfect, thoroughly furnished unto all good works."

In his recent thought-provoking volume, *Faith and Reason*, Nels Ferre says his students are constantly coming to him (in the way that I wish mine would come to me) about the matter of what one should believe in a day like ours. One student in particular, he says, came to him and confessed, "When I just accept everything that I have been taught, believe all that is expected of me in my home, I find that I have a very neat, lovely little package of faith. But unfortunately, I discover that I have nothing to say to anyone who believes differently and refuses to examine his faith (I would add, nor can I pacify my own conscience with respect to what I believe)." On the other hand, the student declared, "When I try conscientiously to think through the reasons for my acceptance of this doctrine or that doctrine, I discover that the more deeply I think, the more clearly I see that, as a matter of fact, there are no foundations for my doctrine."

The predicament of that student is the predicament of many, many students throughout the world. For anyone who has lost faith in the authority of the Bible, this predicament is inevitable. Such a person must always be asking, "What is the truth? What shall I believe? How can I know whether this doctrine is true or the opposite doctrine is true?" Even he who has found a tentative conclusion must admit, "This is the best answer I have found thus far, but after all, my solution is based simply upon the evidence to which I, as a finite man, have had access. I must maintain an open mind, however, because tomorrow I may discover new facts. And new facts may shed new light upon the truth. Thus I shall have to change my mind, if I am honest with myself."

In answer to these uncertainties of man, Christians down through the centuries have pointed to the Bible. The Bible alone, they testify, points man unerringly to Jesus Christ as Saviour. The Bible alone is the infallible rule of faith and practice. It alone can speak with the authority of the omniscient God Himself. It

alone can tell man what he ought to believe and what he ought to do. And in it alone can man find full assurance for his faith, so that he dares affirm, "I know what I believe. These things are most certainly true."

Long ago, Augustine, searching desperately for truth to lighten the gloom of his skepticism, turned to the Scriptures and read and found peace of mind and heart. Of this Book he exclaimed, "All the fathers may err, but Holy Scripture cannot err." Centuries later at the time of the Protestant reformation, Martin Luther declared, "I have learned to ascribe this honor [infallibility] only to books which are termed canonical, so that I confidently believe that not one of their authors erred." John Calvin added his testimony, "The Scriptures are the School of the Holy Spirit, in which nothing is omitted which it is necessary and useful to know, and nothing is taught except what it is of advantage to know." The Bible is the "infallible" and "inerrant word of God." It is "blasphemous" to suggest that a book which gives us the very written words of God could make one least mistake.

In the nominal Christian church, the rejection of the inerrancy of the Word of God has been a very modern development. In the United States, the first departure from an orthodox view of Scriptures, as far as I know, came in the year 1738. A young minister near Boston declared that no longer could he believe in the full authority of the Bible. The ministers gathered about him and scratched their heads. They did not know whether to ordain him or not. Finally they decided that they could not recommend him to any church. But a church in Gloucester, Massachusetts (perhaps some of you have seen that church; it is a Unitarian church today; then it was a Congregational church), said, "We do not object to such a petty deviation from the truth. If this man really believes the essential gospel of Christianity, we shall be glad to take him as our pastor." And they did.

In 1792, Harvard University called a man named Henry Ware to join its faculty as professor of Bible and theology. There were some doubts as to his position on certain doctrinal issues. Apparently he did not believe in the full authority of Scripture. Ware said that he *did* believe in the deity of Christ, although some had doubts as to whether or not he really did. A few years later, that same man, Henry Ware, wrote a book against the deity of Christ, and became one of the leaders in the Unitarian movement throughout the nineteenth century.

It was not long until the institution that had

*From an address given at Wheaton College Chapel, Wheaton, Illinois, May 31, 1954. This is the first of three addresses on the subject of inspiration. The other two, by different authors, will appear in later issues of the Journal—Editor.

admitted a professor who doubted the inspiration of Scripture, and who came to doubt the deity of Christ, became an institution that no longer stood for Christianity or even for mere theism. Harvard today is a secular institution, tolerating Christianity, but certainly not propagating it.

The pattern seems very clear: The first doctrinal deviation from an orthodox Christian faith on the part of an individual or an institution is almost without exception a denial of the verbal inerrancy of the Scripture. Certainly in colleges and universities across the length and breadth of America that pattern is inescapably clear. Those institutions which formerly stood for orthodoxy, and now have departed from that faith, have begun their departure at the point of the verbal inerrancy of the Bible.

Where do we find a college which has rejected the verbal inspiration of the Bible, but which has, nevertheless, preserved its orthodox faith on all other points? Where do we find a denial of faith in the verbal inerrancy of Scripture and yet a flaming missionary zeal for spreading the gospel of Christ crucified, buried, and risen again? Where but in institutions standing for the full inspiration of Scripture do we find the historical person, Jesus Christ, exalted as God (not in some nebulous sense but as the second person of the triune God)? Where but in institutions standing for a high view of inspiration do we find a Christian faith which insists rigorously that Christian living must extend down into the practical details of the Christian life? Where but in churches which set forth the Bible as the inerrant Word of God do we find laymen (I am not speaking now of ministers, of professional theologians, but of laymen) who know they are Christians and can give an unequivocal testimony to the saving power of Jesus Christ?

History has made this issue very clear. Orthodox Christianity is like a towering mountain surrounded on all sides by precipitous cliffs. Its summit levels off into a broad and spacious plateau. He who accepts the doctrine of the inerrancy of Scripture stands safely and firmly upon this plateau. Those who reject verbal inspiration may think they are standing firmly upon the mountain of orthodoxy, but actually they have slipped over the edge of the broad plateau and its safety; they are clinging to the steep and rocky sides which defy all attempts to secure a foothold. Inevitably they fall down the hazardous incline until they are crushed on the rocks below, having given up the whole of orthodox Christian faith.

That is the lesson of history. I do not deny, of course, that an individual who rejects the verbal inspiration of the Bible can be a Christian. I know many men who deny the verbal inspiration of the Bible and yet certainly are Christians. I do not refuse Christian fellowship to a man who denies the verbal inspiration of the Bible. I am glad to welcome into the fellowship

of Jesus Christ anyone who has personally accepted Jesus Christ as his Saviour and Lord. I do not say that the man who rejects the verbal inspiration of Scripture cannot be a good and earnest and noble-minded Christian. I simply affirm this: history has showed us that the inerrancy of Scripture is a doctrine which has served as a hedge for orthodox Christianity. Those who have held to it by and large have held to a full-orbed orthodox Christianity. History also has showed us abundantly that those who do not hold to this doctrine have inevitably departed from orthodox Christianity at many, many other places as well.

Where this doctrine has been held, institutions have stood for Christ. Where this doctrine has fallen, institutions have fallen from Christ. And that is not an accident. There is an inner logic as to why that should be so. Some short-sighted people may say, "Well, let us accept the doctrines of the Scripture, but not hold to the inerrancy of Scripture." But how can that be done? The doctrinal authority of the apostles and inerrant inspiration stand together. Emil Brunner, a neo-orthodox theologian of some repute, declares that in his judgment, it is unquestionable that the Apostle Paul held to a very high view of inspiration. Certainly, so Brunner is convinced, any fair-minded scholar must see that the Apostle Paul held to the view of inspiration commonly accepted by the Jews of his own day. Notice the dilemma into which anyone who takes that view must fall. Paul's doctrine of Scripture, on the testimony of men such as Brunner, is a doctrine of the verbal inerrancy of the Bible. Is the Apostle Paul, then, in his writings of Scripture, an authority in doctrine or is he not an authority? If he is an authority for doctrine, then let us accept his doctrine of the Scripture. If we reject his doctrine of Scripture, then let us admit that he is not an authority for doctrine; we do not believe the doctrines which he teaches because he teaches them, but rather, we pick and choose among his doctrines, selecting only those doctrines of the apostle which we choose to accept and no others. It is impossible, therefore, to accept the doctrinal authority of the apostles without accepting also the full inspiration of Scripture.

This same logic, like a good sword, can be driven still more deeply into the opponent of verbal inerrancy. The Lordship of Christ and the inerrant inspiration of Scripture likewise stand or fall together. Jesus said, "Scripture cannot be broken (John 10:35)." He also said, "Till heaven and earth pass, one jot or one tittle shall in no wise pass from the law till all be fulfilled (Matt. 5:18)." "Not one tittle of the law" can be set aside as vain (Luke 16:17). For our Lord, "It is written" settled every question of the day. The words of the written Scripture are the words of the Holy Spirit of God (Matt. 19:4). The apostles were "fools and slow of heart not to believe all that the prophets had spoken." Recent scholarship—radical, modern-

istic, neo-orthodox, liberal-evangelical—has tended more and more to agree that Jesus, the Man of history, believed unequivocally in the ordinary view of inspiration held by the orthodox Jews of his day. Hence, the dilemma stands. Is Jesus now Lord? Or is He not Lord? If Jesus is Lord, then let us not equivocate. Let us accept Jesus' Lordship when it comes to His teaching with respect to the Bible. If Jesus is not really Lord, then again, let us not equivocate. Let us not pretend to accept His Lordship. Let us not give Him an empty title and mockingly place upon his head another crown of thorns.

The real issue regarding inspiration has become abundantly clear. History has shown us unmistakably what is the central issue, and logic has showed us why history reads as it does. The question comes down to this: do we take the Bible seriously, or do we not? For those who accept only parts of the Bible, the Bible cannot really be an authority at all. He who picks and chooses among the doctrines of the Bible does not really accept the Bible as an authority. For him, rather, the Bible becomes only a sourcebook for ideas each of which is accepted as true for some other reason than that the Bible teaches it.

Such a person slips consciously or unconsciously into a form of rationalism. He accepts those parts of the Bible that can be rationally defended. He accepts those parts that approve themselves to him historically. Each doctrine, if he is consistent, must be defended at the bar of reason or must be rejected as unproved. Only the philosopher and the archaeologist can determine what parts of the Bible may rightfully be accepted and what parts must not be accepted. The average man, not professionally trained, is lost and bewildered. He cannot find his way through these abstract philosophical arguments and this array of historical facts; and he never discovers the truths that man needs for his soul's good.

There is, however, another alternative. Some theologians turn to subjectivism. "Yes," they say, "I, too, accept only parts of scripture; I receive all those parts of Scripture in which the Spirit of God speaks to my soul, enabling me individually and personally to see that this is His voice." Not long ago a car travelling down the lake shore drive in Chicago suddenly swerved off the Avenue and plunged into Lake Michigan. A bather whom the car had barely missed jumped into the water, and opened the car door to rescue its driver. Later, the police asked the driver what had happened. "Oh," he replied, "the Spirit of God told me to drive

into Lake Michigan." I don't believe that the Spirit of God told him to drive into Lake Michigan! Two women in the South proclaimed that the Spirit of God ordered them to take snakes and to walk out into a river, holding those serpents over their heads. While their followers stood horrified on the shore, the two women walked out into the water, holding the snakes over their heads, and singing hymns. They drowned! I don't believe the Spirit of God was speaking to them, bidding them to go out into the water.

The *reductio ad absurdum* of this subjectivism was revealed in a recent article in *Time* magazine. One of the subjectivists, a neo-orthodox thinker, Karl Barth, rebuked in scathing tones another subjectivist neo-orthodox thinker, Reinhold Niebuhr. Reinhold Niebuhr, Karl Barth charged, does not take the authority of the Bible seriously. When he finds that the Bible agrees with him, he accepts the Bible, but when he finds that the Bible does not agree with him, he rejects it. I, myself, so he affirmed, repudiate this hit-and-miss attitude towards the Bible. With a hearty *amen* I concur in what Karl Barth said—but in my next breath I add, "Et tu, Brute?" For Karl Barth himself does not take the whole Bible seriously. As long as both he and Niebuhr refuse to take the Bible really seriously, and receive only that in it which happens individually and personally to strike home to their hearts and minds as they read it, how can they come to any other conclusion but to this basic subjectivism to which they both hold?

As orthodox Christians we believe that the Bible is true. We believe that it is an authority. We receive what it declares not because it appeals to us, but because it says so. We believe that what the written Scriptures say, God says; and therefore the Scriptures are completely trustworthy. And in this view we find that the living Word of God, Jesus Christ our Saviour, and the written Word of God, the Bible, are joined in a harmonious unity. For the living Word said of the written Word, "Search the Scriptures, for they are they which testify of me (John 5:39)." Our Lord, Himself, accepted the authority of Scripture; He rebuked those who would *not* receive the authority of Scripture; He urged all men to receive the authority of Scripture; and we do not accept His Lordship unless we follow His bidding. The judgment of history has showed, and logic confirms this judgment, that we cannot long *retain* the Divine Christ and His true Lordship, unless with His Lordship we are willing also to accept the authority of the Bible.

Inter-Varsity Christian Fellowship and the Role of the American Scientific Affiliation

C. STACEY WOODS

It is an honor for me, who have taken nothing more than elementary physics and chemistry, and who am in no way qualified to speak to you in your own fields, to be invited to meet with you this morning. It would be presumptuous to assay to discuss even the correlation of science and theology in terms of specifics and particulars, and one must therefore restrict one's self to reference to certain principles of biblical theology and their general application to the field of the physical sciences, as well as to mention certain related problems that are currently before us, particularly in the field of Christian work in our universities.

It is a matter of concern and regret that so very seldom is the theologian qualified to discuss questions in the field of the physical sciences, or the scientist adequate to consider the problems of biblical theology. As a consequence, too often the evangelical theologian distrusts the Christian scientist, and the scientist is prone to feel that the theologian is wandering around with his head in a bucket.

An essential presupposition of Holy Scripture is the existence of the personal God who has disclosed Himself—His character and His will—through the Bible.

This God is a Being of truth, justice, holiness, and redemptive love. It is inconceivable that such a God, with all His attributes of Deity, could be guilty of or permit error in His revelation, whether He is speaking of Himself or of the physical universe He created. It is therefore necessary to postulate that God's self-disclosure, His revelation, when properly understood, even though it is mediated by and through finite fallible man, has been preserved free from error.

However, if this position is granted, we are immediately confronted with the problem of communication. God's mind has been conveyed to man verbally. But what do I understand by these words? What is their meaning and their interpretation?

Problems of the correlation of science and Scripture appear, in part, to center around the question of interpretation and the extent to which God, in His act of inspiration, accommodates or limits Himself to the knowledge and culture of the day in which the particular record of Scripture was given, and consequently, the allowance that must be made for such accommodation is understanding the real thought of God.

While fully admitting the necessity for such interpretation, does not the heart of the problem lie in our own inner attitude? While making full allowance for

that degree of light that science can shed upon Scripture, none the less, must we not of necessity confess that as Christians we must start first with God and His divine revelation, and rather interpret science by Scripture than the reverse, Scripture by science? While this may not be an absolute or an exclusive approach, none the less, must not this be the basic essential approach to the question, if we are to be truly Christian in our thinking and interpretation? While at all times we must beware of reading our own ideas into the Bible, and of taking our interpretations of Scripture as Scripture, we must likewise avoid confusing scientific theory with scientific fact. The Bible is one book, one revelation, and in our approach to an understanding of Scripture, we must of necessity interpret Scripture by Scripture.

Sometimes there appears to have been a tendency, in our eagerness to show that there is no real conflict between true science and true biblical interpretation, to give the impression that the whole problem lies in the direction of interpretation of Scripture, and that too eagerly we have endeavored to interpret or reinterpret Scripture in the light of scientific dictum. Apart from errors that have occurred in this process, perhaps a general atmosphere and point of view has arisen in which the university student is prone to approach the Bible, not in the simplicity of childlike faith, but with a superior attitude that human reason and interpretation must be imposed upon it, if the true mind of God is to be understood; and perhaps this has created a climate in which Scripture is subordinated to human intelligence and reason and understanding. This can be exceedingly dangerous. Therefore, I would suggest that here is one area in which the American Scientific Affiliation could give leadership to the undergraduate university world, particularly the secular university world, and at all times insist that we as Christians start with God and His revelation, and that as a principle, human reason, understanding, and interpretation must submit itself to "Thus saith the Lord."

The Christian scientist is not in a different category to that of the ordinary Christian. All Christians must approach the understanding of the physical universe with the consciousness that as fallen men we are not only finite but sinful. Our hearts are desperately wicked. Our minds naturally are darkened, and our reason, as part of the whole man, has been adversely affected by sin, and therefore of itself is unreliable. The Christian must be aware that Satan, the god of this world, this physical universe, is the enemy of God and hates all that which glorifies God, and he would cast doubt

upon God's truth and honor. As such, Satan will tempt man to glorify his own intellect and reason and discover, rather than to glorify God. He will endeavor to encourage man to be wise in his own conceit, and to reach those conclusions which will glorify man and his understanding rather than God, which will glorify man's wisdom and understanding rather than God's truth. Therefore, if conclusions are reached which shed doubt upon the authenticity of Scripture, Satan, in a sense, has made a point, and God is dishonored. In like manner, if the supernatural can be explained away in terms of the natural, God, to that extent, is dethroned in the hearts of those reaching such a conclusion. This is not to say that we want to insist upon absurd and magical elements in Scripture rather than understanding the true explanation of things as they are. The Christian, in humility, must think God's thoughts after Him, and if the Bible is God's Word, he must submit all he knows and discovers to the Word of God, provided that Word is rightly understood. However, it is gloriously true that the Christian has a mind enlightened by the Holy Spirit, and this because as a regenerated man he is taught by the Spirit on the bases of faith. His enlightenment is not on the basis of human reason, but on the basis of faith in the sphere of the operation of the Holy Spirit.

This danger of pride of intellect and the enthronement of reason is equally a danger for the theologian as it is for the scientist. The theologian is constantly tempted to reduce the infinite wisdom of God to a syllogism, to confine the revelation of God to the limits of human logic and understanding, so he has, for instance, at times endeavored to reduce the sovereignty of God and election by grace, together with human responsibility and response, to a synthesis which neither honors God nor satisfies the human ego; and it is as great a blasphemy for the theologian to impugn God's justice, in the light of human comprehension of divine revelation of Scripture, properly understood, in the light of scientific understanding, particularly when the course of scientific history so often has witnessed, through the years, radical modifications of scientific dogma.

In this area also, such a movement as the InterVarsity Christian Fellowship looks to the American Scientific Affiliation for leadership. The university undergraduate needs the example and the teaching of the Christian scientist who exemplifies Deuteronomy 29:29: "The secret things belong unto the Lord our God: but those things which are revealed belong unto us and to our children forever that we may do all the words of this law."; and again, I Corinthians 13:12: "For now we see through a glass darkly; but then face to face: now I know in part; but then shall I know even as also I am known." An attitude that is the light of God and eternity, all our knowledge is somewhat tentative, and even our understanding of the

divine revelation must be expounded in humility, recognizing human fallibility and weakness, is bound to have a salutary effect upon the university student who is bombarded constantly by the dogmatic assertions of unbelieving university professors. Surely the Christian scientist must reject the absolutizing of scientific contention when this contradicts the teaching of Scripture properly understood. We must always remember the words of Hebrews 11:3: "Through faith we understand that the world was created by the word of God, so that that which is seen was made out of things which do not appear."

A very, very great need is for the Christian scientist to be completely current on the latest scientific theory and dictum, to be fully aware of all the issues of his field; if possible, even to be an authority, to some extent, in his field, but at the same time to be an example of faith, rather than of human, rationalistic logic, and a man who is willing to suspend judgment where there continues to be a conflict, seemingly, between science and the Scriptures, after all avenues of understanding Scripture have been explored, and he has before him what seems to be a refutable evidence which contradicts the Scripture.

If the Bible is God's Word, it is inerrant. If there is conflict between human understanding of the physical universe and our understanding of the teaching of Scripture, then the Christian is forced to accept the teaching of Scripture in faith, trusting God to vindicate Himself. From one point of view, for a Christian to rely upon his finite, fallible understanding of truth, rather than upon divine revelation, is to trust himself and his reason rather than to trust the Living God.

Admittedly, the Bible is not a scientific textbook. It deals principally with questions of faith and morals. In many cases, its statements relating to the physical universe are in general terms, often couched in poetic prose. This being the case, there is latitude and flexibility in interpretation, thus legitimately providing a basis of understanding and agreement with much scientific discovery regarding man and the world. However, when the Bible deals with questions of faith and morals, it is usually precise, and a similar latitude and flexibility is not provided. For instance, there may be some latitude of interpretation regarding the geographical scope and intensity of the Flood, but there is no possibility of evading the moral judgment of God upon mankind and his wickedness, so that mankind was destroyed, apart from Noah and his family, who were pure Adamic stock. The Scripture states clearly that Noah and his family were saved, and that the rest of mankind perished because of sin, and by "mankind" is meant those descendants of Adam into whose nostrils had been breathed the breath of life. Possibly there may have been hominoid creatures physically resembling man, who may have continued to exist some-

where, finally becoming extinct, but such were not mankind.

An area of some concern is the temptation to the Christian scientist to devote himself to the study of the physical universe at the expense of the study of God and His Holy Word. The callow undergraduate is given the impression that even to a Christian, this physical universe is of greater importance and significance than the unseen world of the spirit and the things of God, on the basis of the amount of time devoted to each. It is tragic when the Christian scientist, known as a believer in the Lord Jesus Christ, knows relatively little of the Word of God, apart from special passages dealing with scientific subjects, while he is well versed in his own field, which could mean that in reality he has not really been taught by God the Holy Spirit.

Truth concerning this physical universe, though very important, is temporal and temporary. God's truth and revelation is eternal. It is a tragedy for any Christian, be he scientist or not, to be an ignoramus concerning the truth of God, while being literate and vocal in another field. I would dare to suggest, in the light of the Word of God, that in the final analysis, truth concerning the physical universe can only be properly understood in the light of the divine revelation, and that apart from Scriptures, scientific knowledge is out of true perspective, and therefore is improperly comprehended. True knowledge of God is eternal truth. Knowledge of the physical universe is only of temporary and tentative significance. It is true that the heavens declare the glory of God, and much can be learned of God from the world around us. However, such knowledge is fragmentary compared with that knowledge of God that is declared and expounded in the Scriptures. "The things that are seen are transient, but the things that are unseen are eternal."

Furthermore, it is suggested in the Scripture that knowledge we acquire in this life is with us in the life to come, and that in the life to come, there will be progress in knowledge and in understanding. Is it therefore impossible to conceive that in that coming day, there will be men who are intellectual giants concerning the things of this world, but who will be relative babes as they commence in that eternal school of the knowledge of God and His infinite wisdom. There may be others who know little of this world and yet relatively speaking, who may be giants in the things of God, and who will be ahead of many of us when we see our Saviour face to face. This is not for one moment to suggest that we should take an anti-intellectual attitude toward human knowledge and research, but only to suggest that devotion to this knowledge at least should be accompanied by an equal interest in the things of God and in the study of Scripture.

May I venture to suggest, therefore, that the mem-

bers of the American Scientific Affiliation give serious thought to the encouragement of a more complete understanding of spiritual truth, not, as has been said before, to the neglect, in any way, of scientific investigation, but in addition to it. Such an emphasis by men of science upon the Word of God, in an era preoccupied with material existence, could have a profound effect upon today's university undergraduates, Christian and non-Christian.

In conclusion, may I, on behalf of the Inter-Varsity Christian Fellowship, express our appreciation to the American Scientific Affiliation. To many of you, we must seem somewhat obscurantist and reactionary. But I would remind you that our primary field is the undergraduate who is with us but four brief years. Seldom is he an intellectual. Frequently he comes to us, if he is a Christian, as an unweaned spiritual babe. Of necessity, we are preoccupied with the elementary aspects of the Christian life, working in what is a veritable Christian kindergarten, even though it is in the university. We appear to be living in a day of intellectual decline. Relatively few students are interested in knowledge for the sake of knowledge. Most read only that which is assigned to them. Basic motivations in education are utilitarian. The type of student we are working with today is different to what it was fifteen years ago. Then we had a fair proportion of men and women coming up to our universities from evangelical homes and churches, students who were true Christians. Today, the very great majority of these young people are going to Christian institutions on the tertiary level. That means we have to create our own constituency, and as a result, thank God, the majority of students active in the Inter-Varsity Christian Fellowship comes from non-evangelical backgrounds, and a very great number of them are converted during their undergraduate days. However, this again only emphasizes the kindergarten aspect of our work, and we believe our primary task is to establish the Christian in Christ Jesus. We have not found the role of Christian evidences and apologetics an impressive help in dealing with a non-Christian, although sometimes it is an open door to gain a hearing for the Gospel. Rather, we have found Christian evidences and apologetics an aid in confirming the faith and belief of the young Christian. While it is true that there is something to be believed, and Someone to be received, in the matter of regeneration, in the final analysis it is the heart of the man that must be touched by God the Holy Spirit, as birth from above is essentially a divine act and operation. Therefore, I have no hesitation in saying that the Christian scientist can be the greatest possible help to us to the degree to which he is a man of God, a man of the Spirit, a man who knows the Word of God, a man who can present Jesus Christ. In this context, his academic standing and his scientific knowledge is invaluable. It is this that will

give him an entree to the universities and to the minds and hearts of students, but having reached the student audience, the primary need is not a discussion of some aspect of science and Scripture, helpful though that may be, but rather a presentation of the Lord Jesus Christ, in all His sufficiency, to meet every need, although perhaps presented in the content of the speakers scientific field.

ANTHROPOLOGY

by

James O. Buswell, III, M.A.

Psychologist Claims Negroes Inferior

In 1772 the Reverend Thomas Thompson wrote a monograph, "The Trade in Negro Slaves on the African Coast in Accordance with Humane Principles and with the Laws of Revealed Religion." In 1852 the Reverend Josiah Priest wrote "A Bible Defense of Slavery." In 1900 Mr. C. Carroll wrote *The Negro as a Beast or in the Image of God* in which one chapter was entitled "Biblical and Scientific Proofs that the Negro is Not a Member of the Human Race."

In 1956 two articles have been published which, in the context of today's racial understanding, are almost as bad as those mentioned above. One is by a theologian,¹ who attempts to prove, on the erroneous basis of the Hamitic ancestry of all Negroes, that absolute segregation of all races is demanded by the scripture. The other is by a professor of psychology² who attempts to prove that "Negroes as a group do not possess as much capacity for education as whites," on the equally erroneous basis of a comparison of psychological test scores from the time of World War I to the present day.

Readers of this Journal are well enough acquainted with the arguments against the thesis of the Hamitic ancestry of Negroes, so we will only discuss the second of these articles, which is one of the slickest jobs of "proving" a biased position by means of carefully selected "scientific" data that this reviewer has seen in a long time.

Psychologist's Main Thesis

The psychologist's main thesis is that socio-economic factors could not be the explanation for the inferiority of World War I Negro scores because psychological tests administered to groups of Negroes and whites of like socio-economic position up to the present day continue to come out in about the same ratio, or even worse for the Negro. It is explained that although there has been an obvious improvement in the socio-economic conditions since World War I, that the whites have "profited the more from them."

A significant number of crucial considerations for this problem are either minimized, explained away, or

entirely ignored by the author. Basic, of course, is the entire question of the validity of psychological tests to measure the differences in native capacity of a minority group in the first place. It may be presumed that all of these tests were composed by whites, and in terms of their own values and traditions.

It is further quite transparent that the psychologists reported upon, as well as the author, have failed to appreciate the differences between "socio-economic" conditions and the "culture", anthropologically speaking, of the Negroes selected. A special attempt was made to construct a test with one-half composed of "cultural questions." The rest were "questions that required a minimum amount of cultural experience for their answers". These were called the "non-cultural" questions! The reader is left to imagine what these questions could possibly be, and just what criteria were used to decide what knowledge does and what does not require "cultural experience."

Method Leads to Unwarranted Conclusion

The manner of pairing white and Negro subjects leaves much to be desired from a sociological point of view. The author points out that

"a white subject was paired with a Negro subject when the white subject was identical or equivalent to the Negro subject in terms of fourteen social and economic factors thought to be important. This means that, in terms of socio-economic status, there were no white subjects higher than the highest Negro subject. Also, in terms of socio-economic status, there were no Negro subjects lower than the lowest white subject. Each Negro subject was permanently paired with a white subject so that both subjects were equal or equivalent in terms of each of the fourteen socio-economic factors."

The reader is not told what these fourteen factors were. That the subsequent scoring of white and Negro students thus paired could prove to have no particular correlation with these fourteen factors may be true. But to derive from this that because (a) the socio-economic status of the Negro since World War I has improved (we are not told how this is measured); (b) so has that of the whites; and (c) the differences in test scores between the two groups has not changed in favor of the Negroes; therefore the Negro does not "have more capacity for education, relative to the whites, than he did in 1918" is an unwarranted conclusion.

In the first place, to base educational capacity upon such an extremely limited "equal or equivalent" status judgment leaves entirely undefined all of the multitude of other non-socio-economic factors which would have a significant bearing upon the scores.

In the second place, socio-economic equality does not necessarily indicate educational background equality. The author's own tests prove his fallacy here, for he chose two sets of matched groups, those with high, and those with very low socio-economic status. According to the author,

"If social and economic forces were so important, there

should have been no differences between Negroes and whites in any of these comparisons."

Again, completely ignoring any other cultural factor of mentality or background which might have been responsible for the Negro's lower scores. But he goes on to say,

"As it actually turned out, the difference between Negroes and whites is much greater when both groups are of high socio-economic status than when the racial groups are of deprived socio-economic status," "... the performance of the Low Negro Group is identical with the performance of the Low White Group."

This is extremely revealing in view of the author's exclusive focus on a limited aspect of the total cultural environment. Ruth Benedict has pointed out that

"The environmental advantages of the Negro in the United States *never equals those of the Whites of the same economic level*, but wherever they become more similar the 'inferiority' of the Negro tends to disappear."³

It is easy to understand that the two low groups would possess a far more similar set of environmental advantages than would the two high groups. This serves only to throw into relief the vast amount of cultural diversities to take into account when examining educational capacity through psychological test scores.

The third reason why the author's conclusion is not warranted is that all possibilities for comparison are not explored. The manner of pairing allows only those of "equal" status to be matched, and the scores are presented only in terms of group averages. This tends to ignore completely the individual high scores made by Negroes in spite of their cultural disadvantages. Furthermore, *no Negroes of high socio-economic status are compared with whites of lower socio-economic status*. This would have to be done in order to prove whether or not such status has a bearing upon intelligence test scores. The author's entire case would seem to rest upon this one consideration. We are not told, for example, how the scores of the high Negro group compared with those of the low white group.

1918 Test Fallacies Exposed

Nor are regional differences in environmental opportunity taken into account. One of the most significant criticisms of the 1918 tests was the re-grouping of scores to show that the "inferiorities" tabulated originally by racial and nationality groupings were due to linguistic and cultural circumstances and not due to racial and national differences. The tabulation of median scores for Southern whites as over against Northern Negroes revealed the Negroes above the Whites:

WHITES	
Mississippi	41.25
Kentucky	41.50
Arkansas	41.55
NEGROES	
New York	45.02
Illinois	47.35
Ohio	49.50

The author's attempt to show the Negroes as inferior in capacity for education is the more startling because of the tremendous weight of opinion from psychological as well as anthropological circles against him. Otto Klineberg, with whose opinions the author's admittedly "are markedly at variance," has pointed out that

"Intelligence tests may therefore not be used as measures of group differences in native ability, though they may be used profitably as measures of accomplishment."

Finally, one tends to be sceptical of a psychologist, no matter how unassailable his professional testing proficiency might be, who, after analyzing the conclusions of only six articles on Negro-White test score differences which "presented enough material to permit us to compare the World War I performance of Negroes and whites with latter-day performance," including one of his own, has the temerity to say in his concluding paragraph,

"... it should be remembered that the studies described in this article are not a selection of studies intended to emphasize a point of view. They are the *only* existing studies that relate to the problem."

Summary

Summing up our criticisms of this article, we would say that (1) the value of psychological tests in measuring racial educational capacity has long been questioned on the basis of the virtual impossibility of devising a test which would be "culture free." (2) To compare the results of a basically invalid measurement over a period of time and to find that the Negro-white score ratios have not significantly changed, would seem to have no practical significance for the problems of educational desegregation which face our nation. (3) Within whatever significance psychological testing of racial differences may have, it is hardly realistic, where a minority group is involved, to attempt to "equate" socio-economic statuses by an arbitrary selection of factors, believing that this alone could even approximate equal environmental advantages and educational backgrounds. (4) The author fails to reveal to the reader all of the specific inadequacies, in terms of regional, national, racial, linguistic, and cultural considerations, of the original test score tabulations in 1918, with which he compares all subsequent investigations. The analysis as presented, thus takes on the aspect of strictly propaganda-use of an impressive amount of psychological testing data carefully selected and tabulated to present the desired results.

Slightly previous to the author's professional contributions, a man named Cicero wrote:

"Men indeed differ in learning but are equal in the capacity for learning; there is no race which under the guidance of reason cannot attain to virtue."

1. Kinney, Kenneth, "The Segregation Issue", *Baptist Bulletin*, October, 1956.

2. McGurk, F. C. J., "A Scientist's Report on Race Differences." *U. S. News and World Report*, Sept. 21, 1956, pp. 92-96.

3. Emphasis mine. Benedict, Ruth, *Race: Science and Poli-*

ARCHAEOLOGY

by

Allan A. MacRae, Ph. D.

Many readers of this Journal have doubtless seen an article, entitled "Biblical Detective Story," which appeared on p. 50 of TIME Magazine for October 29, 1956. The article seems to be a review of a book which is described as *The Bible as History* (William Morrow & Co.; \$5.95), "published in the U.S. next week," by "German Scientific Journalist Werner Keller."

The article begins with mention of a discovery, said to have taken place in 1929, by British and American archeologists, of a ten-foot layer of mud far below the surface at Ur near the Persian Gulf, under which it says that artifacts from the stone age were discovered. At first sight this looks like a wonderful authentication of the story of the flood. Unfortunately, however, the article is in error at this point. As a matter of fact, the Ur expedition found evidence of exactly the same civilization underneath the layer of mud as above, thus indicating that it was a local river flood rather than a catastrophic deluge. Moreover, similar flood layers have been found in other parts of Mesopotamia, from periods differing from this one by a few centuries. While I have no doubt that there was a great universal flood such as is described in Genesis, it weakens our case rather than to strengthen it, to give evidence that does not properly apply. I hope that this particular instance is not typical of the book as a whole.

The next paragraph says, "Such discoveries may disconcert the skeptics, but other findings are bound to upset Biblical fundamentalists, who insist on miracles where science is ready to offer natural explanations. Many scientists are now convinced that the rocks which Moses struck, 'and the water came out abundantly,' were water-storing limestone, whose hard crust was broken by the blow."

True fundamentalists should not be upset by such statements as this one which simply calls attention to a very vital point about miracles. It is a false definition of a miracle to say that it indicates something which must of necessity be a new creative act of God and contrary to all natural law. God is the Creator of natural law and He can change it when and as He may choose. However, it would be very strange if He were arbitrarily and unnecessarily to change it. All that man knows of natural law does not comprise more than a small fraction of the wonders of God's

creation. Surely it does not make a more wonderful God to think that He establishes everything a certain way and then suddenly makes sweeping changes, than to think that He establishes things in the first place in the way that will be satisfactory for His whole plan through the ages. A miracle is simply, in the Biblical usage, a sign. It is evidence of the direct activity of God. The fact that on two occasions God showed Moses where to strike so that water would come out, was a wonderful sign of God's care for the Israelites and of the fact that He was directing the work of Moses in leading them. It would be just as wonderful for God to have prepared the place far in advance so that the water would be all ready to come out, as for Him to create new water at the instant when Moses struck. There is nothing against the Bible in such so-called natural explanations of miracles as this one here. God uses what He has created for the accomplishment of His purposes. There is no necessity of thinking that He created something new whenever He gave a sign of His presence, although it is true, of course, that sometimes He has done this, and that He has the power to do it whenever He chooses.

The same applies to the discussion of the manna, which comes next in the article.

The point coming after this in the article seems quite satisfactory except for the date. It says that in 1936 a British expedition determined that the walls of Jericho had indeed fallen with great violence. "Reported expedition leader John Garstang: 'The space between the two walls is filled with fragments and rubble. There are clear traces of a tremendous fire.' Says the Bible: 'When the priests blew with the trumpets . . . and the people shouted with a great shout . . . the wall fell down flat . . . and they burnt the city with fire, and all that was therein.' Scientists conclude that an earthquake may have tumbled the walls."

Actually, the noted English archeologist, John Garstang, published a book in 1930 which was called, *Foundations of the Bible—Joshua and Judges*. On pp. 143-146 of this book, Professor Garstang told of the excavations that he had conducted the previous year (not 1936). He described the discoveries at Jericho and said that it did not look at all likely that the tumbling of the walls was caused by an earthquake. It would be expected in such a case that they would have fallen in a different way than was displayed by the fragments, as his expedition unearthed them. He definitely stated that the condition of the walls showed that a great cataclysm had occurred there. It is a wonderful evidence of the accuracy of the Biblical account.

God could just as well have used an earthquake for the purpose if He had chosen to do so. There would be nothing the least bit contrary to the claims of the Bible in His having done this. For Him to

cause the earthquake to come just at the time when the Israelites were there, ready to take Jericho, would have been just as much of a miracle as for Him to cause them to fall in some other way.

In the last few years new excavations have been made at Jericho, and the recent excavators have made some rather skeptical statements about the actual conditions of ancient Jericho, even questioning whether there was a city there at all at the time of Joshua, to be overthrown by him. However, such statements should not disturb us too much. Garstang was a thoroughly competent excavator, even though not all of his conclusions will stand up permanently. In this case he reports in considerable detail the results that he found, and he certainly was not using his imagination or inventing facts out of whole cloth. After all the present work has been thoroughly weighed and analyzed, it would be very strange if there were found to be any actual contradiction between it and the discoveries of Professor Garstang 25 years ago.

The article in *Time* continues with interesting remarks about the German excavations in Babel and about the Queen of Sheba's visit to King Solomon, ending with two remarkable instances of recent use of the accurate topographic details found in the Bible record.

BIOLOGY

I. W. KNOBLOCH, Ph. D.

(Continued from September 1956)

Phylogenetic Trees

Reptiles are first found in the coal measures of the Pennsylvania (Paleozoic era) and birds from the Jurassic (Mesozoic era), according to E. O. Dodson (Textbook of Evolution). As commonly stated in textbooks, the reptiles and birds "arose" in these periods. This, of course, may well be, but it is seemingly naive to be dogmatic about it. We know that many groups appear so suddenly in the record that it seems logical to assume that the group in question has had a longer history than evidenced by its fossils.

Dodson takes the mammals back to the Permian or to the Pennsylvanian. William D. Mathew (Climate and Evolution, 2nd Ed. 1939) points to the fragmentary knowledge of the origin of the mammals as deduced from the fossil record. The record from the Mesozoic era rocks shows two jaws and a few teeth (Triassic), a number of more or less fragmentary jaws (Jurassic) and various teeth and jaws from the Cretaceous. Thus, of the earliest mammals, we do not have either a complete skull or a complete skeleton (according to Mathew). Rock pressures, unfavorable burial conditions, and the very nature of mammalian

bones, have deprived us of a more complete picture of these animals.

Turning now to plant evolution, we find bacteria and algae going back to Cambrian or even Pre-Cambrian rocks. It is interesting to point out that these same groups are still with us, changed possibly as to species or kinds but still recognizable as bacteria and algae. Mosses have been found in the Pennsylvanian (late Paleozoic) but no doubt they existed long before this.

Vascular plants (ferns and some seed plants) trace their origin at least as far as the Silurian period (Paleozoic era). According to Ralph Chaney, one of the foremost paleobotanists, the first vascular tissue comes from the Silurian and the first seeds from the Devonian. Incidentally, Darrah (Textbook of Paleobotany) disposes of the old idea that *Rhynia* (Devonian) is the first stage in the evolution of the land plants, pointing to earlier fossils from the Silurian deposits of Australia. Gymnosperms (seeds in cones) are found earlier as fossils than the angiosperms (seed plants with flowers).

The oldest evidence of angiosperms (pollen) comes from the Jurassic rocks, according to W. B. Turrill (Bot. Rev. 8(8):1942). The pollen belonged, possibly, to members of the water lily, magnolia and butternut families. Since these are complex organisms, it would be very naive to assume that the angiosperms "arose" or "originated" in the Jurassic. In the rocks of the next period, the Cretaceous, we find fossil leaves and seeds of numerous *present day forms*. Indeed, the sudden (apparent) rise of the angiosperms is one of the great mysteries of evolutionary study. Without doubt, fossil finds of the next few centuries, will help to clarify this mystery.

We cannot claim that all plant phyla go back to the Cambrian. It is surprising, however, to note that some seed plants (the so-called highest group) go back to the Devonian period. It is not likely that these developed from the ferns. In many ways, our knowledge of plant fossils is inferior to that of animal fossils. Our knowledge here is woefully incomplete.

Julian Huxley (The New Systematics, p. 19) said that—

in lower taxonomic categories such as species and subspecies, parallel mutation may make a phylogenetic interpretation an almost impossible ideal, of little practical help or even theoretical significance. Even in larger groups, such as those of the higher plants, phylogeny may be almost hopelessly obscured by parallel or convergent evolution, added to the lack of fossil material in early evolutionary stages.

The opinion of C. R. Metcalf and L. Chalk (Anatomy of the Dicotyledons) has been quoted elsewhere. Briefly they hold that views on phylogenetic interrelationships in plants is a matter of personal opinion. They consider it "fundamentally misleading" to arrange plant families in a single, linear, phylogenetic tree.

One of England's great botanists is W. B. Turrill.

He writes (Bot. Rev. 8(8), P. 508)—

it is usually not difficult to arrange living organisms in series in such a manner that differences in the structure of one or more organs appear as graded steps. Such series are frequently interpreted as phylogenetic or, if the study be concerned with only one organ, as morphogenetic or organogenetic. When the evidence is carefully stated and fully established, evolution may well be the most rational explanation of such a series. The great diversity of opinion in published accounts of plant phylogeny suggests, however, that the available data are still too few for the construction of a valid general phylogenetic scheme. There is no doubt that the paucity of relevant paleobotanical data in most groups of plants (partial exceptions are the Pteridophyta and the Gymnospermae) is a major cause of uncertainty as to whether or not proposed series are phylogenetic, and if they be, in which direction they should be read.

In monographic treatments or longer papers, one frequently finds intraphyletic trees. In these, the authors attempt to trace species relationships as influenced by genetic changes and recombinations. This is a commendable pursuit because it is on surer ground, attacking the problem on an inductive basis rather than on a theoretical or deductive basis. Deduction and theory have an important role to play in science but one must, necessarily, be less dogmatic about such approaches than those placed on an inductive basis.

In conclusion, therefore, it seems to be more consistent with one of the scientific attitudes (withhold judgment until all the data is in) to figure a phylogenetic tree with the phyla trunks (for the most part) deeply imbedded in the Cambrian period. Whatever evolution has occurred, has been confined to changes within the phyla and classes. *The phylogenetic tree* becomes, in fact, a series of trees each one confined to a phylum, a class, order or even smaller category. This is as far as the evidence, it seems to me permits one to go at the present time.

Virus Reconstitution Achieved

This is the title of an article in the California monthly for January 1956. Briefly it tells of the achievements of Drs. Fraenkel-Conrat and Williams in putting together inert fragments of tobacco mosaic virus to produce disease-producing viruses. A virus had been found earlier by Dr. Stanley to be composed of a core of nucleic acid surrounded by protein. The two California scientists warmed a virus preparation in a detergent. This technique removed the enveloping protein, leaving the nucleic acid. After much empirical trial and error it was possible to obtain pure samples of both the protein and the nucleic acid. Both of these were found to be inert. By careful mixing of the two inert portions, the two united in their respective and correct position, to produce an active and infectious virus when placed on tobacco leaves.

This research leads us to believe that at some time in the future other viruses can be torn down and rebuilt, thus furthering our knowledge of living matter.

It is not claimed that this is an example of spon-

taneous generation despite the apparent mixing of two lifeless materials to produce a living virus. Scientists have learned caution through a study of the history of science. It will be interesting to see if someone will obtain both the protein and the acid in a relatively large quantity, sterilize and mix them, and obtain infectious viruses.

PHILOSOPHY

by

Robert D. Knudsen, Th.M.

For this issue I asked Dr. William Paul of Shelton College to take the column. He has responded with a contribution on Paul Tillich. Some regard Tillich as primarily a theologian, though it is equally true that some regard him as first of all a philosopher. The ideas of the ranking neo-liberal thinker are certainly of great concern for the evangelical Christian in his attempt to bring the gospel to the world. About that all will have to agree.

Paul Tillich and Natural Theology

Physical and social scientists who are also Christians suppose at times that they are dealing with data and wrestling with problems which involve an area traditionally referred to as natural theology. Of Paul Tillich, America's leading neo-liberal philosophical theologian, it has been said both that "he is the most remarkable representative of a natural theology on a Christian basis"¹ and that "for him there can be no natural theology."² Both statements contain an element of truth.

Tillich rejects natural theology in so far as it has been concerned traditionally with deductive attempts to prove the existence of God. Kant was right in rejecting the arguments—ontological, cosmological, teleological—on philosophical grounds. They could not bridge the gap between the conditioned character of our world (finite beings, causes, purposes) and the unconditioned or Being-itself (to employ Tillich's non-symbolical terms for referring to God). Tillich also rejects this "traditional precritical natural theology"³ on theological grounds, and that with a contention that is one of the most striking in the whole history of Christianity. He wishes to eliminate the phrase "God's existence" from theology as atheistic, as implying that the questioner supposes God to be a being among other beings, whose existence profits from demonstration. "God does not exist. He is being—itself beyond essence and existence. Therefore, to argue that God exists is to deny Him."⁴

This certainly slams the door on one type of natural theology. Tillich might thereby be supposed to agree with Karl Barth, from whom all natural theology and apologetics is demonic because Christ is the unique and *exclusive* revelation of God.⁵ But this is far from true. For Professor Tillich the "Jesus which is the Christ" is uniquely revelatory of God; but in that God

is the ground and power of all being, all existence may become revelatory of God. There is "no reality, thing, or event which cannot become a bearer of the mystery of being and enter into a revelatory correlation . . . Revelation can occur through every personality which is transparent for the ground of being."⁶ Though he continues to maintain that "nature cannot become an argumentative basis for conclusions about the mystery of being,"⁷ it is apparent that a non-deductive and very much broadened conception of natural theology has been reaffirmed. But it involves no "natural revelation," since if one knows something through the natural functioning of the intellectual self, it is not, in his terms, revelation. Nor is there any general philosophy of religion here which could become an autonomous foundation for a systematic theology as in the older liberal or modernistic systems. The Barthian or neo-orthodox criticism of this nineteenth and early twentieth century trend was justified.

To state Tillich's attitude succinctly we may say that he wants neither an independent natural theology nor philosophy of religion, but he wants both in a third way—by a "method of correlation."⁸ These are not special sections in his system of theology but are retained in full view throughout. They help to reveal the questions which disturb the mind of modern man perplexed by the ambiguities and meaninglessness of historical existence, questions which reflect man's "ultimate concern," questions for which neither natural theology nor philosophy has answers. But Christianity has the message or *kerygma* and the method of correlation is an attempt to correlate "answering theology" with "apologetic theology," to relate "the symbols used in the Christian message"⁹ to these questions. The message should not be thrown out to men like a stone, as both Barth and orthodoxy tend to do, says Tillich, but must be constantly presented in relationship to the psychological, sociological, secular, and religious questions which consciously or unconsciously express the predicament of human existence and point to man's ultimate concern for the unconditioned, for the New Being which is the Christ. In spite of the unorthodox and ontologically-weighted character of Tillich's interpretation of the Biblical symbols, it would seem that the pragmatic merit of an apologetic method of correlation remains.

The psychological power of Tillich's method of correlation and of his transformed natural theology may be illustrated from his reinterpretation of the arguments for God's existence. As we have indicated, they must no longer be considered valid as deductive arguments, but they remain important for Tillich as an *analysis* of "human finitude and the question involved there" and by that analysis the "question of God" becomes "possible and necessary."¹⁰ It is quite meaningful to ask about the reality or truth of the *idea* of God, though not about the existence of God. "The onto-

logical argument in its various forms gives a description of the way in which potential infinity is present in actual finitude . . . All elaborations have shown the presence of something unconditional within the self and the world (within the structure of reason and reality). Unless such an element were present, the question of God never could have been asked, nor could an answer, even the answer of revelation, have been received."¹¹

The cosmological question of God arises as man experiences the threat of nonbeing, of anxiety about his existence, and then is driven to the possibility of being conquering nonbeing and courage conquering anxiety. Likewise, when man experiences anxiety about the meaninglessness of existence, he is face to face with the teleological question of the ground of meaning. These are questions which drive reason, Tillich believes, to the quest for revelation. While natural theology cannot reach the truth of God's creativity and man's creatureliness, this is the answer which the revealed doctrine of creation provides to anxiety over being and meaning.

Such a line of reasoning might well be psychologically persuasive as a point of contact between the Christian and many distressed unbelievers of our time. It might serve as a means which the Holy Spirit would use to bring saving conviction in the light of special revelation, the Bible. But unfortunately it is at this point that Tillich fails us. Not only does he reject the full authority of all Scripture but in his desire to emphasize the idea of revelation as an ecstatic and existential relation between God and man he also fails completely to do justice to the question of the objective validity of either special or general revelation.¹² So, for example, Tillich wants to accept creation as a "description of the relation between God and the world. . . (which) points to the situation of creatureliness and its correlate, the divine creativity;"¹³ but at the same time he denies a factual, objective basis to this "relation," namely a divinely ordered process of events. Where, we ask, is his method of correlation now? Why not correlate the symbolic statements with their objective bases? In the revealed *kerygma* they are correlated. If we truly stand within this "theological circle,"¹⁴ we must pay attention to *both* the existential commitment *and* the objective validation of faith's claims to truth.

Certainly *inductive*, conformatory evidences are in order here. Tillich has not considered the possibility and value of inductive formulations of the questions concerning the reality of God. In spite of his desire to ground his theology in ontology, he has failed to challenge the anxiety of the unbeliever with the data which tends to confirm the Christian's belief in the purposiveness and meaningfulness of reality, which gives objective warrant to his courage to be.

Such an inductive examination of the evidences of

God's handiwork will exhibit a general revelation of the Creator-Savior God of special revelation, a general revelation which is not generalized or abstracted from particular revelatory events but is very much related to particular evidences confirmatory of God's creative planning and providence both within man (Romans 2:14; 15; Acts 17:23) and within his physical and cultural environment (Romans 1:19,20; Psalms 19; Romans 10:18; Acts 14:17). Scripture implies that man, though a sinner, is potentially open to such a general revelation of an eternal power and Deity, a God who is good and holy as well as great. But Scripture also teaches, and this Tillich (in spite of the attention which he gives to the demonic) fails to clarify,¹⁵ that the history and culture of man reflect the twisting and rejecting of these evidences as the sinner works out his own moral, religious, political and artistic ideas and practices. Man is left responsible and "without excuse." But the revelatory evidences are at hand. By God's common grace some individuals and cultures may not twist these truths as much as others, but the Scriptures make it clearer than does Tillich that men stand in need of God's saving grace if they are to have *both* a knowledge of *and* a personal fellowship (I Corinthians 1 and 2) with the living and the true God, who in Christ has supremely and finally revealed both His love and His justice.

FOOTNOTES

1. Otto Piper, *Recent Developments in German Protestantism* (London: Student Christian Movement Press, 1934), p. 137.
2. John Herman Randall, Jr., "The Ontology of Paul Tillich," *The Theology of Paul Tillich, The Library of Living Theology*, I (ed., Kegley and Bretall. New York: Macmillan, 1952), p. 136. Cf. *ibid.*, p. 160.
3. Paul Tillich, *Systematic Theology*, I (Chicago: University of Chicago Press, 1951), p. 30.
4. *Ibid.*, p. 205.
5. The writer highly recommends the two excellent studies by the Reformed, Dutch theologian, G. C. Berkouwer, *General Revelation* (Grand Rapids: Eerdmans, 1955) and *The Triumph of Grace in the Theology of Karl Barth* (Grand Rapids: Eerdmans, 1956).
6. Tillich, *op. cit.*, I, 118, 121.
7. *Ibid.*, p. 120.
8. *Ibid.*, pp. 59ff.
9. *Ibid.*, p. 62.
10. *Ibid.*, pp. 65, 206.
11. *Ibid.*, p. 206.
12. *Ibid.*, pp. 114, 138. Unfortunately Tillich rejects the possibility of using the phrase "general revelation" by equating "general" with "abstracted from particular revelatory events."
13. *Ibid.*, pp. 252-253.
14. *Ibid.*, p. 10.
15. Cf. Allan Killen, *The Ontological Theology of Paul Tillich* (Kampen: Kok, 1956), p. 245.

PSYCHOLOGY

R. B. MARQUART, M.D.

What Good Is Psychology?

Let us concede that the psychology of our present day world is not good for Christians. even though

it has gleaned a few facts about human nature. Let us also insist that no psychology is any good unless it be used for the glory of God. What kind psychology would this be? We could well dispense with the id, superego, abreaction and all the modern terminology which is used to explain away the Christian experience, although the Christian should be informed of these things. We could use such terms as projection, rationalisation, and repression etc., because these mechanisms are described in Bible characters. Our psychology should be a Biblically oriented knowledge of human nature gleaned from Scripture. The Bible has an exact and definite terminology of its own, when rightly understood. We would also include the psychological changes which occur in human personality due to the quickening work of the Lord the Spirit.

A Biblical psychology could be envisioned in four phases as follows:

1. The Human Nature of Natural Man.
2. Human Nature in Initial Salvation.
3. The Deeper Life or Possessing our present possessions in Him.
4. Biblical Psychiatry.

Some question the need for a Biblical Psychiatry for Christians, but Christians do have neuroses and even insanity, although the more serious troubles are less frequently encountered in young Christians. Insanity is not the same as demonism, even though there may be some overlapping. Those who say, "We are not interested in the insane, because insanity is all due to sin", should drop to their knees and seek the Lord's will for our being here on earth. We who have seen Christians who are insane know that we have a real problem here. Wm. Cowper had a form of insanity, which runs in families, but he was sane when he wrote "There is a Fountain Filled with Blood."

SOCIOLOGY

by

Frank A. Houser, Jr., M.A.

Did your church vote Republican in the election? Did you say politics are not discussed in your pulpit? Not even prohibition? Well, that is rather interesting, because a lot of churches are having a difficult time knowing whether to (1) preach, (2) preach and meddle, or (3) meddle. For some reason or other religion seems to be tied up to life, and it often happens that when one gets religious he gets ethical. At least some denominations find themselves wrestling with questions of both personal and social ethics along with their religion.

I'd like to chat with you for a while on some findings by sociologists interested in the church and social issues. Of course, this is an extremely broad subject;

so, we'll restrict ourselves to one recent study about one phase of the question. This study is reported by C. Y. Glock and B. B. Ringer in the April 1956 issue of the *American Sociological Review*. It's entitled "Church Policy and Attitudes on Social Issues." The Protestant Episcopal Church wanted help in planning a social relations program so they set up a study getting at attitudes of both clergy and laymen in their church. Several groups assisted in the study, and the report we have is by sociologists connected with the study.

In my opening paragraph I intimated that some churches are somewhat in a quandary on their matter of discussing issues that make up politics. Why is it that on some matters like "prohibition", "pacifism", and Communism evangelicals will venture forth with pronouncements from the pulpit, but on matters such as race, labor, business, and the United Nations there is a silence broken only by occasional pins dropping? Let us look at Glock and Ringer's study of the Protestant Episcopal Church to get some suggested answers.

First, let's note the subjects which were included in the study: war, political role of the church, government control, labor, United Nations, immigration policies, conscientious objectors, human rights, and intermarriage with Roman Catholics.

Of these nine issues the church has passed resolutions on seven. That is, official policy has been established by their national governing body. No resolutions have been passed on the political role of the church; and there is no official declaration on government control although these issues have proponents and opponents among the clergy. For the seven issues on which a stand is taken the official body is either committed or equivocal. It favors a given point of view on the UN, human rights, conscientious objectors, immigration and intermarriage. It takes an equivocal position on other issues (e.g., war and labor).

We are advised by the authors that on issues classified as *ideological* (excepting the UN) church officialdom takes a strong position. However, they equivocate on issues dealing with the question of power. Power refers to the distribution of power between classes as in labor and government control, to that between communities as in war, or within the community as is the case of the political role of the church.

Why is it that on non-power questions the church—that is, the official representatives of the church—speak forthrightly? And, why the equivocation on social issues involving power in society? Try this nasty suggestion: where the parishioners lead the church follows. In other words, where the parishioners have made up their mind so has the church; and where they have not, neither has the church.

As a matter of fact, this hypothesis is not supported by the facts. Glock and Ringer show that on matters where officialdom has stated a most forthright resolu-

tion, the parishioners are least agreed! There is more divergence of opinion among laity on ideological or moral questions (e.g., intermarriage and human rights) than on power questions. Now, it could very well be that the church can afford to take a clear stand knowing that the laity are split on the issue. As we look at the parishioner's attitudes on power questions we find that there is quite a bit more agreement or convergence among them. And, here the church has to tread carefully lest it offend a solid bloc of opinion in its midst. Therefore, it equivocates on these issues.

Does the church follow the laity? Does it compromise with secularism? The answer, according to Glock and Ringer, is "no." It is ahead of or decidedly different from its laity on most issues. But, on power questions it must proceed cautiously. Even its ministers in the parishes are similar to parishioners in attitudes on power questions. It looks like the official church actually leads the laity except where the solidified collective will of the parishioners is strongly entrenched. This, it seems to me, is about all one could realistically ask of the church on social ethics. Or, do think the clergy is wrong in leading?

By way of tidying things up let's return to the question about your church vote in the last election. If there was no explicit endorsement of a candidate or an issue was it really because all political issues are verboten in the sanctuary as a matter of principle? Or is it because such actions depend on the state of parish sentiment, the minister's attitude, the structure of church government, the clarity of the moral issue, and the socio-cultural background of the church?

LETTERS

Editor:

I would like to point out that a statement in the article by John C. Sinclair in the March 1956 Journal is now out of date. Mr. Sinclair states on page 16 of the Journal: "Electron and positron pairs can unite to produce high energy light rays, and in turn can be formed by such rays; but there is no known way that neutrons and protons can be created or be annihilated." In the November 1, 1955 issue of the *Physical Review*, Chamberlain, Segre, Wiegand, and Ypsilantes report on the creation of anti-protons by the high-energy proton beam of the Bevatron at the University of California. Subsequently, the annihilation of these anti-protons has been observed also ((Chamberlain, et al, *Phys. Rev.* 101, 909 (1956)). In addition a popular account of this discovery has appeared in the June 1956 issue of the *Scientific American*.

These comments apply also to the article by Rusk and Schweitzer in the same issue of the Journal. They

make a statement similar to that of Sinclair's at the top of page 12.

It should be emphasized that the discovery of the anti-proton is in no way a point in favor of the continuous-creation theory of Bondi, Gold, and Hoyle. Energy is required to create the anti-proton whereas the continuous-creation theory requires that protons be created

from nothing. Thus, the discovery of the anti-proton has no direct bearing on the validity of the continuous-creation theory.

Sincerely yours,

John A. McIntyre

P.S. Just recently, the anti-neutron has also been discovered at the University of California.

High Energy Physics Laboratory
Stanford University
Stanford, California
September 14, 1956