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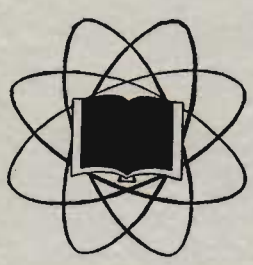
AMERICAN SCIENTIFIC AFFILIATION



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

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News Notes

William A. Smalley, a co-author of the chapter on Anthropology in "Modern Science and Christian Faith" has published "A Programme for Missionary Language Learning" in **International Review of Missions** and to be reprinted in the **Bible Translator.** Another article entitled "Program for the Study of French in Paris" appeared recently in **Language Learning.** He is at present preparing his Ph.D. Dissertation on "The Structure of Kamhmu" and is located at Saigon, Vietnam.

The Editor has a reprint of the first article and will be glad to loan the copy on request.

A paper on the "Determination of Easily Hydrolyzable Fructose Units in Dextran Preparations" was presented by Carl S. Wise, R. J. Dimler, H. A. Davis, and C. E. Rist at the Symposium on Dextran Chemistry of the recent Chicago meeting of the American Chemical Society.

Another paper was given at the Symposium on Diffusion in Polymers of the American Chemical Society by D. K. Carpenter and W. R. Kirgbaum entitled "Phase Equilibria in Polymer-Liquid 1- Liquid 2 Systems."

Dr. Frank O. Green of Wheaton College published a 6-page article entitled "Chemical Industry in Egypt" in the August 10, 1953 issue of Chemical and Engineering News. Dr. Green recently completed a year as Fulbright lecturer at Fouad I and Ibrahim Pasha Universities.

Eugene L. Hammer is now Professor of Education at Wilkes College, Wilkes-Barre, Pennsylvania.

G. Douglas Young has accepted the position of Dean of Education, Northwestern Schools, Minneapolis, Minn., where he also teaches Old Testament and the Semitic Languages.

Harold Barker, Jr., is at present Instructor in Physics at Worcester Polytechnic Institute.

Peter G. Fast is continuing his graduate studies at Ball State Teachers College toward the Doctor's degree. He serves as graduate assistant to the Director of Graduate Studies. At the October meeting of the Phi Delta Kappa, Beta Pi Campus Chapter, he was elected to serve as secretary for this organization for the coming year.

A local meeting of the Illinois-Indiana section of the A.S.A. was held at Goshen College November 14, 1953. Professor Hendrik Oorthuys of Purdue University led a panel discussion on the objectives, doctrinal statement and standards of the Affiliation. Other members on the panel were: Robert Buschert, Frank Mathews, and Paul Stanley, all of Purdue. The results of the discussion will soon be available to interested persons.

Letters

Editor:

With regard to Howitt's note on "Day", and continuing Potts' reply (JASA 5.1.14 and 5.2.2), let him ask his scholars how they would translate **logos** in John I. I presume they would translate it **word,** but the RSV even capitalizes it to emphasize that it **doesn't** mean literally **word** but Christ (or at least some reference to Divinity).

And what about "in the beginning"? Nobody would quarrel with the translation, but the very fact that God created the heavens and the earth means that it wasn't really the beginning—and we believe that God never had a beginning.

The problem breaks down to the fact that in providing our Revelation God adapted His truth to a cultural medium; language. In so doing he also restricted it to a particular cultural period and setting. He did not wait for the precise scientific language of the 20th century, but chose the poetry of ancient Hebrew and the raciness of Koine. For that matter, it is providential that we don't have to read through scientific jargon to get to spiritual truth. Few would bother.

Language has the faculty for development to whatever type of usefulness its users need. A human thinker's reasoning is limited heavily by his language structure, but as the minor changes in thinking and experience which characterize the history of thought take place, language does change too. But language at a given time is geared to the present and the past, not to the future.

The Bible speaks of the four corners of the earth because it wants to convey a certain meaning—dispersion. The translator who translates the "four corners" does not change them if they can possibly convey, in his language, the same certain meaning which they were intended to convey. The fact that the writer who was inspired to write believed that the earth had four corners is irrelevant. He was the part of a culture which did not happen to be up on that particular bit of information. God nevertheless chose him and his language to convey a universal truth.

What God was expressing by means of the cultural term "day" in Genesis is the subject under controversy. The controversy does not lie in how the word should be translated.

Sincerely,
William A. Smalley

329 Rue Freres Louis
Saigon, Vietnam
August 27, 1953

Editor:

The article in the September, 1953 Journal of the A.S.A. by Lammerts and Sinclair is commendable for stating their point of view on the amount of change which can be produced by mutations. It argues for very little change, but some of us feel that this is too limited a view and one that will make many evolutionary scientists believe that we do not even follow as far as biological facts lead.

The first point of disagreement is with the statement that **Eohippus,** the beginning of the fossil series, "differed from the modern horse in so many features that only by the use of a certain amount of 'scientific imagination' called deduction can one understand the reasons causing paleontologists to consider **Eohippus** as the ancestral type from which our modern horse evolved." On the contrary **Eohippus** was really a horse, and is connected by a series which shows gradual changes from it on up to present day horses. The continuity convinces most persons that the members of the series are related. And the fact that the most ancient member of the series has equine characteristics was stated forcefully by one of America's leading paleontologists and students of horses, G. G. Simpson, when he said, "Despite the great difference between **Hyracotherium**

(Eohippus) and **Equus,** (the modern horse) most of the characters of the Equidae did not change appreciably throughout their history. **Hyracotherium** was already a vertebrate, a mammal, a placental, an ungulate, a perissodactyl, a hippomorph, and an equid, which is a classificatory way of saying that the vast majority of its multitude of morphological characters were already the same as those preserved in **Equus** and in all equids as well as in many other more or less related animals".[1] It seems clear to us, then, that Lammerts and Sinclair are wrong in eliminating **Eohippus** from the horses' ancestry.

Regarding another point of difference, less that is definite can be said. If a person does not follow the large body of facts and logic, all of which point to "the long periods of geological time postulated by geologist," he is, in my opinion, bound by a prejudice in favor of a recent creation, and there is no value in discussing the rates of change produced by mutations. But let us assume that the geological ages are dated with the right order of magnitude. Then there has been time for **Eohippus** to change to **Equus** at the known rate of mutation. This was thoroughly discussed by Simpson in his work, **Tempo and Mode in Evolution.** Summarizing briefly his argument, we find the following: There would need to be 0.15 genera per million years, or it would take seven million years per genus. In the estimated 40,000,000 years since the Eocene there is time for about six genera to be produced, which is sufficient to account for the horse series. (Note, Lammerts and Sinclair are inaccurate in saying, "According to the geologic time scale as generally accepted by geologists, approximately 1,000,000 years have elapsed since Eocene times.")

Simpson estimates there have been 15,000,000 generations between **Eohippus** and **Equus**. Notice that Patau's calculations showed that about 1,000,000 generations would suffice to establish a characteristic in 100% of the population, so the number of generations in the **Eohippus-Equus** line could have seen 15 successive mutations established which are affecting any one feature of the animal. There can also be mutations affecting other parts of the animal at the same time and this would allow, for example, 100 differences from **Eohippus** to be established in **Equus,** and each one of the 100 could have been produced in 15 stages each. This suggests that **Eohippus** could have become **Equus** during the time that there has been available and that by the mutation rate that has been determined.

Actually, how much difference is there between **Eohippus** and **Equus**? We quote Simpson, "If the change in any one character from **Hyracotherium** to **Equus** is divided into 300 steps, these steps are almost imperceptibly small and are almost incomparably less than the amount of intragroup variation at any one time." If one can see so much variation within one generation, how can one say that "the many differences between **Eohippus** and the modern horse could hardly have occurred since Eocene time?"

C. Erdman
R. Mixter

Wheaton, Illinois
November 5, 1953

Editor:

In reply to C. Erdman and R. Mixter comment

It must be apparent to everyone how speculative the reasoning is relative to mutation rates and amount of mutation necessary for specific changes. We do not know what the mutant rate was in Eohippus, or the number of necessary mutants to change Eohippus into the modern horse, if such occurred. Very little is said about the **kind** of mutations required. The reason is simple; we don't know enough about it to discuss it. We will never know how closely related Equus and Eohippus are genetically because we cannot crossbreed them and study the differences in their chromosome maps. So the side you take on this discussion will be determined by other considerations. If you believe that order and design are artifacts of probability and so can arise by chance, then you are apt to see all kinds of evolutionary trends in fossil sequences. But if you feel that order and design are evidences of the handiwork of God, you will of necessity be dubious of any mechanistic explanation.

John C. Sinclair

1603½ Brockton Avenue
Los Angeles 25, California
November 11, 1953

Editor:

An interesting and possibly significant article appeared in the September 15, 1953 issue of the Physical Review (91, 1474, 1953), by David B. Rosenblatt. It is pointed out that Uranium isotope 236 has a half life which is geologically short, namely 2.4 x 107 years, decaying by *alpha* emission to Th^{232}, whose half life is 1.4×10^{10} years. Therefore, if any U^{236} existed (in an unexcited state, since U^{236} also fissions with sufficient excitation) at the creation of the elements, it would be unobserved today. He demonstrates that if U^{236} were created in an equal amount with U^{238}, a reasonable assumption on the basis of nuclear stability, then the relative abundances of natural Th^{232} should be enriched by a factor of 4 over its neighboring nuclides on the abundance curve. The measured ratio of Thorium to Uranium abundance is 3.8.

While admitting that his considerations are speculative, he suggests some of the effects of such a "primeval endowment of U^{236}." For example, the thermal condition of the earth would have been vastly different in its early geological history, since the U^{236} decay process would provide a large amount of energy. This energy would be sufficient to maintain the earth entirely molten for about 0.5 x 109 years, longer than thought under Urey's theory of accretion, radioactive heat melting, and subsequent cooling.

The principal interest for the Christian in this work is the effect the primeval U^{236} would have on age estimates from Uranium/Lead abundances, and from Helium content of rocks. A little consideration will show that Helium from U^{236} decay would be found, and would have been misinterpreted as a decay product from other radioactive series, thus giving an older than actual measured age of rocks by Helium methods. However, since Helium content determinations are considered unreliable for times earlier than about 500,000,000 years ago, "in general, an . . . analysis is used which largely eliminates the dependence upon the early abundances of Uranium and Thorium." Therefore the age usually given for the hardening of the earth's crust, $1\text{-}2 \times 10^9$ years, will be essentially uneffected by the early U^{236}. Helium methods are used in meteorite age determinations, and these methods would need revision if the age appeared to be more than a billion years.

In view of the scientific Christians' interest in general cosmological problems, I thought it worth while to bring this article to the attention of ASA members.

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1 Simpson, G. G., 1944, **Tempo and Mode in Evolution,** Columbia University Press, New York, p. 158.

No real change in the geologic time scale is introduced by these considerations, but some modifications in theories of early earth history may be in order, giving a little more insight into God's methods of creation of the heavens and the earth.

I would also like to lend my support to a principle stated by J. C. Sinclair in the ASA Journal, September 1953 issue, page 11, under the heading "ASA Publication Policy". A wider distribution of shorter articles relating science and the evangelical Christian theological position is a more efficient way to demonstrate to the public that Christianity is a reasonable and necessary point of view. Various monographs and reprints may be widely circulated through the ASA. Probably the editorial board of the Journal should select and clear these before official release, to insure sound scholarship. Distribution through individual members might be accomplished by mailing a copy of each selected short article to each member, and allowing members to order copies as they desire and can use them in their individual witness and in church work.

ASA members ought also to consider writing for such magazines as His, of IVCF, Young Life Magazine, Christian Herald, and others. In this way sound scientific support for evangelical Christianity may be brought to a larger number of people than the Journal readers.

Very truly yours,
David L. Dye

Radiological Laboratory
University of California Medical Center
San Francisco 22, California

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A Reading Course In General Anthropology

James O. Buswell III

Assistant Professor of Anthropology, Shelton College, Ringwood, N. J.

I. General Texts

Since 1948 there have been published almost as many general text books in Anthropology as were published all together in the previous seventy-five years or so. This is indicative of the recency of Anthropology's developing into a mature discipline among the other social and physical sciences.

Previous to 1948, the first-class general texts were few. Through the '20's and even later in some schools, Sir Edward B. Tyler's **Primitive Culture: Researches into the Development of Mythology, Philosophy, Religion, Language, Art and Custom** first published in 1871, and his **Anthropology: An Introduction to the Study of Man and Civilization,** first published in 1881, were used. Another British author, R. R. Marrett, wrote a short text, **Anthropology,** in 1911.

In 1923 Alfred L. Kroeber, sometimes called the Dean of American Anthropologists, published his **Anthropology** which proved to be a number-one text for the next twenty-five years. This was the first American production of such depth and scope in a general text book. In 1931 Kroeber and T. T. Waterman published a **Source Book in Anthropology,** a collection of classic writings on anthropological matters by various authors from Herodotus to Margaret Mead. This book had been used in ever growing form at the University of California since before 1920.

In 1953 Kroeber's **Anthropology** was brought out again, this time with a supplement tracing important developments in anthropology of the previous 10 years.

The following year Robert H. Lowie published **An Introduction to Cultural Anthropology** which was revised and considerably enlarged in 1940 with ethnographic sketches of 10 different societies.

1936 saw the publication of Ralph Linton's **The Study of Man.** Although it includes a chapter on human origins and two on race, this book is noted chiefly as a milestone in social anthropology, introducing important concepts for the analysis of human society. This was also the first general text to include a chapter on Culture and Personality, involving a discussion of the psycho-anthropological treatment of the individual in culture which has since become so popular.

The next year Alexander Goldenweiser published his **Anthropology, An Introduction to Primitive Culture,** which was a thorough revision of his earlier book **Early Civilization,** (1922). Goldenweiser's is an extremely practical book. Although becoming a bit polemic at times, he discloses a valuable understanding of the problems of working with, and appreciating the way of life of primitive peoples.

Although Franz Boas never set himself the task of writing a general text book, he contributed to and edited **General Anthropology** which was published in 1938. Written by some of his most outstanding students, among whom were three famous women anthropologists, Gladys Reichard, Ruth Bunzel, and Ruth Benedict, each chapter is a thorough essay on the subject of the author's chief interest or speciality at that time. **General Anthropology** was a standard text for the next 10 years and even yet remains in part assigned reading in some of the best departments of the country. It has attained somewhat the status of a classic because of the large percentage of the material which is descriptive, and of such a quality as not to become quickly outdated.

In 1942 Eliot Chapple and Carlton Coon brought out **Principles of Anthropology.** A valuable book in many particulars, such as the welcome attention given to geography, the physiology of emotion in relation to learning and personality development, and the emphasis upon interrelations of social groupings and institutions, **Principles of Anthropology** is almost a "Cultureless" text, with the concept nowhere presented, the term itself occurring only three or four times throughout the book, and not even listed in the index. For that reason it is unsuitable for most classes except as collateral reading.

In 1947 Barnes and Noble added to their College Outline Series an **Outline of Anthropology.** Written by two capable authors, Melville Jacobs and Bernard J. Stern, it is a summary treatment of all the major divisions of the subject, plus reading lists and a glossary. It is a handy volume to read in conjunction with more specialized study.

Three general texts were published in 1948 which set a new high in excellence of organization and maturity of concepts, yet from three quite different points of view. They were Kroeber's new and almost completely rewritten **Anthropology,** Melville J. Herskovits' **Man and His Works,** and John Gillin's **The Ways of Men.**

Kroeber's is probably the best single book for the serious student to study. It is historical, in conformity with Kroeber's concern elsewhere with culture history and growths, (**Configurations of Culture Growth,** 1944); it has excellent chapters on language, race, and particularly on The Nature of Culture, and culture processes, change, and distributions. Also excellent are the tremendous breadth of correlation and depth of understanding revealed in his three chapters on Old and New World pre-history and ethnology. Its 849 pages, however, plus the rather special place he gives to tracing elements of culture history and diffusion, and the lack of any convenient sections to assign as a general discussion of primitive economics, kinship, primitive religion, or schools of ethnological theory, make this book, in a sense, unsatisfactory as the one required text book of the general course, unless the course itself be adapted to the text and the lacking subjects be taken care of by collateral reading. If this were done, however, it would seem one would not have time to do justice to Kroeber's text. This perhaps would be a matter of opinion, or the teacher's particular background. I prefer to count on Kroeber rather heavily as collateral reading, and use another, perhaps lighter, more conventionally arranged text to match the outline of the course for undergraduate teaching.

Herskovits' **Man and His Works,** another excellent text, has 26 conveniently arranged chapters for the introductory course, plus 12 more for additional or advanced reading in cultural dynamics and acculturation, a subject in which Dr. Herskovits has been an

authority for some years. Eclectic in treatment of the various aspects of the subject, Herskovits orients them all around culture, even the chapters on physical anthropology. This gives the entire book a consistency and an integration which are sometimes lacking in texts treating as wide a variety of subjects as anthropology covers. Of particular note (perhaps notoriety) is Herskovits' chapter on Cultural Relativism, which represents an extreme view, even among antnropologists. Though recognizing the existence of universals, he holds that there are no such things as absolutes with regard to values and morals. Also noteworthy are his chapters on language, folklore, and the arts. An experienced field worker, Herskovits includes much illustrative material from Africa as well as from the New World. If one reads no other book than Herskovits for an introductory course, he would receive a well rounded presentation of the field of cultural anthropology, less complete in physical anthropology.

While Kroeber is culturally oriented in the historic sense, and Herskovits culturally oriented in a more synchronic sense, Gillin's discussion of culture in **The Ways of Men** is oriented psychologically. Again lacking treatment of several conventional departments of the introductory course, Gillin contains valuable reading in physical anthropology, analyses of what constitutes culture and what culture does to the individual, and five chapters on cultural patterning and dynamics. It is a very mature and scholarly work, thought-provoking and practical.

In 1949 two general texts were published—one good and one bad. H. H. Turney-High's **General Anthropology** is considerably below average. It is mentioned here simply because there is a section including a world ethnographic survey which is rather unique in introductory texts. The other near parallel to it is Lowie's ethnographc accounts in his **Introduction to Cultural Anthropology** mentioned above.

E. Adamson Hoebel's **Man in the Primitive World** is a much finer text, being at once elementary and scholarly. He is weak in his section on Ancient Man and Prehistoric Culture, has no discussion of language, but is very strong on primitive society, especially law, government war, chapters sometimes lacking in general government and war, chapters sometimes lacking in general texts. Hoebel's discussion of kinship systems and terminology is one of the clearest and easiest to understand of any I have read. Here is another good text for the introductory course.

Several British anthropologists have brought out general texts in social anthropology in recent years.* Usually, however, they have been reviewed quite critically by American anthropologists because of failure to include up-to-date cultural theory in one aspect or another, or because of the fundamental differences between the viewpoint of British social anthropology and the American cultural perspective. These differences will be taken up later.

The most recent American general text to be published is **An Introduction to Anthropology** by Ralph Beals and Harry Hoijer, (1953). It includes a chapter on heredity and genetics which is unusual, and very worth while in the study of evolution and race. Without it the teacher invariably has to frantically brush up on his "genes and chromosomes" and scratch his head over a simple yet effective way to explain the mechanisms of heredity without taking an undue amount of time from other considerations. The assigning of a chapter or two in a genetic text is not satisfactory either. The author is obviously writing a book and not a chapter to be read independently. It is thus hard to get any idea of what genetics is all about unless more than a chapter or two are assigned. Beals and Hoijer devote the first seven chapters to physical anthropology, and fourteen to cultural, a proportion well suited to the emphases of a year's course. The treatment of the different aspects of culture are illustrated by accounts of functioning societies showing vividly practical contrasts and comparisons within the theoretical framework. The book is so organized that no one aspect of the subject is over emphasized in the direction of the interests of the authors. The chapter on language is unusually good.

It can be seen from this brief resume of textbooks in general anthropology that no matter which one is chosen as a course text, the course must remain essentially a "reading list" course, with supplementary readings accompanying the text assignments at every point. This is partly due to the fact that anthropology is a comparatively new science. It is thus still full of diverse interpretations, though considerable thinking in the last 20-odd years has become somewhat standardized in certain divisions of the subject, among anthropologists who have been trained in the same country. It is no less due to the extremely wide scope encompassed by the discipline, with the result that no two anthropologists will be found who treat all aspects of the subject with the same thoroughness, clarity, or from exactly the same point of view.

It is proposed, in this series, to present bibliographic comments intended to guide the layman through a reading course in general anthropology. The object is not that of the correspondence course, nor of regular assignments which need to be read by the appearing of the next installment. Rather the comments are to be suggestive annotations permitting the reader to choose his reading according to the bent of his own interests, whether that be stimulated by the introduction of an author, a subject, a particular development of a subject, or, (more important) the realization of possible correlations and implications for one's own field of specialization.

The content and major subjects of these installments will follow a conventional pattern of introductory anthropology, but will also depend upon the response of readers who have special interest or requests for bibliographical suggestions on particular anthropological problems.

A tentative outline of major headings follows. It will not always be necessary to devote a whole article to each subject:

1—Introductory
2—Evolution
3—Race
4—Prehistoric Man
5—The Nature of Culture
6—Prehistoric Archaeology
7—Ethnography
8—Primitive Economics
9—Primitive Society
10—Primitive Religion
11—Language
12—Art and Mythology
13—Personality and Culture
14—Schools of Ethnological Theory
15—Acculturation
16—Applied Anthropology

*Piddington, Ralph. **An Introduction to Social Anthropology**, vol. I. New York: Frederick A. Praeger, 1950. Reviewed: **American Anthropologist** Vol. 53, No. 2, (1951) pp. 246-8, by Hoebel. Evans-Pritchard, E. E. **Social Anthropology**. Glencoe, Ill.: The Free Press, 1951. Reviewed: AA Vol. 54, No. 3, (1952) pp. 388-390, by Sol Tax. Nadel, S. F. **The Foundations of Social Anthropology**. Glencoe, Ill.: The Free Press. 1951. Reviewed: AA Vol. 54, No. 1, (1952), pp. 74-5, by Gillin.

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Book Reviews

THE CHRISTIAN VIEW OF MEN AND THINGS by Gordon H. Clark, Eerdmans 1952, 325 pages, $4.00.

Dr. Clark is a well trained, born again, philosophical scholar, whose writings and lectures are always stimulating. After an introduction, he presents chapters on the philosophies of history, politics, ethics, science, religion and epistemology. In each field he shows familiarity with important literature. A wide range of reading is evidenced.

Flashes of Illumination - Politics

The reader will find genuine flashes of illumination such as the following from the chapter of philosophy of politics;

> In the nineteenth century the memory of Autocracy was vivid, and after several nations had rid themselves of tyranny, the acknowledged aim of government was to maintain order so that free individuals could arrange their personal, social, business, affairs as they saw fit. Today, however, the disadvantages of absolute government have been forgotten, and so-called liberals, who are truly reactionaries, aim to establish a so-called democracy on the principles of Louis XIV. . . . As the love of liberty grows dim under socialistic suffocation, as coercion increases, the more brutal it will become. (P. 71)
>
> What the Federal Council of Churches calls Christianity, and what the American Council of Churches calls Christianity are two radically antagonistic religions. (p. 84)

But the illumination is not consistent. Dr. Clark takes flash light views, but often misses the path. He rejects the doctrine, enunciated in the Declaration of Independence, that governments "derive their just powers from the consent of the governed." (p. 127f) He rather cynically remarks that "Democracy made the naive assumption that the mass of the electorate could choose men capable of managing a nation's affairs". (p. 133) He declares that 'the authority of magistrates does not derive from any voluntary social compact, but it derives from God". (p. 136) I do not subscribe to the "social compact" theory of Rousseau in any sence of the word. I do defend the doctrine enunciated in the Declaration of Independence, as being based upon the Scriptures. True, the Apostle Paul declares that governmental powers are "ordained of God". (Romans 13:1-7) But it is just as true that Peter refers to the king and the governor as creatures of man. (I Peter 2:13, 14) It is doubtless this last Scripture which the founding fathers had in mind. There is here no contradiction. Putting the thirteenth chapter of Romans together with the second chapter of I Peter, we derive the consistently Christian doctrine that God has ordained that governments shall rule and that they shall be instituted through human instrumentality.

Missing this point Dr. Clark arrives at the strange doctrine that the state is a "necessary evil".

> The Christian answer is that the state is not a positive or unconditional good, but rather a necessary evil. To do justice to the Christian view one must insist on both adjective and noun. The state is an evil not only because of the abuse of power by the magistrates, but also because it interferes with freedom and introduces an unnatural superiority among men. But the state is also necessary under actual conditions because without civil government each man's evil nature would turn his freedom to intolerable actions. The existence of the state is a partial punishment and cure for sin. (p. 138f)

Dr. Clark seems to teach that all coercion among human beings is evil. "War is only one example of a more general condition. War is a species, as it were, of a wider genus, and that genus is brutality." (p. 69) " . . . brutality is a species of the wider genus of coercion." (p. 70)

Dr. Clark's notion that the state is a necessary evil, and that all coercion among human beings is evil, certainly does not square with the general picture of things set forth in the Bible. The Greek text of Ephesians 3:14, 15 tells us that "every fatherhood in heaven and upon earth is named (that is, derives its character) from The Father". Now certainly coercion is analytically a part of the idea of fatherhood as the word is used in the Scriptures. Moreover, among the angels who know no sin we have indications of authority, government, and relationships involving superiority, subordination, and presumably reasonable coercion. The words "angels and archangels" are not meaningless. All references to the future kingdom of Christ in which we shall reign with Him, exercise judgment with Him, and rule over numbers of "cities" with Him, in the future state of blessedness, are rendered either false or meaningless by Dr. Clark's philosophy of political science.

Clark on Inductive Theistic Arguments

My primary purpose in this review is to analyze Dr. Clark's philosophy of science, but such analysis will be clearer after his theistic philosophy is investigated. The defect in his understanding of inductive reasoning from effect to cause, which so seriously wrecks his philosophy of science, is clearly evidenced in his philosophy of theism. Dr. Clark vigorously rejects all arguments from nature or the created universe as effect to the existence of God as cause. He says

> . . . Protestant theologians . . . usually repudiate natural theology and assert that the traditional proofs of God's existence are not logically or "mathematically" demonstrative. (p. 251)

This statement involves two propositions which I mention in reverse order: (1) that traditional arguments from nature to the existence of God are not logically or mathematically demonstrative. This proposition is practically undisputed. It is not only the position of Protestant theologians—it is the position of Thomas Aquinas and the Roman Catholics. Clark is quite wrong in saying in the context that the idea that these proofs are not logically or mathematically demonstrative is "contrary to the Catholic" position.

But the other proposition involved in the quotations now under discussion, (2) "Protestant theologians . . . usually repudiate natural theology," that is theology arguing from nature to the existence of God, is perfectly preposterous and entirely contrary to facts of which Dr. Clark has full cognizance, if he had only stopped to think. Who are these "Protestant theologians . . . usually . . . "? The greatest Calvinistic tradition of Europe includes the names of Kuyper, Hepp and Bavinck as outstanding Protestant theologians. Nothing which these three consistently taught could possibly be regarded by a balanced judgment as usually repudiated by Protestant theologians. Among the greatest theologians in American Protestantism were Hodge and Warfield. Their influence is so vast, so profound, that to describe a position which they consistently defended as usually repudiated by Protestant theologians is quite absurd.

John Calvin did not repudiate natural theology. In his commentary on the Epistle to the Romans, discussing Romans 1:19-21, he says

> . . . man was created to be a spectator of this formed world, and . . . eyes were given him, that he might, by looking on so beautiful a picture, be led up to the Author Himself . . . God is in Himself invisible; but as His majesty shines forth in His works and in His creatures everywhere, men ought in these to acknowledge Him for they clearly set forth their Maker . . . God has presented to the minds of all the means of knowing Him, having so manifested Himself by His works, that they must necessarily see what of themselves they seek not to know . . . (Commentary on Romans 1:19-21)

Calvin's entire comment on the 19th Psalm is in substance an elaboration of the cosmological and teleological arguments. He says

> There is certainly nothing so obscure or contemptible even in the smallest corners of the earth, in which some marks of the power and wisdom of God may not be seen . . . the heavens proclaim to us the glory of God . . . by openly bearing testimony that they have not been put together by chance but were wonderfully created by the Supreme Architect. (Commentary, Psalm 19)

Paul quotes the 19th Psalm in the 10th chapter of his Epistle to the Romans. In commenting on the latter passage Calvin says

> But in order that He might show that the school, into which God collects scholars to Himself from any part, is open and common to all, he brings forward a prophet's testimony from Psalm 19:4; . . . the prophet . . . (speaks) of the material works of God; in which he says the glory of God shines forth so evidently, that they may be said to have a sort of tongue of their own to declare the perfections of God.
>
> . . . God has already from the beginning manifested his Divinity to the Gentiles, though not by the preaching of men, but by the testimony of His creatures; for though the Gospel was silent among them, yet the whole workmanship of heaven and earth did speak and make known its Author by its preaching. (Commentary, Romans 10:18)

And yet Dr. Clark says that "Protestant theologians . . . usually repudiate natural theology!"

In the same context Dr. Clark says " . . . sin has so vitiated human powers that man can reach neither the heavens nor his own heart aright." Quite to the contrary our Lord declared "Ye hypocrites, **ye can discern the face of the sky and the earth;** but how is it that ye do not discern this time?" (Luke 12:56 see also Matt. 16:3)

Clark holds that God could not and would not present man with any evidence other than God's own witness to Himself. He says

> On the assumption that there is a God, and more particularly on the assumption that God exists as described in the Bible, what "evidence" could he give to man that he was God? . . . How then could God show to a man that it was God speaking? Suppose God should say " . . . I will bless them that bless thee and curse him that curseth thee." Would God call the Devil and ask Abraham to believe the Devil's corroborative statement? . . . What reason can this man have to conclude that God is making a revelation to him? (p. 258)

Now, of course, the Devil should not be regarded as a reliable witness, but the fact remains that God appeals to circumstances open to our common observation as evidence that He is God. Christ said (John 10:37, 38) "Believe me for the very works' sake." Moses required that Israel should test whether the words of a prophet were the words of God by inquiring first whether the prophet was true to the living God, and second whether the prophet's predictions came to pass. (Deuteronomy 13:1-5, 18:15-22, especially vv. 21. 22) Isaiah clearly required that circumstantial evidence, namely, conformity to the Law and the Testimony, should be used by the people to discriminate between the voice of God and the voice of a false prophet. (Isaiah 8:20) Throughout the whole history of Revelation God has graciously condescended to submit His credentials in the form of factual circumstantial evidences, open to critical public investigation.

Examining Presuppositions

It will be appropriate at this point to call attention to a fallacy assumed in common by Dr. Clark and a considerable number of sincere Christian teachers of philosophy and theology in our generation. The fallacy is contained in the words in which Dr. Clark objects to anyone requiring a "proof of a first principle". (p. 259 and frequently throughout) Now it is true that when one begins a process of reasoning he must begin somewhere, he must make some assumptions, he must

have some presuppositions. But the notion that presuppositions, or first principles, or initial assumptions are not subject to questioning or re-examination is totally without support. It is merely a blithe and nimble means by which the man whose house might proved to have been built upon sand excuses himself from examining his foundation.

Dr. Clark, for example, assumes the law of contradiction as a basic presupposition and first principle. In all ordinary cases we start with that principle in the background and go on to examine other things. To prove that a proposition violates the law of contradictories is to prove to most people that it is false and not worthy of acceptance. However, certain influential persons whose views violently diverge on other matters are now challenging the law of contradictories. Karl Barth in one horizon and Dr. Van Til in another horizon are challenging this foundation. Shall we simply say "no fair"! By no means. In dealing with those who do not presuppose our presuppositions, we say, well then, for the sake of the argument, though we do not for a moment give up our foundation, let us suppose that these foundations are not reliable. What then? We then proceed to show that all discourse based on the assumption that the law of contradictories is not reliable is either (1) mere words without meaning, or (2) inconsistently based on a secret unacknowledged assumption that the law of contradictories does hold after all when found convenient.

I stand unequivocally with those who believe that there must be certain first principles and basic presuppositions in all reasonable discourse, but I totally repudiate the assumption that these foundations may not be questioned or re-examined or substantiated and reinforced.

Clark's Constructive Reasoning

Let us examine an instance of his own constructive reasoning. Dr. Clark is generally characterized by strong and rather cynical negativism. I have elsewhere criticized his lack of constructive support of any great system of Christian doctrine. In the present work he does occasionally desist from tearing down, and reason constructively. In my opinion the best example of an effort of his to establish something positive is found toward the end of the last chapter under the heading of Epistemology. Dr. Clark begins this passage (p. 318)

> Obviously if skepticism is to be repudiated and if knowledge is a reality, truth must exist. An ancient Greek Parmenides was the first to state it, and Plato repeated it: if a man knows, he must know something: to know nothing is not to know. Knowledge therefore requires an existing object, and that object is truth—truth that always has and always will exist.

Categories of Existence

The fallacy in the above argument is covered up (1) by the lack of definition of the word exist and (2) the failure to distinguish truth embodied in propositions from truth not yet so embodied.

When a philosophy teacher states that anything exists, he is morally bound to define the category in which it exists. Does it exist as a substantive entity, matter or spirit? As an atribute? As a relationship, above or below? Or as in some other category of being? Now obviously propositional truth exists in propositions after the propositions have been formulated and not before. Non-propositional truth, when it exists, exists in a number of different categories. It was true that the western continents existed before that truth was ascertained or stated in a proposition.

Does Truth Change Always or Never?

Dr. Clark proceeds next to refute the argument of the Instrumentalists who say that truth is continuously changing. He says

> If truth changes, then the popular instrumentalism that is accepted as true today will be false tomorrow. As Thomism was true in the thirteenth century; so instrumentalism is true in the twentieth century; and within fifty years instrumentalism, in virtue of its own epistemology, will be false . . . these relativistic theories tacitly assume their own absolutism . . . (p. 319)

On the assumption of instrumentalism, Dr. Clark argues, the truth of instrumentalism will become false, the notion that truth continually changes will change and therefore there will come a time that it is true that truth does not change. Dr. Clark does not consider seriously the possibility that **some kinds** of truth are changeable. He proceeds

> It follows then truth must be unchangeable. What is true today always has been and always will be true. Any apparent exception, such as, It is raining today, is an elementary matter of ambiguity. Two and two are four; every event has a cause; and even, Columbus discovered America, are eternal and immutable truths. To speak of truth as changing is a misuse of language and a violation of logic. (p. 319)

Now this is quite amazing! I thought there was a time in history when it was not yet true that Columbus discovered America; and I have considered it rather fortunate that "It is raining today" is not eternally true. Why not speak with some discrimination? Thank the Lord, there are eternal verities—truth about the character of God—truth about character of truth (such as the law of contradictories)—truth about eternal relationships—these things are eternally true. Moreover, truth about the past is eternally true in the future, though it was not true until it came to pass. However, truth about changing conditions, if stated in the present tense, changes with the conditions, and to deny that it changes is more absurd than the preposterous position of the instrumentalists. To me it is quite reprehensible for a philosophy teacher to dismiss these important distinctions as merely "an elementary matter of ambiguity". Why not clear up the ambiguity instead of making it worse?

Is All Truth Mental?

Dr. Clark next proceeds

> The idealistic philosophers have argued plausibly that truth is also mental or spiritual. Without a mind truth could not exist. The object of knowledge is a proposition, a meaning, a significance; it is a thought. (P. 319)

Let the reader apply one of Dr. Clark's familiar, clever devices to Dr. Clark's proposition. "Without a mind truth could not exist." This proposition is alleged to be a truth. If this proposition is true, then without a mind it would not be true. Therefore, under the hypothetical assumption that there were no mind, the proposition that there was no truth would not be true.

Dr. Clark has here in a very superficial way confused truth with knowledge. By commonly accepted usage, knowledge (expressed in propositions) is an activity or an achievement of mind. On the contrary, truth, in ordinary usage, may not be formulated in proposition. It may be what a mind lacks, what a mind is seeking

by diligent research to acquire. The fact that we believe that God has always known all truth does not in the least imply that being known to a mind is of the essential character of the truth as such.

Dr. Clark argues elsewhere that if God is known through nature this would make God dependent upon nature. Pursuing the same process of reasoning (with which I do not concur) Dr. Clark should argue that if God is known through the existence of truth, this would make God dependent upon truth.

Do Identical Thoughts Recur?

The next step in Dr. Clark's constructive argument is to declare that identical physical motions can never recur but identical thoughts do recur. No two persons may have the same motion but two persons may have the same thought. He concludes

> It is a peculiarity of mind and not of body that the past can be made present. Accordingly, if one may think the same thought twice, truth must be mental or spiritual. Not only does it defy time; it defies space as well, for if communication is to be possible, the identical truth must be in two minds at once. (P. 320)

The argument is certainly inconclusive. It is no more evident that my thought of Mt. Shasta today is the same identical thought of Mt. Shasta which I had yesterday than that motion of waving my hand today is the same identical motion it was yesterday. To declare from such an argument that "truth must be mental or spiritual" is, it seems to me, a screaming example of **non sequitur.** The truth that America was here was not in any human mind before America was discovered. It was in the mind of God, not because there is anything about a truth which would wipe it out if it were not known, but because God is omniscient.

Is All Truth Nothing But God's Thought?

The final step in Dr. Clark's argument from the existence of truth to the existence of God is stated as follows:

> The truths or propositions that may be known are the thoughts of God, the eternal thought of God. And insofar as man knows anything he is in contact with God's mind. Since, further, God's mind is God, we may legitimately borrow the figurative language, if not the precise meaning, of the mystics and say, we have a vision of God. This involves a view of the world radically different from that of popular science. (P. 321)

I must immediately take exception to the statement "God's mind is God" **simpliciter.** God's mind is God minding; God's will is God willing; God's mercy is God exercising mercy; God's compassion is God feeling compassion. But to say simply "God's mind is God" is grossly misleading. It is like the Eddyite saying that since God is love, therefore Love is God.

I also take strong exception to the statement that all the truth which we may know is "the eternal thought of God." It is true that God has purposed all things in His eternal decree, but to say that the truth which I may know is nothing but God's thought would imply a denial of the actuality of creation. I know, for example, just now that I am using a dictaphone; I know that this is within the decrees of God, but for me to know that I am using a dictaphone is not the same thing as for me to know the decree of God that I shall use or shall be permitted to use a dictaphone. Neither is it the same as knowing God's thoughts to the effect that I shall do thus and so, or be permitted to do thus and so.

What does Dr. Clark mean by "contact with God's mind" and "a vision of God". Does a wicked man or Satan himself know any truth? Certainly the Bible teaches that this may be the case. Does he then have "a vision of God" or have "contact with God's mind"?

Do We Think God's Thoughts?

Dr. Clark does well in saying that his view of our knowledge of truth is "radically different from that of popular science". His view is also radically different from that of the writers' of the sacred Scriptures. It seems very pious to repeat the old mystical saying "We think God's thoughts after him." But the implications are not only unscriptural but radically irreverent. When a boy thinks "I am going to college" and his father thinks "John is going to college" they both refer to the same ontological truth but the boy's thought is not to be identified with the father's thought. When I think "I am endeavoring to straighten out a tangled mess in the thinking of my Christian friends," I hope my thought is true and worthy and in harmony with God's thought, but I should be quite irreverent if I presumed to say that my thought is identical with God's thought. According to the Scriptures God says: "My thoughts are not your thoughts . . . For as the heavens are higher than the earth, so are . . . My thoughts than your thoughts." (Isaiah 55:8, 9)

Looking back over Dr. Clark's constructive efforts to prove* the existence of God from the existence of truth, we must say that it follows the pattern of the cosmological argument. Taking truth as an existing datum, Dr. Clark draws the inference that because truth exists therefore God exists. I certainly believe that it is reasonable to draw inferences from effects to cause in the processes of inductive reasoning, but I must say that Dr. Clark's example is far weaker and less cogent than the cosmological and teleological arguments as usually presented in the writings of the great Protestant theologians.

Clark's Shifting Definitions

Preliminary to Dr. Clark's chapter on the Philosophy of Science, I would suggest that the reader must first of all be made aware of the fact that Dr. Clark frequently shifts his definitions, especially his definitions of truth, logic, proof, and similar related terms. In his **Christian Philosophy of Education,** after vigorously rejecting the traditional inductive arguments for the existence of God because they do not constitute a mathematical "demonstration", (P. 39) he changes his definition of logic and argues that if a dice player rolls seven three times in succession, then "upon philosophic reflection the other players come to the logical conclusion that such a uniformity of results demands a uniformity of causality." (P. 70)

Now Dr. Clark knows perfectly well that three sevens in a row are not mathematical demonstration that the dice are loaded, nevertheless he uses the heavy phrases "philosophic reflection", "logical conclusion", "the uniformity of results demands a uniformity of causality". All of this after he has said

> These arguments (the arguments from the facts of nature to the existence of God) cannot be merely half correct; there is no such thing as semi-validity. An alleged demonstration is either valid or invalid.

*Dr. Clark tells me that he has not attempted to "prove" the existence of God, but I think he is using the word "prove" in a highly specialized sense. On page 321 he says, "Truth is not individual, but universal . . . it has always existed. Is all this any more than the assertion that there is an eternal immutable Mind, a Supreme Reason, a personal living God?" I think these words are a sufficient warrant for my statement that he attempts to "prove" in the ordinary sense of the word.

> If it be valid, the conclusion is established, and that is the end of it; if it is invalid, that is the end of it too. Those who think that each argument has some value should learn from plane geometry what is meant by demonstration. (P. 39)

Those who argue from the fact of three sevens in succession "that it seems more reasonable to attribute the constancy of the phenomenon to a cause inherent in the dice" are approved for "philosophic reflection" and "logical conclusion". But those who find value in natural theology, those who hold that the facts of nature make it more reasonable to believe that the God of the Bible exists than to believe otherwise, are told by Dr. Clark in the same book (P. 39) that unless their arguments can produce a demonstration analogous to a demonstration in plane geometry, their arguments are "perjurers".

Returning to the book now under review we find the shifting of terms even more extreme. The 'Conclusion" of his chapter on "Science" consists of two paragraphs. In the former he says "No scientific or observational proof can be given for the uniformity of nature . . . science . . . **is** incapable of arriving at any truth whatever." (p. 227) But in the very next paragraph, in the concluding sentence of this chapter he says

> A philosopher . . . stated the exact truth when he said, "The moral (or immoral) purpose in every philosophy has constituted the true vital germ out of which the entire plant has always grown . . . (P. 228)

"The exact truth!" Careful observation of the many philosophies which Dr. Clark has studied would doubtless indicate that this quotation from Friedrich Nietzsche would have been true if Nietzsche had said "many philosophies" instead of saying "every philosophy". But if Dr. Clark had had the same definition of "truth" on page 228 which he had in mind on page 227 he would have declared that Nietzsche's statement does not contain "any truth whatever".

Shifting definitions in intellectual and spiritual matters without giving notice is a worse sin than making a left turn in heavy traffic without signalling.

Clark's Criticism of Scientific Method

Let us now turn directly to Dr. Clark's destructive criticism of scientific method. The first step in his reasoning is the setting up of a false claim which some scientists have sometimes made, the claim of absolute certainty for scientific conclusion.

Straw Man - Absolute Judgments

Karl Pearson in his **Grammar of Science** (Macmillan 1911) made the statement (p. 6) that . . . "the formation of absolute judgments . . . **is** the aim and method of modern science." (Clark P. 200) Professor A. J. Carlson, past President of the American Association for the Advancement of Science, in an article entitled "Science and the Supernatural," originally printed in **Science** in 1931, reprinted in the **The Scientific Monthly** in 1944, said

> The scientist tries to rid himself of all faiths and beliefs. He either knows or he does not know. If he knows, there is no room for faith or belief. If he does not know, he has no right to faith or belief. (Clark, P. 200)

I will briefly pass by the fact that this latter statement from Carlson is exactly the same in sentiment as Dr. Clark's statement quoted above from his **Christian Philosophy of Education** (p. 39) "an alleged demonstration is either valid or invalid . . . " The difference is that the statements of Pearson and Carlson might be taken as emotional hyperbole whereas Dr. Clark's statement is adhered to consistently whenever he deals with the question of scientific method or the question of the inductive theistic arguments.

Dr. Clark knows perfectly well that the opinions quoted from Pearson and Carlson are eccentric. In a footnote he explains that "James E. Conant, **On Understanding Science**" expresses "a contrary view." (P. 212) Later in a flash of illumination Dr. Clark recognizes "there is no Science to which final appeal can be made; there are only scientists and their various theories". (P. 227) Nevertheless he devotes a considerable amount of space to discussions which seem to refer to "Science" as a kind of entity. He proceeds

> Perhaps the easiest way to commence the discussions of this extraordinarily complicated subject is to dispose, first of all, of a popular notion that probably no longer commands wide acceptance. It is essentially Pearson's notion that science gives absolute judgments. The conclusions of science have often been regarded with an awe that takes them for final and infallible truth - science simply cannot be wrong. (P. 202)

Just what would a **popular** notion **without** wide acceptance be like? It has been a popular notion that, speaking hyperbolically, "science cannot be wrong". "Science," meaning the achievements of contemporary scientific men, has often been regarded with too great awe. But this is not the same thing as the belief in literally absolute judgments.

Clark takes Pearson's notion that science gives absolute judgment, in a literal sense, and proceeds to demolish it very successfully. But the notion of "absolute judgments" in the literal, philosophical sense, has never been "popular."

The Process of Physical Measurement

The first step in Dr. Clark's process of demolishing his straw man is an examination of the process of physical measurements. It is a fact pointed out by many competent scientists that all measurements of material things are approximations. Temperature, moisture, and other factors so multifariously affect the measuring instruments and the things measured that in many cases the measuring index accepted for scientific purposes is an arithmetical mean, or an average of many different measurements. By selecting the arithmetical mean the scientists say, in effect, "Although no abstract number will precisely correspond with the dimensions of this physical object under all circumstances, yet the arithmetical average of many careful measurements will correspond sufficiently closely so that further calculations may be made upon this basis with results very closely approximating real physical conditions." The selection of an average measurement is based upon much experience with the measurement and manipulation of physical things. It is by no means an arbitrary choice.

Is Mathematical Formulation Merely Aesthetic?

Dr. Clark does not know why the average measurement is selected as the one with which science may proceed. He says " . . . can the scientist do anything but trust his aesthetic taste?" (P. 207) At the meeting of the American Scientific Affiliation in New York, in 1951, Dr. Clark made the same statement that mere aesthetic taste is the basis of the selection of an average measurement as an index number.

Is Science Totally False?

Dr. Clark continues to argue that in plotting a curve in a system of coordinates the dots on the scale really represent areas of measurements rather than geometrical points. This, of course, is true in part. The dots represent averages of measurments. Now, says Clark

> . . . through a series of areas, an infinite number of curves may be passed. . . . The scientist wants mathematical accuracy; and when he cannot discover it, he makes it. Since he chooses his law from among an infinite number of equally possible laws, the probability that he has chosen the "true" law is one over infinity, i.e. zero; or, in plain English, the scientist has no chance of hitting upon the 'real" laws of nature. . . . The point of all this argument is merely this: however **useful** scientific laws are, they cannot be **true.** Or, at the very least, the point of all this argument is that scientific laws are not **discovered** but are **chosen.** . . . scientific laws . . . must indeed be false. (P. 208f)

This is exactly like saying that since on any given highway the wheels of an automobile may make an infinite number of slightly divergent tracks, therefore the statement that Route US 30 leads from Philadelphia to Chicago cannot possibly be true. Careful scientific men do not state the mathematical formula for the law of the pendulum as absolutely true of all physical pendulums regardless of friction, air resistance and other factors. In fact, when I was taught the law of the pendulum in physics class it was carefully explained that this law is true, "other things being equal." The law represents a central tendency in the behaviour of pendulums and is approximately true of carefully made physical pendulums which are protected as far as possible from disturbing forces. The law of the pendulum when stated as a central tendency **ceteris paribus** is as **true** as the statement that Route US 30 leads from Philadelphia to Chicago. The "chances" of its being true are not one over infinity but one over one, that is, it is perfectly true and there is nothing false about it.

Do Facts Exist?

It were bad enough if Dr. Clark merely drew the conclusion that "science is all false . . . by its own requirements it must be false" (p. 210) but he proceeds next to argue "that absolute facts do not exist". (P. 227) The Heisenberg principle in modern physics reveals the fact that it is impossible to determine both the mass and the velocity of an electron, because of the difficulty of measurement. The measuring process destroys the data in the one case or the other. It is true that some philosophers including John Dewey, and some physicists who speculate outside the realm of physics, have raised the question whether, or dogmatically asserted that, the mass and/or the velocity of an electron are figments of the imagination. It is equally true that outstanding physicists and philosophers have pointed out that the Heisenberg principle gives no valid grounds for doubting the existence of mass and/or velocity. The difficulty is in the measuring process. Unfortunately Dr. Clark has followed the path which John Dewey before him pursued (I have discussed this matter at length in my book on the Philosophies of Tenant and Dewey) and Clark, like Dewey, calls in question the fact of mass and the fact of velocity.

Bridgman of Harvard in his very stimulating book **The Logic of Modern Physics** has pointed out that the concept of length is the concept of comparative measurement. Whenever we give the length of anything we give it in terms of comparison with something else. John Dewey erred in interpreting Bridgman as teaching that length itself, not just the concept of length, is a mere matter of the operation of comparative measurement. Unfortunately, again Dr. Clark has followed the path which John Dewey erroneously followed.

It is true that the operation of measuring the electron is quite different from the operation of measuring the length of a table, but it is also true that scientists are in the habit of expressing the results of **both** kinds of measurements in fractions, or multiples of meters. Dr. Clark's conclusion is quite false when he says

> . . . therefore the microscopic and telescopic lengths are conceptually different matters. With the result that it is only by confusion that we apply the name length to both. . . . But since the operation used in measuring these two sets of "lengths" are different, it follows that there is no "distance" between the earth and the sun. . . . If a new instrument should be invented for the measuring of stellar distances, the result would not be the "length" of previous experimentation. A new method of measuring means that something different is being measured, for "the concept is synonymous with the corresponding operation". (P. 214f)

This is as absurd to one who works with scientific measurments as to say that when I change from measuring by a meter to measuring by a yard I am no longer measuring the same "length". The concept changes, but the thing measured does not change with the concept. But Dr. Clark continues

> and if Bridgman's method should be applied to other items, no doubt some of them would vanish too. The question comes whether anything would remain in existence. According to the thrust of operationalism it would seem that only operations themselves could survive the annihilating analysis. (P. 215)

Dr. Clark's conclusion is not to reject the operational view of the **concept** of length. He has misunderstood Bridgman in saying **"length** turns out to be just the operations themselves." (P. 216) His conclusion is that "scientific procedure cannot obtain truth," and that the existence of the facts which science endeavors to measure should be questioned, - "absolute facts do not exist." (P. 227)

Does the Physical World Exist?

This leads back to the theological and epistemological considerations with which this review began. For Dr. Clark "the truths or compositions that may be known are the thoughts of God, the eternal thought of God." (P. 321) Dr. Clark frankly confesses, "there is some affinity between this view of the world and contemporary personalism in that the basic categories are mental and that personality and history are emphasized above the corporeal and mechanical." (P. 322f) In personalistic philosophy the world investigated by science is **nothing but** spirit and thought. Clark's proposition "the basic categories are mental" is a denial of the basic category of created matter.

I must close by giving Dr. Clark credit for the following sentence:

> The Christian view differs from the various forms of personalism in refusing to equate the physical world with the eternal consciousness of God. (P. 323)

But I regret that I must make it clear that this disconnected assertion of Dr. Clark's is totally un-

supported by, and wholly contrary to, the system of philosophy of science which he has sought to develop. If the truths which we may know "**are** the thoughts of God," (P. 321) and yet, according to "the Christian view" the physical world is **not** to be identified with the eternal consciousness of God, (p. 323) then we are left with the conclusion that the physical world is totally outside of what Dr. Clark says we may know. If the created physical world exists as **other** than God's thought, and hence as **unknowable,** then the Biblical doctrine of creation is false. If it exists as **nothing but** God's thought, we have personalistic pantheism and not Biblical Christianity.

Dr. Clark has missed a great opportunity in failing to see that the Christian doctrine of creation of the material world, the doctrine that man was created to live in the material world and glorify God therein, is wholly in harmony with the scientific view that the material world may be known with a reasonable degree of accuracy and precision. The Biblical view of men and things is not contrary to scientific method as many great scientists understand and employ that method.

J. Oliver Buswell, Jr.

IN THE NAME OF SCIENCE by Martin Gardner. Putnam, 1952

Anyone desiring serious evidence that the mind consists of little creatures—by a former airplane manufacturer—or a "proof" that the angle can be geometrically trisected—by a recent president of a large respectable university—will not be disappointed. It seems that no branch of knowledge has avoided a penumbra ranging from the slightly less than orthodox to the ridiculous. Such a group of pseudo-scientific endeavors has been gathered and discussed by Martin Gardner in his book.

The field of Physics has seen, in comparatively recent years forces explained by odd concepts of pull and the blue of the sky caused by a mysterious orgone energy. Other anti-Einsteinian concepts are discussed by the author, some of which were fairly legitimate and others which were obviously by crackpots and paravoids.

One can find in this literature an earth with interior habitable shells, dowsing rods, a lost continent Atlantis, **et cetera.**

The author also discusses such things as the Forteans, Velikovsky and Worlds in Collision, Ron Hubbard and Dianetics, phrenology, extrasensory perception, medical cults and quacks, food faddists, General Semantics, racial superiority and the Gravity Research Foundation among others. By and large, he has appraised the fields well.

Of particular interest is his chapter on "Geology versus Genesis" directed primarily at the Flood Geology of George McCready Price although he also includes adverse comments on the work of such authors as Louis T. More, T. B. O'Toole, H. Belloc, and Mortimer J. Adler. His comment on the arguments of Adler—of Great Books fame—is that they "were straight out of the arsenal of Bible Belt evangelism!" Comments on the Scholfield (sic) Reference Bible notes in Genesis are made. He calls, in another chapter, Sir Charles Marston's works on the Bible and archeology "the most dignified books in this pseudo-archeological literature".

The major criticism of the book is that in ferreting out pseudo-science the author often seems oversure of the "normalcy" of orthodox science. For example, to him apparently anyone that dares to question evolution is out of line, for in lining up theories from "almost certainly false" through 'working hypotheses debatable because of insufficient data" to "almost certainly true" he includes the "belief that the earth is round or that men and beasts are distant cousins" in the latter. Also stages of a successful hypotheses and reality are sometimes confused as in Chapter 8 where he judges gravitational force "screenings" by the warping of space-time continuum. Research in screening gravity is probably a useless endeavor but not simply because the relativity theory may be correct.

Speaking of freedom of thought, the author writes "Fundamentalists in the Bible Belt continue to read their dismal literature denouncing Darwin, but you are not likely to find a fundamentalist in any position of scientific authority or eminence". In other occasions "fundamentalists" come in for their share of condescending criticism. Prophetic portions of the Great Pyramid literature is said to have appealed to Protestant fundamentalists of all denominations.

While the author's judgement of fundamentalism is one-sided, a point on terminology may be injected. This reviewer has long felt that the word "fundamentalist" carries with it a stigma of being included with flat-worlders, pyramidologists and the like. I personally prefer the classification of "conservative" in Christian faith.

Aside from its faults, the book affords very interesting reading and covers a wide range of fascinating topics. It is shocking to read of things that have been written and done "In the Name of the Lord".

D. Eggenberger

SOMETHING TO STAND ON by Lewis L. Dunnington, The Macmillan Co., New York, 1951, $2.50

On its second page, this book quotes with approbation the following statement. "I will stand upon principles of freedom, equality, brotherhood, service and love."

The main purpose of the book, however, is not the development of these great idealistic principles, but rather the tearing down of the doctrines and beliefs of the Christian religion, which, as a matter of fact, form the only basis upon which any true and lasting development of these abstract principles can be made. The author was raised in an atmosphere of orthodox Christianity, but evidently one in which the doctrines were simply presented, rather than being explained and intelligently discussed. He now takes a position in which he denies practically every outstanding Christian doctrine, including the infallibility of the Bible, the deity of Christ, His atonement, the bodily resurrection, etc.

The book is hardly to be considered as a scholarly presentation of a viewpoint. It is rather a series of sermons in which the great Christian doctrines are one after another declared to be unimportant, or untrue. The book abounds in inaccurate statements about the Bible or about higher criticism. Thus on page 13 the author says: "Jesus never mentioned . . . the 'infallible' Scriptures." Has he never read such verses as Matthew 5:18? Or Luke 24:25 and 44? He says that Jesus never mentioned the substitutionary atonement. Has he never read John 3:14-15, or Mark 10:45? He says that Jesus never mentioned the trinity. Has he never read John 14:9-11?

Equally inaccurate are Dunnington's references to

the higher criticism. Thus, on page 21, after stating that there is one creation story in Genesis 1:1 to 2:4a and another in 2:4b to 3:24, he says, "The later account runs from Genesis 1:1 to 2:4a and is known as the 'E' account." One wonders where Mr. Dunnington got his knowledge of the higher criticism. No outstanding critic during the last fifty years has considered 1:1 to 2:4a to belong to the E document. For the last seventy years nearly all proponents of the divisive criticism have agreed in claiming that Genesis 1:1 to 2:4a belongs, not to the E document, but to the P document! Dunnington proceeds to point out alleged contradictions between these two supposed stories of creation, some of which are imported from his imagination, as can be seen by even a superficial examination of the actual words of Genesis.

It is truly unfortunate that such talks as those contained in this book should be given on a university campus, since they are bound to confuse people without a background of solid Biblical study.

Allan A. MacRae

ARCHAEOLOGY

by

Allan A. MacRae

BIBLICAL ARCHAEOLOGY

Biblical Archaeology, like most sciences, has developed tremendously during the past century. Its use has provided, to a remarkable extent, the answer to another development which began a century earlier.

The so called higher criticism of the Old Testament had its real beginning in 1753 when Jean Astruc, a French physician, advanced a new theory about the origin of Genesis. On the basis of the names used for God, he suggested that the book had been compiled from two main documents, along with a number of smaller sources. From these documents, selections had been put together more or less alternately, so that the Book of Genesis was a compilation of previously written material.

A half century later Astruc's theory was extended to the rest of the Pentateuch. As originally presented by Astruc, the theory contained nothing to which conservatives could rightly object, for Astruc believed that Moses was the author of the Book of Genesis, and there is no objection, from the viewpoint of the Bible believer, to Moses having used documents. This does not necessarily mean, of course, that it is possible for us, if he did use documents, to determine just what they were and how they fit together. Any such theory should be carefully investigated on its merits. However, when the theory was extended to the other books of the Pentateuch, some of the arguments advanced in its favor involved the claim that its component documents presented conflicting views of the events in connection with Moses' leadership of the Children of Israel. This meant that Moses could not possibly have been the author of the combined work, and involved a complete change of attitude toward the Bible. Instead of considering it to be God's revelation to man of those truths which God wishes man to know, the higher criticism came to regard it as a combination of various contradictory documents. Such a theory, of course, is altogether contrary to historical Christianity.

The term "higher criticism" as technically used, simply means an investigation into questions of origin and authorship of various books. No one can have any objection to such an investigation being made. The reason the term "higher criticism" has come into such disrepute among Christians is that so large a proportion of those engaged in its study advanced conclusions which changed the Bible to a mere record of the development of erroneous human ideas, rather than a presentation of divine revelation.

According to the theories of the higher criticism, large portions of the Old Testament were written long after the time of the events described, and were comparatively unreliable. This was particularly true in the case of the Pentateuch. Seventy-five years ago, critics did not hesitate to say that the Book of Genesis gave us no information whatever about actual events in the time of Abraham. According to their ideas, it was mainly a compilation of folk stories which had developed around various shrines in Palestine, and its religious ideas represented the attitude of men who lived many centuries after the alleged time of Moses.

After critical scholars had argued various theories during a period of many decades, a general consensus of opinion was reached about 1875 regarding the Pentateuch. This hypothesis, which became known as the Graf-Kuenen-Wellhausen hypothesis, came to be accepted by most critical scholars and was held with remarkable unanimity for nearly half a century.

Today the wonderful unanimity has disappeared. Even among those who tenaciously hold to the idea that the Pentateuch is made up of a series of conflicting and contradictory documents, many theories are held as to the nature and content of these documents. The previous general agreement has largely vanished. Thus it was a primary part of the Graf-Wellhausen view that Genesis one to twelve is made up of an alternation of two documents, J and P, of which Genesis 1:1 to 2:4a is from P, and 2:4b to the end of 3 is from J, with the two alternating in longer and shorter passages all through these early chapters of Genesis. Many present scholars, however, assert that there is no trace at all of the document J in this earlier section of Genesis!

A principal factor in the disintegration of the former unanimity has been the influence of Biblical Archaeology.

Biblical Archaeology commenced to mature about 1840 when excavation was started in Mesopotamia, and the largely forgotten civilization of ancient Babylonia and Assyria began to come to light. Long documents were soon discovered in the cuneiform writing, some of them written many centuries before the time of Moses. The possibility that Moses could have written the Pentateuch can no longer be ruled out on account of the early date at which Moses lived. At point after point, Biblical Archaeology has brought evidence of the accuracy of statements in the Pentateuch. Many of those statements contain evidence of background situations which are now known to have existed at the time of the events, but which must have been completely unknown at the later time when, according to the critics, the sources were written.

Surface exploration in Palestine has been able, through pottery criteria, to tell the approximate period in which many different cities were occupied. In the case of cities which do not occur in Genesis, but which are mentioned in later books of the Old Testament, some of them were occupied as early as the time of Abraham, while others did not come into existence until a later time. But in the case of all the Palestinian

cities mentioned in the Book of Genesis, there is excellent reason to believe that the sites were occupied at the time of the patriarchs. Such accuracy would hardly be possible if the Book of Genesis were composed of documents written long after the time of the events described!

With new archaeological evidence constantly being discovered, questions frequently arise which require considerable investigation before they can be answered. Biblical Archaeology is not like most other sciences, a field in which the Bible believer is mainly concerned with questions of possible conflicts with Scriptural statements. This problem enters in, to some extent. Still more, however, it is a field of study in which positive evidence of the dependability and accuracy of the Bible is being found. This evidence works havoc with many anti-Biblical theories which were widely taught during the past century.

So much has been discovered in Biblical Archaeology already that we could well take the rest of the present century to study fully what has been discovered and to learn more about its true application. Yet new material is ever coming to light. It is important that the Christian scholar keep up with this material, but it is perhaps even more important that he orient himself regarding the meaning and extent of the material already discovered.

Philadelphia, Pa.

BIOLOGY

by

Irving W. Knobloch

One of the functions of this department is to review such books as come to the attention of the writer and which might seem to be of interest to the membership. One such book is entitled "Is Evolution Proved" and was written by Douglas Dewar and H. S. Shelton. It was published in 1947 in London by Hollis and Carter. Dewar is listed as a biologist and Shelton as a philosopher, a very peculiar situation to say the least. The latter author, although outside of his field, conducts himself with considerable merit. The book is a debate edited in the form of letters.

The book covers such standard topics as the causes of evolution, evidences from geology, morphology, classification, embryology, vestigial organs and the evolution of man. The book is marked and marred by an excessive amount of sarcasm on both sides and only the authors and the editor know how much of this was added for the benefit (?) of the reader.

The book is not on special creation. Dewar's job is to disprove evolution and Shelton's is to prove it. The first chapter on Causes brings special creation in quite a bit however but, as far as I can determine, no mention is made of the process of mutation. It is mentioned later. The chapter on the Geologic Record has some interesting figures in it. Dewar insists that the fossil record is not as incomplete as generally made out. He finds that fossils of more than fifty percent of the living genera of land mammals have been found, seventy-five percent of those of the marine mammals and twenty percent of the bats. Also he finds that 74.58% of the living genera of British molluscs have been unearthed as fossils. It is only fair to point out that these figures refer to genera and not to species. Dewar is amused to learn that **Archaeopteryx** is called by Shelton a feathered reptile. Dewar says that it is as good a bird as the duck-billed platypus is a good mammal. Shelton is challenged to produce an example of a series of fossils linking by small steps an order with another order or a family with another family. To meet this, Shelton goes into great detail on the horse series and he traces the family **Equinae** to the family **Anchitheriinae** in the Oligocene and thence to the family **Hyracotheriinae** in the early Eocene. Dewar is not willing to dervice **Equus** from **Eohippus** because of the great differences in the teeth but even if true, it is evolution within the family (since Dewar does not recognize the various families of horses). After a great deal of further controversy about the horse series, Dewar lists five main objections against evolution from the geologic record. These are (1) abrupt appearance of the Cambrian fauna (2) every new type appears suddenly with all its attributes by which it is characterized (3) no series of fossils has been found by which it can be shown that one family was converted into another family (4) a large number of genera have persisted during long periods (5) some species have also persisted for long periods of time. A series of letters on these points follows and during the debate Dewar intimates that some species may change in one way or another. He said on page 148—"The Sandwich Islands flowerpeckers may be descended from mainland members of the family that found their way to the islands—" Evidently Dewar does not consider this evolution. It might be mentioned here that a part of the controversy about evolution might be avoided if a clarification of terminology were employed. There is a vast difference in my mind between inter-phyletic evolution and intra-phyletic evolution. Dewar, in the cited passage admits the possibility of the latter but not of the former.

In other chapters some of the other difficulties about evolution are brought forward. Space does not permit a discussion of these but a brief listing will acquaint the reader with the scope of the book. Some of these difficulties are—the transformation of a reptile into a bird and of a reptile into a mammal and of a land mammal into an aquatic mammal, the spinnerets of the spiders, jumping apparatus of the click beetles, the opposable great toe, the hairy coat and the quadrupedal gait of apes, the instincts and habits of animals, vestigial organs, embryological development and so forth. There are 340 pages in the book and the last 49 pages contain a summary and conclusion. The authors endeavor to lay the facts before the reader and, as might be expected, neither author concedes defeat. Shelton derives a very good case for evolution and one is impressed by his breadth of knowledge. Dewar displays a fine grasp of the biological principles involved in the discussion but, in the writer's opinion, weakens his arguments with his frequent and unnecessary sarcasm. Be that as it may, many readers will find the book quite entertaining and informative.

Dept. Natural Science
Michigan State College

CORRECTION

In the article by Lammerts and Sinclair, "Creation in Terms of Modern Concepts of Genetics and Physics", published in the September 1953 issue of the Journal, the statement was made that approximately 1,000,000 years have elapsed since Eocene times. This number should be changed to 50,000,000 years.

PHILOSOPHY

by

Robert D. Knudsen

The late philosopher, Edmund Husserl (1859-1938), is ranked, along with Bergson and a few others, as among those who have left the greatest and most lasting impression on contemporaneous thought. Husserl has left behind a monumental piece of work, outstanding for its depth, its difficulty, and its sharp and precise analyses. Among his better known works are his **Logischen Untersuchungen,** in which he investigates the foundations of logic. Another well-known work is his **Ideen zu einer reinen Phänomenologie,** in which he systematically presents his method. Two later works of significance are his **Formale und Transzendentale Logik** and his **Erfahrung und Urteil.** The influence of his thought extends to the entire philosophical world. Concerning his importance Bochenski writes, "Es sieht so aus, als ob seine Werke für eine Philosophie der Zukunft den Rang von klassischen Quellen behalten werden" (**Europäische Philosophie der Gegenwart,** p. 138).

Husserl is comparable to Descartes and Kant, in that he tried to rescue philosophy from its unscientific confusion and give it the respectable position of being an exact science. He deplored the fact that philosophy recurrently divided itself into mutually exclusive schools, each of which had its own starting point. It was even the case that philosophers could not understand each other. He wished to restore philosophy to the place of "first philosophy", the foundation of all the theoretical disciplines. Husserl's thought is foundational, therefore, seeking to penetrate to the very basis of knowledge. He was strongly interested in methodology, though this did not mean that he gave epistemological questions the primacy.

Husserl was one of the most significant thinkers to break with the dominant thought of the nineteenth century, which was naturalistic and positivistic. Like idealism he distances himself from the causal methods of the natural sciences. One of his major enemies is psychologism, which goes along with the nominalistic spirit. He tried to show that nominalism destroys the possibility of universal and universally valid knowledge of truth.

Husserl's method is the phenomenological. This method proceeds by way of a long and difficult reduction until it arrives at an intuition of pure essences. It presupposes that there are general, ideal, timeless objects which can present themselves to experience. The method has, therefore, a definitely Platonic cast. Husserl differs from the nominalist, who denies that there are any universal objects, and who sees universals as signs which refer conventionally to similar objects. He also differs from Kantianism, where a chaotic material is ordered by universal, apriori forms. The phenomenological reduction is the method by which essences are brought to present themselves directly to consciousness. Corresponding to every realm of factual experience there is a discipline which rests on the intuition of pure essences and which discovers the essential structure of the particular area. So there corresponds to the study of the facts of religion a doctrine of religion in general. This phenomenological intuition is supposed to be without any presuppositions whatsoever, and is supposed to provide the basis for the special sciences.

The phenomenological method has led a return to ontological analysis, a reaction to the preoccupation of Neo-Kantianism with methodology. Husserl was sympathetic to Hegel's remark that to become preoccupied with the epistemological before one actually began ontological analysis was like trying to learn to swim before entering the water.

Husserl did not place philosophy on as sure a footing as he wished. Even during his lifetime his school broke up in various directions. Nevertheless, his influence is great. Bochenski states that it " . . . dehnt sich . . . auf die gesamte zeitgenössische Philosophie aus" (**Ibid.**).

One of the directions in which this influence has gone is existential philosophy. Heidegger is strongly influenced by phenomenology, though he differs in many respects, and was also branded by Husserl himself as not having escaped psychologism. Sartre is also strongly influenced by the phenomenological method. Bochenski says that he could more easily be thought of without Kierkegaard than without Husserl. Among the theologians, Paul Tillich begins his section on the meaning of God with a phenomenological description (**Systematic Theology,** I, 211ff.).

A noteworthy volume in the phenomenological line is that of M. Merleau-Ponty, **Phénoménologie de la perception** (Paris: Librairie Gallimard. 1945. 531 pp.). This work is an investigation of perception that emerges on the side of Gestalt psychology in saying that perception cannot be constructed out of individual sense data. For his labor in philosophy the author was elected to the French Academy. Some of Sartre's followers, who prided themselves on being in the **avant garde,** suddenly found themselves following the less illustrious figure.

Husserl's importance as a philosophical leader has prompted the republication of his works, including a whole series of unpublished manuscripts he left behind. This is occurring with international cooperation, using the material in the Husserl archives at the University of Louvain, Belgium. How many of these volumes have now been published I do not know. I have in my possession the first five, which comprise the **Cartesianische Meditationen und Pariser Vorträge, Die Idee der Phänomenologie,** and in three volumes the **Ideen zu einer reinen Phänomenologie und phänomenologischen Philosophie.** The care with which these works are edited is indicated by the fact that the editors have appended numerous critical remarks on the text and also Beilagen written by Husserl himself. The volumes are being published by Martinus Nijhoff, the Hague.

I am aware of only one Christian work that attacks philosophical problems on the same level as Husserl and that tries to answer the same problem, why philosophy is split up into various recurring schools. That is the work of Herman Dooyeweerd, as it comes to its most comprehensive expression in his **A New Critique of Theoretical Thought** (English title of his **De Wijsbegeerte der wetsidee**). Dooyeweerd claims that these exclusive schools are the result of immanence thought, which fails to see the true transcendent starting point of philosophy. Forced to find its starting point within the temporal diversity of the cosmos, immanence thought is diffused among the cosmic aspects. There are as many starting points as there are aspects, so philosophy is broken up into various

schools which cannot be reconciled by purely theoretic means.

PSYCHOLOGY

by

Philip Marquart

THE PSYCHOLOGICAL NEED OF ELMTOWN'S YOUTH

It is not always possible to review a technical book about an unidentified place and then go to that place and see for yourself. "Elmtown's Youth"[1] is a description of the manner in which economic factors and social structure of a typical Midwestern county seat actually affected the behavior of the young people growing up in that community. The city, its landmarks and the individuals mentioned were given other names in order to prevent identification. But the people of "Elmtown" knew, when the book was finally published recently.

The people of this unidentified town were classified into Classes I to V from top to bottom. The morals were said to be bad in the poorer classes but Class I was not only rich but they were the "better people". The thing that impresses a Christian reader is that the entire town seems to be bereft of any truly effective Christian witness, but also there is a strong suspicion that the author would not appreciate the "unshackling", the liberation of captives, the life changes of conversion if he had seen them before his eyes. Hence it is not surprising that the population is so thoroughly involved in sex delinquency, rather openly displayed in the poorer classes, but more covert higher up.

On reading "Elmtown's Youth" recently, I was impressed by the fact that I knew that community, that it was not far away. So I drove the few miles to this community to investigate. Stopping at a filling station, I asked about "Elmtown".

"Elmtown?" queried the business man. "Oh, you mean the book,"

Then there proceeded from his mouth a series of oaths about the author, who was said to have printed "lies" about their fair little city of elm trees. I continued to ask residents of the town about "Elmtown". In most cases it caused them to see "red," proceeded in curses, and ended up with the assertion that the author had lied about them. In only one case was I able to elicit what these lies were. Since most of them talked about the description of moral delinquency, I had a suspicion that these were the "lies". One observer exclaimed—

"Why our young people ain't that bad."

From my own viewpoint, I saw nothing too unusual about the delinquencies related. They were of the sort that commonly occur in most groups of unregenerate people. I had reason to believe that they were true anecdotes. Then again, perhaps the "lies" were merely the reaction of non-technical people to the author's devices to cover the identity of individuals.

"Why that author is as bad as Kinsey," exclaimed one irate resident.

Finally I found a business man who asked.

"Do you know what I think both this town and this author need? You may not agree with me, but I say that what they all need is Christ."

1. Hollingshead, **Elmtown's Youth**, (Wiley & Co., 1949).

Thus I had found in Elmtown a true believer with whom to have fellowship, something of which the book gave not one single hint. Moreover, I found that one church and its pastor, who were highly criticised by the author, were the only island of believers (along with one other smaller church) to be found in this home town mission field. The pastor of this church welcomed me with open arms when he found from where I came in this personal investigation. In fact, he asked me to speak impromptu at their midweek meeting. The Sunday School Superintendent told me how the author of the book had come in to see the S. S. one morning when all the children were on their knees in prayer. His only question was, "What's the matter with these children? Are they normal?"

It is thus understandable that the author might honestly misrepresent this Gospel Lighthouse, and it is to their credit that they did not refer to this situation as "lies", but rather as an example of I Cor. 2:14.

I told those people that they were a mission compound in the midst of an ungodly civilization, just as you find in thousands of other American cities, but many of these communities have no Gospel Light in their midst, as Elmtown has. Such a Gospel ministry can be used of the Lord to seek others. "You are a Mission station, which the Lord wants to use for His glory in this community. Don't worry about the goings-on of Elmtown's Youth. How can unsaved people be otherwise than as described in the book? They and their fathers and mothers from the 400 ritzy ones who live in the West End, down to the poorest worker who lives down by the canal and all their children—what is their greatest need? They need to be changed psychologically, though not by the techniques of psychology. They need to be 'unshackled' from their sins. There is no human technique or method which can accomplish this task. Only Christ can do this thing by changing their hearts. How necessary it is to see the wonderful missionary task before us in our own community. Gifts for foreign missions are splendid, also candidates for the foreign field, but God will always bless missionary work, next door to you.

"A bad book was written about 'Elmtown's Youth', but how much better to have written in the Lamb's Book of Life the record of 'Elmtown's Youth in Christ'."

After the mid-week meeting, the pastor had to leave and have a conference with Elmtown's latest delinquent who had been paroled to him, but from the local paper, he was not doing too well. The people however, thronged about me and their response was this—

"We never realized it before, but what you said about our being a mission station is just as true as can be. Why haven't we seen this before? We were proud of our missionary gifts, and we thought that that was enough. We now have a new High School building and it's fine, but it's just another pagan high school in pagan America. We've got to do something about it."

I told them that the most of these poor people were ready to hear the Gospel. They were seeking something and they were not Gospel hardened like many communities. To prove it I challenged them to step outside. We asked the Lord to send along the street some one needing Christ. In a few minutes, along came two working boys, of what the author would call Class IV and Class V. We proceeded to deal with these two Elmtown Youth and presently one of them came under conviction and stated his acceptance of Christ. These youth were hungry for Christ.

The author of "Elmtown's Youth" had been much concerned, not about misbehavior, but about the stratification of classes which he found to be characteristic of our American society. He admitted that it was not according to American ideals of democracy and of the Declaration of Independence. However, he pointed out that in spite of the ideals of a Jefferson, American society was already stratified in the days of Washington. Moreover, he saw no way clear to correct this ever-growing tendency to build up classes, which is found in all societies and which reaches its culmination in the caste system of India. The author too showed his own reaction by casting aspersions upon the Norwegians and the Poles of the community. My own contact with these two groups showed that there were many Christians among them and that they were very stanch American citizens.

Where the church learns to "preach the Gospel to the poor" as it is instructed to do, there is a tendency for the poor not to sink as low, either economically or morally. The rich, who are not Christians, often find but few generations from "shirt sleeves to shirt sleeves". In fact, the author relates a few such cases where the members of the upper crust lost caste. In a Christian group where all have come on common ground, before the Cross, as sinners, the class tendency seems to be ameliorated to some extent. If all believers were truly yielded, there would be none of the motivation of self-enhancement which builds up classes. Christ is the answer to our social and psychological woes.

SOCIOLOGY

by

Frank E. Houser

Are women more zealous Christians than men? Does being a parent rejuvenate one's interest in religion? Is an engineer or chemist more interested in religion than a doctor, lawyer, or college professor? And, do Pentecostals take their beliefs more seriously than Episcopalians?

To each of these questions there is empirical data now available which support an answer of **YES.** But, before summarizing this recent research, it should be noted what affirmative answers to these questions really means. Clearly evident is the fact that Protestant Christianity has a differential acceptance or impact in society. This is to say that individual interest in religion varies tremendously—from fanatical zeal at the one extreme to utter indifference at the other, And, their interest is related to key sociological variables such as sex, wealth, education, et al. In other words, we reach the startling (to some) conclusion that religion has a social component—that the free wheeling, unattached individual and religion issuing out of the "blue beyond" unrelated to life and history are inadequate formulations.

But, what is the evidence? In the October, 1953 **American Sociological Review** Gerhard Lenski reports a study of native white Protestant married couples in the city of Indianapolis. At the time of the study (1942) the couples had been married close to 13 years. Here are some of the findings:

1. Sex. Sixty percent more women than men expressed "much" interest in religion since marriage. Lenski suggests that this is true because the job world of the husband requires personality traits and behavior patterns which conflict with basic Christian ethics. On the other hand, the wife's successful adjustment to family life (her job world) requires just those altruistic attitudes and behavior patterns stressed by the churches.

2. Parenthood. Half again as many of the couples with children reported "much" interest in religion as compared with the childless couples. Here Lenski reminds us of the causality problem. Perhaps devout people are more concerned with having children. And, also, the situation of being parents may quicken one's interest in transmitting the "priceless heritage" of Christianity. The two causes may reinforce one another.

3. Occupation. With respect to the problem of whether or not interest in religion in general (as opposed to interest in a specific congregation or denomination) varies with differences in ocupational role of the family head, the evidence is unclear. Statistically significant variations between the gross categories of professional, managerial, clerical, skilled, semi-skilled, unskilled and others did not appear. However, when the professional category was broken into "technical" professionals (engineers, chemists, etc.) and such professionals as doctors, lawyers, and college professors, 43% of the former compared to 27% of the latter expressed "much" interest in religion. Of course, the number of respondents was small (44 and 36). But, Lenski believes adequate representation of these groups would reveal the same picture—although he states no post factum explanation. Well, what could the answer be? Is it that the training of "technicians" in the minutiae of nature may preclude their attention to disciplines critical or skeptical of religion—thus resulting in separate compartments for science and religion? And, do men of law and teaching deal more closely with the beliefs and aspirations of men—thus necessitating perusal of social and philosophical propositions often inimical to religion?

4. Vertical mobility. Lenski reports that the static aspects of the status system (e.g., net worth, income, education, and occupational status) are not pronouncedly related to religious interest. However, in the more dynamic aspect of mobility there are marked relationships. Those who had enjoyed the greatest income gain since marriage expressed the least interest in religion, while those who dropped in income indicated the greatest degree of interest. Lenski rejects the Marxist "opiate of the masses" dictum and reiterates that "job world" requirements of successful competition may be in conflict with Christian ethics.

5. Denominational preference. In Indianapolis those who preferred Pentecostal groups ranked highest in interest followed by the Lutherans, the Evangelical and Reformed, and the Christian Scientists. At the other extreme the Episcopalians, Quakers, and United Brethren expressed the least interest in religion. Lenski suggests that, in part, religious interest is a function of social status. Elites and Episcopalians have been close to synonyms—hence interest in this world overshadows interest in "other worldly" matters. But, theological emphases are also different in Pentecostal and Episcopal churches. "Getting the joy" may be regarded as rather proletarian behavior by the more formalistic Episcopalians.

We are indebted to studies of this type which give us such suggestive statistics. Enough hypotheses have been suggested in this one article to keep the sociologist of religion too busy to go to church.

Directory of the American Scientific Affiliation

December 1, 1953

This directory contains the names of all Fellows and Associates of the American Scientific Affiliation as of December 1, 1953. Under each name the following data is listed: academic degrees, with names of colleges from which the degrees were obtained; membership in scientific societies, occupation and name of employing organization, and mailing address. A star is used to indicate that the member is a Fellow of the A.S.A. The information is as complete as it was possible to obtain as of December 1, 1953.

There is also included a geographical directory listed alphabetically by states as well as cities under each state, and finally by names under each city.

Abernethy, John Leo, A.B., U.C.L.A.; M.S., Ph.D., Northwestern; A.C.S., Sigma Xi, Phi Lambda Upsilon, Alpha Chi Sigma; Professor of Chemistry, Humbolt State College; Campus Apartments 4, 1836 North B St., Arcata, Calif.

Allen, Frank*, B.A., M.A., U. of New Brunswick; Ph.D., Cornell U.; Professor Emeritus (Physics), U. of Manitoba; F.R.S.C., Optical Society of America; 6A Linda Lee Apts., Hargrave St., Winnipeg, Man., Canada.

Allen, Robert I., B.S., M.S., U. of Ga.; Ph.D., Duke U.; A.P.S., Am. Assoc. Phys. Teachers, Ga Acad. of Sc.; Head of Physics Dept., Mercer U.; 152 Callaway St., Macon, Ga.

Allen, Roy M.*, Sc.D. (Hon.), Wheaton C.; A.A.A.S., Am. Foundrymen's Soc., Am. Microscopical Soc.; N. Y. Academy of Sciences; N. Y. Microscopical Soc.; Licensed Prof. Engineer; Consulting scientist (private practice); metallurgy and general microscopical sciences; 120 Personette Ave., Verona, N. J.

Aman, Charles W., B.A., Wheaton C.; Research Chemist, Industrial Chemical Sales Division, W. Va. Pulp and Paper Co.; 621 W. 14th St., Tyrone, Pa.

Amstutz, Edna, A.B., Goshen C.; National League of Nursing Education; Am. Social Hygiene Assoc.; Director of Education, La Junta Mennonite School of Nursing, La Junta, Colo.

Ancker, Betsy, B.A., Wellesley C.; Ph.D., Tubingen U. (Germany); Phi Beta Kappa, Sigma Xi; Research Physicist and Lecturer in Physics, U. of Calif. (Atomic Energy Commission, Office of Naval Research); 2527 Dwight Way, Berkeley, Calif.

Anderson, Howell B., B.S., Ga. Tech.; B.D., Columbia Sem.; Stress Engineer, Lockheed Aircraft Corp.; 1779 Clairmont Road, Decatur, Georgia.

Armerding, Hudson T., A.B., Wheaton C.; A.M., Clark (Mass.); Ph.D., Chicago U.; Pi Gamma Mu; Far Eastern Assoc.; N.E.A.; New England Assoc. of Colleges; Dean of Gordon C.; 116 Hillberg Ave., Brockton 41, Mass.

Arnold, Glenn C., B.S. in M.E., Mich.; Engineer of Station Efficiency, Chicago District Electric Generating Corp.; 10831 Ave. F., Chicago 17, Ill.

Artist, Russell C., B.S., Butler U.; M.S., Northwestern U.; Ph.D., U. of Minn.; Sigma Zi; Indiana, Texas and Tennessee Academy of Science; Professor and Head of Dept. of Biology, David Lipscomb C.; Route 1, Hogan Road, Brentwood, Tennessee.

Ashton, Philip F., A.B., M.A., Ph.D., U. of Wash.; Dean and Professor of Psychology, Seattle Pacific College; 3307 Third Ave. W., Seattle, Washington.

Averell, Philip R., A.B., Harvard U.; A.M., Ph.D., Columbia U.; A.C.S.; Am. Inst. of Chemists; Sigma Xi; Phi Lambda Upsilon; Research Analytical Chemist, American Cyanamid Co.; 411 West Ave., Darien, Conn.

Babb, Albert L., B.A., U. of B.C. (Canada), M.S., Ph.D., U. of Ill.; Phi Lambda Upsilon; Pi Mu Epsilon; Sigma Xi; Assistant Prof. Chem. Engineering, U. of Wash.; 151 Bagley Hall, U. of Wash.; Seattle 5, Wash.

Babcock, Douglas C., B.S., Wheaton C.; M.S., Northwestern U.; Sigma Xi; Phi Lambda Upsilon; A.C.S.; University of Washington Fellow; 9815 14th N.E., Bellevue, Wash.

Baghurst, Walter F., B.S., Ursinus C.; B.D., Eastern Baptist Sem.; M.S., U. of Penna.; Foreman, Finishing Dept. Research; Salford Cabinet Works, Salford, Pa.; 637 E. Broad St., Souderton, Pa.

Baker, Robert, Jr.; B.A., Goshen C.; Teacher, School City of Elkhart; 801 Harding Road, Elkhart, Indiana.

Baldwin, Edward N., B.S.M.E., M.S., Purdue U.; A.S.M.E.; S.A.M.; A.S.T.E.; A.S.E.E.; A.M.A.; A.A.A.; A.G.M.A.; Mfg. Consultant, Westinghouse Electric Corp., Pittsburgh, Pa.; 4220 Center Ave., Pittsburgh 13, Pa.

Barker, Harold E., Jr., B.S., The King's C.; Instructor in Physics, Worcester Polytech. Inst.; 17 Minthorne St. Worcester, Mass.

Barnes, Harley, B.S., Wheaton C.; M.S., Northwestern U.; Assoc. member Sigma Xi; Geologist, U. S. Geological Survey; A-29 Washington Auditorium, Washington 25, D. C.

Barnes, James H., Jr., B.S., Mass. Inst. Tech., Am. Inst. Chem. Engineers; Sales Analyst, Ford Division of Ford Motor Co.; 9259 Pierson, Detroit 28, Mich.

Barnes, Marion D.*, B.S., U. of Ark.; M.A., Ph.D., Columbia U.; Sigma Xi; N. Y. Academy of Sc.; A.C.S.; Phi Lambda Upsilon; Research Chemist, Lion Oil Co.; 120 West Grove, El Dorado, Ark.

Bate, George L., A.B., Princeton U.; M.S., Calif. Inst. Tech.; Sigma Xi; Sigma Pi Sigma; Am. Assoc. Phys. Teachers; Instructor of Physics, Wheaton C. (on leave of absence, doing graduate work at Columbia U.); 99 Lincoln Ave., Bergenfield, N. J.

Bauman, Paul R.; A.B., U. So. Cal.; Th.B., Ashland Theol. Sem.; D.D., Bible Inst. of L.A.; Phi Sigma; Natl., Biol. Soc.; Executive Vice-President, Grace Theological Seminary; Box 419, Winona Lake, Indiana.

Baylor, J. Wright, B.S., U. of Wash.; Sigma Xi; N.W. Scientific Assoc.; Assoc. Pac. Coast Geog.; Teacher, School District 82, Sandpoint, Idaho; Priest River, Idaho.

Beaumont, Donald F., B.A., Wheaton C.; Geologist, St. Joseph Lead Co.; 305 E. Marion, Prospect Heights, Ill.

Beilstein, Henry R., B. Sc., Phila. C. Pharm. and Science; Soc. Am. Bacteriologists; A.A.A.S.; Dairy Tech. Soc.; Bacteriologist, Philadelphia Department of Public Health; 6006 Stenton Ave., Philadelphia 38, Pa.

Bender, John M., B.A., Goshen C.; Mennonite Med. Ass'n.; medical student 624 Aronimink Place, Drexel Hill, Pa.

Bender, Paul*, B.A., Hesston C.; M.S., Ph.D., S.U.I.; A.P.S., Am. Assoc. Physics Teachers; Professor of Physics, Registrar, Goshen College; 1804 Mayflower Place, Goshen, Indiana.

Bennett, John E., B.S., Wheaton C.; medical student, Northwestern U.; 5145 N. California Ave., Chicago 25, Ill.

Bertsche, George J., B.S.E.E., Purdue U.; Tau Beta Pi; Eta Kappa Nu; 3909 Swiss, Dallas, Texas.

Blaauw, Gerrit A., B.S., Lafayette C. (Pa.); M.A., Ph.D., Harvard U.; Sigma Xi; Inst. Radio Engineers; Am. Inst. Elect. Engineers; Member, Math. Center, Amsterdam; 12 Rust Hoek Straat, The Hague, Netherlands.

Blann, William A., B.S., Hartwick C.; M.S., Brooklyn Poly. Inst.; A.C.S.; Am. Inst. Chemists; Research Chemist; 6940 North 76th St., Milwaukee, Wisconsin.

Blosser, Fred B., B.S., Goshen C.; M.S., Indiana U.; Principal, Tippecanoe Twp. Schools; North Webster, Indiana.

Blythe, Jack G., B.A., U. of Wichita; M.S., Northwestern U.; Sigma Xi; Geol. Soc. America; Am. Assoc. Petroleum Geol.; Paleontol. Soc.; Soc. of Econ. Paleontol. and Mineralogists; Geology Dept., Oklahoma City U., Oklahoma City, Okla.

Boardman, Donald C., B.S., Wheaton C.; M.S., S.U.I.; Sigma Xi; Iowa Academy of Science; Assistant Professor of Geology, Wheaton C.; 313 E. Franklin St., Wheaton, Ill.

Bontrager, Marion M., B.A., Goshen C.; Director, Mennonite Service Unit, Grants, N. Mex.; R. 1, Shipshewana, Ind.

Brackbill, Maurice T., A.B., Hesston; B.S., U. of Va.; A.M., ibid; Royal Astronomical Soc. of Canada; Professor, Eastern Mennonite College, Harrisonburg, Va.

Brand, Raymond H., B.A., Wheaton C.; M.S., U. of Mich.; Sigma Xi; Phi Sigma; Science Research Club, U. of Mich.; Graduate student and technical assistant at U. of Mich., (research in animal ecology); E. S. George Reserve, Pinckney, Mich.

Brandhorst, Carl T., B.S., M.S., Ft. Hays K.S.C.; A.A.A.S.; Ent. Soc. of Am.; Natl. Assoc. of Biol. Teachers; Kansas Academy of Science; Nebraska Academy of Science; Nebr. Ornith. Union; Sigma Xi; Associate Professor, Concordia Teachers College; 920 N. Columbia, Seward, Nebr.

Brauer, Oscar L., B.S., M.S., Ph.D., U. Calif.; A.C.S.; A.A.A.S.; Am. Assoc. of Phys. Teachers; Prof. Chemistry and Physics, San Jose State College; 364 South 16th St., San Jose 12, Calif.

Brenneman, Fred S., B.S., M.D., Kansas U.; A.B., Goshen C.; A.M.A. Fellow; Fellow American Academy General Practice; Kansas State Med.; Director of Public Health, Pago Pago, Tutuila, American Samoa.

Brewer, Wesley David, Mansfield State Teachers C.; A.C.S.; Staff Chemist, Glass Division, Westinghouse Electric Corp.; 1 Rhea Terrace, Fairmont, W. V.

Breyer, Arthur C., B.A., N.Y.U.; M.A., Columbia U.; Phi Lambda Upsilon; A.C.S.; Assistant Professor of Chemistry, Upsala College; 88 Ampere Parkway, East Orange, New Jersey.

Brinks, Henry L., A.B., Wheaton C.; LL.B., Geo. Washington U.; A.C.S.; American Bar Ass'n.; Patent attorney, with Oberlin & Limbach; 1856 Forest Hill Blvd., East Cleveland, Ohio.

Brougher, John C., B.A., Willamette U.; M.A., M.D., U. of Oregon Med. Sch.; Sigma Xi, F.A.C.S.; F.I.C.S.; A.A.A.S., Soc. for Study of Internal Secretions; Senior partner, The Vancouver Clinic; R. I, Box 898, Vancouver, Wash.

Brunk, Ivan W., B.A., Goshen C.; Am. Meteorological Soc.; Meteorologist, U. S. Weather Bureau, Chicago; 43 N. Glenview Ave., Lombard, Ill.

Brunk, James R., B.S., Eastern Menn. C.; medical student, U. of Va.; 10 Copeley Hill, Charlottesville, Va.

Bube, Richard H., Sc.B., Brown U.; M.A., Ph.D., Princeton U.; Sigma Xi; A.P.S.; Research Physicist, RCA Laboratories Division; 146 Alexander St., Princeton, N. J.

Bullock, Wilbur L., B.S., Queens C.; M.S., Ph.D., U. of Ill.; Sigma Xi; Phi Sigma; Am. Soc. Parasitol.; Assoc. Prof. Zool., U. of N. H., Durham, New Hampshire.

Burke, Derek C., B.Sc., Ph.D., U. of Birmingham (England); Chemical Soc., London; Research Fellow, Yale U.; 36 Lincoln St., New Haven, Conn.

Burkholder, Maurice M., A.B., Goshen C.; B.M., M.D., M.A., Northwestern U.; Sigma Xi; A.A.A.S.; A.M.A.; Am. Diabetic Assn.; Am. Heart Assn.; Am. Col. Chest Physicians; Am. Fed. Clinical Research; Am. Bd. Int. Med.; physician, 3706 Kootena, Boise, Idaho.

Burnell, Dorah L., B.Sc., Nebr. U.; M.A., ibid; A.C.S.; A.A.A.S.; Fellow Chem. Inst.; Assoc. Prof. of Chemistry, Houghton College, Houghton, N. Y.

Bushey, Clinton J., A.B., Taylor U.; M.A., U. of Mich.; Th.D., Am. Theol. Sem.; Entomol. Soc. of Am.; Indiana Acad. Sc.; Head, Biology Dept., Taylor University. Upland, Indiana.

Buswell, J. Oliver, Jr.*, B.A., U. of Minn.; M.A., U. of Chicago; Ph.D., N.Y.U.; LL.D., Houghton; D.D., Dallas; A.A.A.S.; Pi Gamma Mu; Am. Phil. Assn.; President, Shelton College, Ringwood, N. J.

Buswell, James O., III, B.A., Wheaton C.; M.A., Columbia U.; Am. Anthrop. Assn.; Asst. Prof. anthropology, Shelton College, Ringwood, N. J.

Butler, Ervin B., B.E., State Teachers C., Bemidji, Minn.; Asst. prof. mathematics, Northwestern Schools, Minneapolis; 5047 42nd Ave. S., Minneapolis, Minn.

Butler, J. Lowell, B.A., Pacific Union C.; self- employed contractor; R. 2, Box 220, Gresham, Oregon.

Cadwell, Carl L., B.S., in E.E., U. of Wyoming; M.S., Columbia U.; Sigma Tau; Theta Alpha Phi; Assoc. Engineer, Westinghouse Electric Corp.; 3927 Dowling, Pittsburgh 21, Pa.

Carlson, Paul O. L., B.S. in E.E., U. of Ill.; Am. Inst. of Elect. Eng.; Staff member, Inter-Varsity Christian Fellowship; 156 W. School Lane, Philadelphia 44, Pa.

Carpenter, Dewey, B.S., Syracuse U.; Alpha Chi Sigma; graduate student, Chemistry Department, Duke U., Durham, N. C.

Carr, Donald R., B.S., U. of Rochester; graduate student, Columbia U.; Assoc. Prof. Geology, Shelton College (part-time); 30 East 301 St., Orangeburg, N. Y.

Cassel, J. Frank*, B.S., Wheaton C.; M.S., Cornell U.; Am. Ornith. Union; Wilson Ornith. Club; Cooper Ornith. Club; Ecolog. Soc. Am.; Am. Soc. of Mammalogists; Western Bird-Banding Assn.; Asst. Prof., Dept. of Zoology, North Dakota Argicultural College, Fargo, N. D.

Chan, Margery May, M.A., N.Y.U.; Kappa Delta Pi; 80-45 87 Road, Woodhaven 21, N. Y.

Chapman, Francis E., B.S., M.S., Lehigh U.; A.C.S.; Fed. of Paint & Varnish Prod. Clubs; Technical Administrator, S. C. Johnson, Inc., Chemical Specialty Mfr.; 1207 Kingston Ave., Racine, Wisconsin.

Chappell, John T., B.S., Guilford C.; M.A., Ph.D., John Hopkins U.; A.C.S.; Past member A.A.A.S.; 41 Mackay St., Tamsui, Taiwan, China.

Chesnut, D. Lee, B.S., Iowa State C.; Am. Soc. Eng. Educ.; Manager of Sales, General Electric Company, Schenectady; 615 Riverside Ave., Scotia, N. Y.

Childs, Wylie J., B. Met. E., M. Met. E., Ph.D., Rensselaer Poly. Inst.; Am. Inst. Mining & Metal. Eng.; Am. Soc. for Metals; Sigma Xi; Tau Beta Pi; Am. Welding Soc.; Assoc. Prof. Metallurgy, Lafayette College; Frost Hollow Road, R. 1, Easton, Pa.

Claassen, Howard H., A.B., Bethel C.; M.S., Ph.D., U. of Okla.; A.P.S., Sigma Xi; Asst. Prof. Physics, Wheaton College, Wheaton, Ill.

Clapp, Wesley M., B.S., U. of N. H.; medical student, U. of Rochester; Box 79, 260 Crittenden Blvd., Rochester 20, N. Y.

Clark, Genevieve, A.B., Georgetown C.; M.S., U. of Ky.; Ky. Acad. Sc.; Gamma Sigma Epsilon; Beta Beta Beta; Asst. Prof Botany, Georgetown C.; 517 Poplar St., Georgetown, Ky.

Classen, Pete R. C., A.B., Goshen C.; med. student, Indiana U. 415 E. 6th, Bloomington, Indiana.

Clayton, John Wesley, Jr., A.B., Wheaton C.; A.M., U. of Pa.; Am. Soc. Protozoologists; Asst. instructor in Zoology, U. of Pa., 7022 Algard St., Philadelphia 35, Pa.

Clemens, Edgar M., B.A., Goshen C.; High School Science Teacher, K. V. Christian Day School, Belleville, Pa.; 230 Main St., Belleville, Pa.

Clunes, Roy B., O.D., N. Pacific C. of Optometry; Optometric Extension Program; Optometrist, 3754 Van Buren St., Corvallis, Oregon.

Coddington, Raymond M., B.S., Houghton C.; Chief Engineer, Radio Station WPTL, Radio Voice of Providence Bible Inst.; 100 State St., Providence, R. I.

Coleman, Charles G., Jr., B.S., Carnegie Tech.; Am. Soc. Photogrammetry; Chief of Photog. Interpretation Dept., USN Photographic Interpretation Center; 4718 Park Lane, Washington 23, D. C.

Coleson, Edward P., B.S., Marion C.; M.A., U. of Mich.; Natl. Council of Geography Teachers; Am. Geographical Soc.; Asst. Prof. Education, Huntington C.; 2125 College Ave., Huntington, Indiana.

Congdon, M. Stanley, A.B., M.A., Ph.D., Bangor Theol. Sem. Burton C. & Sem., Webster U.; A.A.A.S.; Nat. Sc. Tea. Assn.; Dean and Prof. of Science, Psychology and Language, Immanuel College of the Bible, Wheeling, W. Va. (to June 1953); 11 Burton Ave., Binghamton, N. Y.

Cook, Phyllis C., B.S., Wheaton C.; M.S., U. of Mich.; Research assistant, Dept. of Biological Chemistry, U. of Mich.; 1003 East University, Ann Arbor, Mich.

Cooke, Robert Wayne, B.S., Cornell U.; appointee to Sudan Interior Mission; 86 Solomon Ave., Inwood, L. I., New York.

Corbin, Ludlow V., Th.B., A.B., Marion C.; M.A., Ball State C.; A.A.A.S.; Oregon Acad. Science; Oregon Audubon Soc.; Am. Assn. Biol. Teachers; Assoc. Prof. Science, Cascade College; 5625 N. Kerby, Portland, Oregon.

Cothran, John C., A.B., Ph.D., Cornell U.; A.A.A.S.; Am. Inst. Chem.; Am. Geog. Soc. of N. Y.; A.C.S.; Am. Assn. Phys. Teachers; Am. Inst. Physics; Am. Math. Soc.; Math. Assn. of Am.; Minn. Acad. Sc.; N. Y. Acad. Sc.; Am. Forestry Assn.; Rocks & Minerals Assn.; Am. Assn. U. Prof.; Chairman, Science and Math. Division, U. of Minn., Duluth Branch; 521 N. 19th Ave. E., Duluth 5, Minn.

Cowperthwaite, Irving A.*, B.S., M.I.T.; Ph.D., Columbia U.; A.C.S.; Am. Inst. of Chemists; A.A.A.S.; Am. Soc. for Metals; Chief Engineer, Thompson Wire Co.; 10 Willoughby Road, Milton 87, Mass.

Cox, Robert A., B.A. Sc., U. of B.C. (Canada); Past Assoc. member Am. Inst. Elect. Engineers; B.C. Assn. Prof, Engineers; Regional Staff Secretary, I.V.C.F. of Canada; Box 156, Winnipeg, Man., Canada.

Crager, Mary Katherine, B.A., Goshen C.; Am. Soc. Clin. Pathologists; Registry of Med. Technologists; c/o Dr. Hodel, Morton, Illinois.

Cramer, Howard R., M.S., U. of Ill.; Ph.D., Northwestern U.; Phi Sigma; Sigma Xi; Graduate assistant and student, Northwestern U.; 918 Noyes St., Evanston, Ill.

Cressman, H. Keith, B.A., Goshen C.; Chem. Inst. Canada; graduate student in Agric. Chem., Purdue U.; 58 King, Elmira, Ont. Canada. (home)

Critchlow, Robert J., B.S., Wheaton C.; M.D., Jefferson Med. C.; Christian Med. Soc.; physician, Chambers Works Plant, E. I. DuPont De Nemours Co.; 37-A Lee St., Woodstown, N. J.

Cross, Hildreth M., B.A., Asbury C.; M.A., U. of Mich.; Ph.D., S.U.I.; Am. Educ. Assn.; Am. Assn. U. Prof.; A.A.A.S.; Assoc. Prof., Taylor U., Upland, Indiana.

Culley, Paul G., A.B., A.M., Cornell U.; M.D., John Hopkins; Columbia Med. Soc.; S.C. Med. Assn.; Christian Med. Soc.; Sigma Pi Sigma; Director, Graduate School of Missions, Columbia Bible College; 630 Riverhill Circle, Columbia, S. C.

Cummings, Thomas F., B.S., M.I.T.; M.S., Case Inst. Tech.; Alpha Chi Sigma; Sigma Zi; A.C.S.; Instructor, Westminster C.; 600 S. Market St., New Wilmington, Pa.

Custance, Arthur C., M.A., U .of Toronto; Fellow of the Royal Anthropological Soc., London; mechanical engineer and metallurgist, taking Ph.D. work in U. of Toronto (Assistance Lectureship); 115 Ellerslie Ave., Willowdale, Ont., Canada.

Dallenbach, Robert B., A.B., Alma White C.; Instructor in Math. & Physics, Alma White C.; attending Columbia U.; Zarephath, N. J.

Davis, David S., Th.B., Shelton C.; A.M., N.Y.U.; Assoc. Prof. Psychology, Concordia Collegiate Inst.; 64 East 235th St., New York, N. Y.

Davis, Stanley N., B.S., U. of Nev.; M.S., U. of Kans.; Sigma Xi; Soc. Econ. Paleontol. and Mineralogists; Instructor in Geology, U. of Rochester; 22 Bobrich Drive, Apt. 52, Rochester 10, N. Y.

Dayton, Benjamin B., B.S., M.I.T.; M.S., U. of Rochester; A.P.S.; Director of Research, Consolidated Vacuum Corp.; 140 Sagamore Drive, Rochester 17, N. Y.

De Koning, Paul, B.S. M.E., Mich. State C.; M.S.; Am. Soc. M.E.; Soc. for Exp. Stress Anal. Asst. Prof. M.E., Mich. State C.; 538 University Dr., East Lansing, Mich.

De Vries, John, A.B., Calvin C.; Ph.D., U. of Ill.; A.C.S., Sigma Xi; Chairman, Dept. of Chemistry, Calvin C.; 851 Calvin Ave. S. E., Grand Rapids, Mich.

De Walt, Curtis W. Jr., B.A., Ohio Wesleyan; M.Sc., Ohio State; Ph.D., ibid; Sigma Xi; PLU, Sigma Pi Sigma, Pi Mu Epsilon; Fellow, Mellon Institute; 3935 Dowling Ave., Pittsburgh 21, Pa.

Dilworth, Robert P.*, B.S., Ph.D., C.I.T.; Am. Math. Soc.; Math. Assn. of Am.; Sigma Xi; Professor of Mathematics, California Institute of Technology; 1748 N. Grand Oaks Ave., Altadena, Calif.

Dirks, Henry T., B.Sc., U. of Manitoba; Canadian Phytopathol. Soc.; Agr. Inst. of Canada; Asst. Plant Pathologist, Dominion Lab. of Plant Pathology, U. of Manitoba; 210 Cheriton Ave., Winnipeg, Man., Canada.

Dotterer, John E., A.B., Blue Ridge C.; A.M., U. of Ill.; Math. Assn. of Am.; Pi Mu Epsilon; Prof. of Mathematics, Manchester C.; 404 Miami St., North Manchester, Indiana.

Drechsel, Paul D., B.S., Rutgers U.; Ph.D., Cornell U.; Sigma Xi; A.C.S.; Research Associate, Hercules Powder Co.: 31 Winchester Road, Cresaptown, Md.

Dunkel, Joan, B.A., Wash. (D.C.) Missionary C.; M.A. Walla Walla C.; student, U. of Washington; 3965 First N.E., Seattle 5' Wash.

Durant, Thomas M., B.S., M.D., U. of Mich.; A.M.A.: Am Coll. Physicians; Phila. Coll. Physicians; Am. Fed. for Clinical Research; Am. Heart Assn.; Assoc. Prof. Internal Medicine, Temple U. Sch. of Med.; 326 Cherry Lane, Wynnewood. Pa.

Duvall, R. Fenton, B.S., Temple U.; M.A., U. of Pa.; Am. Hist. Assn.; Hist. Soc. of Pa.; Assoc. Prof. of Hist., Whitworth C., Spokane, Wash.

Dye, David L., B.S., U. of Wash.; Ph.D. ibid; A.P.S.; Inst. Radio Engineers; A.A.A.S. Jr. Research Physicist, Radiological Lab., U. of Calif. Med. Center, San Francisco 22, Calif.

Ebersole, Allen B., B.A., Goshen C.; Pastor, First Mennonite Church, 1939 Third St. S.E., Canton 7. Ohio.

Ebersole, Robert A., B.A., Goshen C.; M.D., Jefferson Med C.; Christian Med. Soc.; physician, 7 Vineyard Dr., Rossford, Ohio.

Eckelmann, F. Donald, B.S., Wheaton C.; student, grad. school, Columbia U.; 305 Main St., Ridgefield Park, N. J.

Eckelmann, Walter Robert, B.S., Wheaton C.; A.C.S.; student Columbia U., Dept. of Geology; 823 Palisade Ave., Teaneck, N. J.

Eckert, Alfred C., Jr.*, B.S., Wheaton C.; Ph.D., U. of Ill.; A.C.S.; Sigma Pi Sigma; Sigma Xi; Research Chemist; 236 Mapleview Drive, Tonawanda, N. Y.

Eggenberger, Delbert N.*, B.Ed., Ill. State Normal U.; M.S., Ill. Inst. Tech.; A.C.S.; Sigma Xi; Research Chemist, Armour & Co.; 1121 East 81st St., Chicago 19, Ill.

Eichelberger, William C., A.B., Oberlin C.; Ph.D., Johns Hopkins; Sigma Xi; A.C.S.; A.A.A.S.; Senior Research Chemist, Solvay Process Div. of Allied Chemical & Dye Corp.; 305 Brookford Road, Syracuse 3, N. Y.

Eitzen, A. C., A.B., U. of Kans.; M.D., Rush Med. C.; A.M.A.; F.A.C.S.; Sigma Xi; Alpha Omega Alpha; physician, Hillsboro, Kansas.

Ekings, Frank P., B.S., Princeton U.; M.D., N. Y. Med. C.; Local, county, state and national medical scoieties; retired from active medical practice; asst. chaplain, The Christian Jail Workers, Los Angeles; 1744 N. Craig Ave., Altadena, Calif.

Ensign, Stewart E., Jr., B.A., Bob Jones U.; Box 4593, Bob Jones U., Greenville, S. C.

Ensminger, Dale, B.E.E. and B.M.E., Ohio State U.; Natl. Soc. Prof. Eng.; Electrical Engineer, Battelle Memorial Inst.; 436 West Fifth Ave., Columbus 1, Ohio.

Erdman, M. Cordella*, B.S., Wheaton C.; B.A., The King's C.; M.A., Columbia U.; Instructor in Geology, Wheaton College, Wheaton, Ill.

Esh, Glenn, B.A., Goshen C.; Pastor, Mennonite Church, Relief Administrator, Mennonite Central Committee; 114 N. Ninth St., Akron, Pa.

Eshleman, D. Rohrer, B.A., Goshen C.; Th.B., Eastern Menn. C.; M.D., Hahnemann; A.M.A.; medical missionary, Nazareth Hospital, Nazareth, Ethiopia, East Africa.

Eshleman, J. Lester, Th.B., Eastern Menn. C.; B.A., Goshen C.; M.D., Hahnemann; A.M.A.; Christian Med. Soc.; Diplomate Natl. Board Med. Examiners; medical missionary Tarime, Tanganyika Territory, East Africa.

Evans, J. Robert, B.S., U. of Cal.; Inst. Radio Engineers; 1151 Okoboji Dr., Arcadia, Calif.

Everest, F. Alton* B.S., Oregon State C.; E.E., Stanford; Sigma Xi; Eta Kappa Nu; Inst. Radio Engineers; Am. Inst. Physics; A.A.A.S.; Associate Director, Moody Institute of Science; 947 Stanford St., Santa Monica, Calif.

Falb, George E., B.A., Goshen C.; B.M.E., U. of Detroit; Am. Soc. Mech. Eng.; Am. Soc. Agr. Eng.; Engineer, United Steel Fabricators, Inc.; R. No. 2, Orrville, Ohio.

Fan, Paul M., B.S., Wheaton C.; M.S., Ph.D., State U. of Iowa; Am. Assoc. Petroleum Geol.; Am. Assoc. Paleontologists & Econ. Mineralogists; Houston Geol. Soc.; Assoc. Prof., U. of Houston; 6319 Brook Lea, Houston, Texas.

Fast, Peter G., B.A., Goshen C.; M.A., Ball State Teachers C. grad. student Ball State Teachers C.; 100 S. College, Muncie, Ind.

Ferm, Richard L., B.S., M.S., Ph.D., U. of Kans.; A.C.S.; Sigma Xi; Phi Lambda Upsilon; Am. Inst. Chem. Eng.; Asst. Prof., Dept. of Chem. Engineering, U. of New Mexico; 212 Hermosa, N. E., Albuquerque, New Mexico.

Fetler, Daniel, B.S., Northwestern U.; Am. Pol. Sc. Assn.; Am. Acad. Pol. & Soc. Sc.; Chairman, Dept of Social Studies, Shelton College; 431 Riverside Drive, New York 25, N. Y.

Fielding, George H., B.A., M.A., U.C.L.A.; A.C.S., Sigma Xi; Chemist, Naval Research Lab., Washington, D. C.; 5 Holiday Drive, Alexandria, Va.

Fischer, Robert B., B.S., Wheaton C.; Ph.D., U. of Ill.; A.C.S.; A.A.A.S.; A.A.U.P.; Elec. Micr. Soc. Amer.; Sigma Xi; Phi Lambda Upsilon; Sigma Pi Sigma; Ind. Acad. of Sc.; Associate Prof. of Chem., Indiana U.; 2201 E. Seventh, Bloomington, Indiana.

Fischer, Rudolph, B.S., M.S., U. of Cal.; Cooper Ornith. Soc.; Am. Museum Natl. Hist.; Calif. Acad. Sc.; Calif. Crop Improvement Assn.; Am. Ornith. Union; Assoc. Prof. in Biology, La Verne C.; 215 East Foothill Blvd., La Verne, Calif.

Fisher, Gerald E., B.A., Butler U.; M.D., Indiana U.; Indianapolis Med. Soc.; Am. Acad. Gen. Practice; medical missionary, Ippy, par Bambari, French East Africa; 1120 Chester Ave., Cleveland, Ohio.

Forrester, James, B.A., Queens (Canada); Phil. Soc. Great Britain; graduate student, U. of So. Calif.; 1230 W. 40th Place, Los Angeles 37, Calif.

Frair (Gfroerer), Wayne F., B.A., Houghton C.; B.S., Wheaton C.; grad. student in Zool., U. of Mass.; 79 N. Prospect St., Amherst, Mass.

Frame, John D., Jr.; B.A., B.S., Wheaton C.; M.D., Northwestern; Sigma Xi; American Hospital, Hamadan, Iran.

Frary, Francis C., M.S., U. of Minn.; Ph.D., ibid; A.C.S.; Electrochem. Soc. Am.; Inst. of Mining & Metallurg. Engrs.; Soc. Chem. Ind.; Inst. of Metals (Great Britain); Faraday Soc. ;Technical Adviser, Aluminum Co. of America (retired); 1218 Holton Road, Oakmont, Pa.

Frisbey, Norman, B.S., M.A., Mich. State C.; Am. Psych. Assn., Psi Chi; Grad. student, Mich State C.; 905-C Walnut Lane, East Lansing, Mich.

Frost, Robert C., B.A., Reed C.; M.A., Ph.D., Rice Inst.; A.A.A.S.; Sigma Xi; Instructor, Dept. of Anatomy, Baylor U. Coll. of Med.; 2211 La Monte Drive, Houston 18, Texas.

Gadske, June, B.A., Miami U. (Ohio); M.A., Northwestern; Pi Mu Epsilon; staff member, Young Life Campaign; 1800 Yosemite, Berkeley, Calif.

Gates, John F., Th.B., Marion C.; B.D., Gordon Divinity; Th.M.; Westminster Theol. Sem.; S.T.D., Temple U. Sch. Theol.; Asst. Prof., Head of Theol.-Phil. Dept., King's College, Delaware.

Gedney, Edwin K., Ph.B., Sc.M., Brown U.; M.A., Harvard; Sigma Xi; Mineral. Soc. Am.; Boston Geol. Soc.; Prof., Gordon C. of Theol. & Missions; 114 North St., Stoneham, Mass.

Gehman, John R., M.D., Hahnemann Med. C.; Mich. Med. Soc.; A.M.A.; Christian Med. Soc.; physician, Omer, Michigan.

Gering, Robert L., A.B., M.A., Ph.D., U. of Utah; Phil Sigma Sigma Xi; A.A.A.S.; Eoc. Eyst. Zool.; Kans. Entomol. Soc.; Kans. Ornith. Soc.; Kans. Acad. Sc.; General Delivery, Tooele, Utah.

Gibson, Thelma, B.A., U. of N. C.; M.A., Geo. Peabody C.; Math. teacher, Hazelwood Public Schools; Laurinburg, N. C.

Gieser, P. Kenneth, B.S., Wheaton C.; M.D., Northwestern; A.M.A.; Ill. Med. Soc.; Chicago Ophthalmo. Soc.; Am. Acad. Ophthalmology & Otolaryngology; Ophthalmologist; 626 Howard, Wheaton, Ill.

Gilbert, Richard C.; A.B., Harvard; Pi Mu Epsilon; Sigma Xi; Math. Assn. Am.; Fellow in Math., U.C.L.A.; 10410 Lanark St., Sun Valley 3, Calif.

Gillaspie, Leon W., B.A., Wheaton C.; Teacher; Director, Extension Dept., Southeastern Bible School; 1401 S. 29th St., Birmingham 5, Alabama.

Gilmer, Thomas E., B.S., Hampden-Sydney C., M.S., Ph.D., U. of Va.; A.P.S.; Am. Assn. Phys. Teachers; Va. Acad. Sc.; Prof. Physics, Hampden-Sydney C., Hampden-Sydney, Va.

Gingerich, Orie J., D.D.S., S.U.I.; Am. Dental Assn.; Dentist; Box 93, Kalona, Iowa.

Glasser, John W. H., A.B., Princeton U.; M.D., Johns Hopkins; A.M.A., F.A.C.S.; Am. Bd. Ob. & Gyn.; physician specialist in ob. & gyn.; 3 Bristol Place Radburn, Fairlawn, N. J.

Glover, Robert P., B.S., Wheaton C.; M.D., U. of Pa.; M.Sc., U. of Minn.; A.M.A.; Am. Heart Assn.; Am. Assn. Thoracic Surg.; Am. C. Chest Phys.; Am. Trudeau Soc.; Laennec Soc.; Sigma Xi; thoracic and cardiac surgeon; 93 W. Levering Mill Road, Bala-Synwyd, Pa.

Godfrey, Paul R., A.B., William Jewell C.; M.S., Ph.D., Purdue U.; A.C.S.; A.A.A.S.; Sigma Xi; Prof. Chem., Chairman of Dept., Louisiana C.; 313 Burns, Pineville, La.

Goldie, Robert F., B.S., Wheaton C.; M.D., Albany Med. C.; A.M.A.; Diplomate, Natl. Bd. Med. Examiners; Christian Med. Soc.; missionary; Baptist Hospital, Ogoomosho, via Lagos, Nigeria, West Africa.

Goodman, Woodrow I., B.A., Marion C.; M.A., Wheaton C.; President, Bethel College; 1000 W. McKinley Ave., Mishawaka, Indiana.

Goodson, Curtis C., B.E.E., Ga. Tech.; Candidate for foreign mission service, Columbia Theological Seminary, Decatur, Georgia.

Gowans, William K., B.Sc., Tri-State C.; Inst. Radio Engrs.; Asst. development engineer, Consolidated Mining & Smelting Co. of Canada, Ltd.; 781 Tennyson Ave., Trail, B. C.

Graber, Elwood C., B.A., Goshen C.; farmer Stryker, Ohio.

Granberg, Lars I., B.S., Wheaton C.; M.A., U. of Chicago; Am. Psych. Assn.; Assoc. Prof. Psych. & Dept. Chairman, Hope C.; 324 Central Ave., Holland, Mich.

Grasse, A. Meryl, B.A., Goshen C.; M.D., Hahnemann; A.M.A.; Pa. Med. Soc.; Ark. Med. Soc.; physician, Calico Rock, Arkansas.

Grassmyer, A. Fay, B.A., Goshen C. M.S. Pa. State C.; Teacher, Vice-Principal, Greenwood H.S.; Greenwood, Delaware.

Graybill, John B., B.A., Wheaton C.; B.D., Faith Theol. Sem.; Am. Sch. Oriental Research; Soc. Bibl. Lit. & Exegesis; Evang. Theol. Soc.; Am. Oriental Soc.; Prof. of Old Testament, Philadelphia Bible Inst.; 211 Avon Road, Narberth, Pa.

Green, Frank O., M.S., Ph.D., Northwestern; A.C.S.; Sigma Xi; Phi Lambda Upsilon; Ill. Acad. Sc.; Assoc. Prof. Chem., Wheaton College; 719 Irving, Wheaton, Ill.

Green, John W., B.S., Iowa State C.; Am. Hort. Soc.; Promise City, Iowa.

Groh, Harold D., B.A., McMaster; teacher math. and science, Principal, Rockaway Mennonite School, Kitchener; R. 2, Preston, Ont., Canada.

Grose, Vernon Leslie, B.S., Whitworth C.; Project Design Engineer, Boeing Airplane Co.; 7206 S. 118th Place, Seattle 88, Wash.

Grove, Mrs. Leona Parmer, B.A., Goshen C.; Route 6, Hagerstown, Maryland.

Guengerich, L. Glen, B.A., Goshen C.; M.A., U. of Iowa; teacher and farmer, R. 1, Wellman, Iowa.

Gustafson, Carl G., Jr., B.S., The King's C.; A.C.S.; P-3, University Apartments, Newark, Delaware.

Hadley, Jessie A., B.S.. Wheaton C.; Sigma Pi Sigma; Housewife, R. 2, Cherry Creek, New York.

Hall, Alex, B.S., U. of B.C. (Canada); Ag. Inst. of Canada; B.C. Inst. of Agrologists; Agricultural Consultant, B. C. Electric Co., Ltd.; 1270 Vista Heights, Victoria, B. C., Canada.

Hamann, Cecil B., B.S., Taylor U.; M.S., Ph.D., Purdue U.; A.A.A.S.; Am. Soc. Trop. Med.; Soc. Am. Bact.; Am. Soc. Parasitologists; Chairman, Div. Science & Math., Asbury College; 603 N. Lexington Ave., Wilmore, Kentucky.

Hammer, Eugene L., B.S., Wheaton C.; M.A., Northwestern; Prof. of Education, Wilkes College, Wilkes-Barre, Pa.

Harris, Harlan, Jr., B.A., Wheaton C.; B.D., Eastern Baptist Sem.; pastor, First Baptist Church; 405 W. Marion, Shelby, N. C.

Harris, R. Laird,* B.S., U. of Del.; Th.B., Westminster Sem.; A.M., U. of Pa.; Ph.D., Dropsie C. of Hebrew Learning; Tau Beta Pi; Phi Kappa Phi; Sigma Xi; Faith Theological Seminary, Elkins Park, Philadelphia 17, Pa.

Hartzler, H. Harold*, A.B., Juniata C.; Ph.D., Rutgers U.; A.P.S.; Am. Assn. Phys. Teachers; Am. Math. Soc.; Math. Assn. Am.; Sigma Xi; A.A.A.S.; Am. Astron. Soc.; Prof. Mathematics, Goshen C.; 107 W. Plymouth Ave., Goshen, Indiana.

Hatfield, Charles, Jr., A.B., Georgetown C.; A.M., U. of Ky.; Ph.D., Cornell U.; Am. Math. Soc.; Math. Assn. Am.; Asst. Prof. Math., U. of Minn.; 4612 14th Avenue S., Minneapolis 7, Minn.

Hearn, Walter R., B.A., Rice Inst.; Ph.D., U. of Ill.; Sigma Xi; Phi Lambda Upsilon; Phi Sigma; Phi Beta Kappa; A.C.S.; A.A.A.S.; Instructor in Biochemistry, Baylor U. College of Med., Texas Medical Center, Houston, Texas.

Heise, Jesse L., A.B., Goshen C.; M.D., U. of Cincinnati; Alpha Omega Alpha; physician in general practice, Pittsburg, Ohio.

Henkel, Milford F., M.A., Boston U.; B.D., Winona Lake Sch. Theol.; M.Th., Western Theol. Sem.; M.Ed., U. of Pittsburgh; Rel. Ed. Soc.; Am. Soc. Ch. Hist.; Evang. Theo. Soc.; Pastor, Sewickley Baptist Church, Sewickley, Pa.

Hergert, Herbert L., B.A., Reed C.; M.S., Ph.D., Oregon State C.; Phi Lambda Upsilon; Sigma Xi; Tech. Assn. Pulp & Paper Ind.; research chemist, Oregon Forest Products Lab., 17th and May Sts., Corvallis, Oregon.

Hershberger, Truman V., B.A., Goshen C.; M.Sc., Ohio State U.; 1250 East Wayne Ave., Wooster, Ohio.

Hertzler, Elam K., A.B., Eastern Menn. C.; A.M., U. of Del.; Linville, Va.

Hess, Robert B., A.B., Goshen C.; M.D., Temple U.; physician, general practice, Terre Hill, Pa.

Hitchcock, Eldon T., B.S., West. Mich. C. of Ed.; M.S., U. of Mich.; S.C. Acad. Sc.; Kappa Rho Sigma; Head, Chemistry Dept., Bob Jones U., Greenville, S. C.

Hodson, Margaret E., A.B., B.S., Marion C.; M.A., U. of Mich.; Natl. Assn. Biol. Teachers; Ind. Acad. Sc.; A.A.A.S.; Am. Bot. Soc.; Asst. Prof. Biology, Marion C.; 4016 S. Harmon St., Marion, Ind.

Hoffman, Glenn H., B.A., Goshen C., med. student, Jefferson Med. C.; Delaware County Hospital, Lansdowne & Keystone Sts., Drexel Hill. Pa.

Hoisington, Raymond E., A.B., Wheaton C.; Instructor in Chemistry, Rockford, Ill. Schools; Stillman Valley, Ill.

Holland, Hans J., B.S., Houghton C.; M.A., Columbia U.; physical chemist, War Dept., Dugway Proving Grounds, Tooele, Utah; 118-40 Metropolitan Ave., Kew Gardens 15, L. I., New York.

Holland, Heinrich D., B.A., Princeton U.; M.A., Columbia U.; N. Y. Acad. Sc.; Instructor in Geochemistry, Dept. of Geology, Princeton U., Princeton, N. J.

Hooley, Clarence D., B.A., Goshen C.; Ohio Soc. Med. Technol.; Director of Lab., Massillon State Hosp.; R. 1, North Lawrence, Ohio.

Hooley, Paul E., B.A.. Goshen C.; Christian Med. Soc.; med. student, Indiana U.; 750 N. Tibbs Ave., Indianapolis, Ind.

Hoover, Alfred E., B.A., Goshen C.; Test Engineer, Penn Controls, Inc.; 718 S. 6th St., Goshen, Indiana.

Hoover, Esther J., B.A., Goshen C.; teacher, R. 3, Goshen, Indiana.

Horner, George R., B.S., Wheaton C.; M.A., Columbia U.; missionary anthropologist, West Africa; (furlough address) 871 Clifton Ave., Newark 4, N. J.

House, Richard D., Shelton C.; Wheaton C.; Northwestern U.; Instructor in Geology, Trinity Sem. and Bible C., 1726 Berteau St., Chicago 13, Ill.

Houser, Frank E., Jr.*, A.B., Houghton C.; A.M., Columbia; Am. Soc. Rev.; Instructor in Sociology, Wheaton C., Wheaton, Ill.

Howard, Leland L., B.S., Wheaton C.; Inst. Radio Engrs.; Business Manager, The World Radio Missionary Fellowship, Inc.; Talcottville, Conn.

Howe, William A., B.S., Juniata C.; M.A., N. Y. U.; Pa. Acad. Sc.; Instructor, Lewistown Joint School Dist.; 129 Walnut St., Lewistown, Pa.

Howitt, John R.*, M.B., M.D., U. of Toronto; Am. Psychiatric Assn.; Acad. of Med., Toronto; Supt. Ontario Hosp.; Box 249, Fort William, Ont., Canada.

Hoyt, Eldon D., B.S., Manchester U.; teacher, Warsaw City Schools; Box 5, Winona Lake, Indiana.

Hummel, Charles E., B.E., Yale U.; S.M., Mass. Inst. Tech.; Tau Beta Pi; Sigma Xi; Alpha Chi Sigma; Staff Member, Inter-Varsity Christian Fellowship; 31-27 159th St., Flushing, N. Y.

Humphrey, Lewis H., B.S., U. of Wash.; Th.B., Th.M., Dallas Theol. Sem.; lab. supervisor, Moody Institute of Science; 175 So. Virgil, Los Angeles 4, Calif.

Hunt, Robert E., B.Sc., Oregon State C.; M.S., U. of Wis.; Am. Assn. Econ. Entomol.; Phi Sigma; graduate student, U. of Wis.; 822 Clymer Place, Madison, Wisconsin.

Hunting, Ward M., B.S., Houghton C.; M.S., U. of Mass.; A.C.S.; Sigma Xi; Phi Kappa Phi; Asst. Prof. Chemistry, Eastern Nazarene College; New Salem, Mass.

Hyde, John S., B.S., Wheaton C.; M.D., U. of Ill.; A.M.A.; Ill. Med. Assn.; Am. Acad. Pediatrics; Christian Med. Soc.; pediatrician; 603 Forest Ave., Oak Park, Ill.

Icke, Roland N., A.B., M.A., Ph.D., M.D., U.C.L.A.; A.C.S.; Alpha Chi Sigma; Phi Lambda Upsilon; Sigma Xi; physician and surgeon, Los Alamos Medical Center; 1336-B 41st. St., Los Alamos. New Mexico.

Isensee, Robert W., B.A., Reed C.; M.A., Ph.D., Oregon State C.; Phi Lambda Upsilon; Phi Kappa Phi; Sigma Xi; A.C.S.; Sigma Pi Sigma; Asst. Prof., San Diego State C.; 5036 Art, San Diego, Calif.

Jacobs, Merle E., B.A., Goshen C. Ph.D., Indiana U.; Sigma Xi; Scient. Res. Soc. Am.; Indiana Acad. Sc. Instructor Biol., Goshen C., Goshen, Ind.

Jantze, R. Dale, B.A., Goshen C.; Supt., Staplehurst Public Schools; 909 First St., Milford, Nebr.

Jasaitis, Celestia, B.A., U.C.L.A.; housewife; 280 Mountain Ave., Piedmont 11, Calif.

Jennings, George J., B.D., Northwestern Theol. Sem.; B.S., M.A., U. of Minn.; Fellow, Am. Geog. Soc.; Assn. Am. Geog.; Instructor, U. of Minn.; 1020 Harmon Place, Minneapolis 3, Minn.

Jervis, Robert E., B.A., M.A., Toronto; Chem. Inst. Canada; Chem. Club, U. of Toronto; research asst., U. of Toronto School of graduate studies; 477 Milverton Blvd., Toronto 6, Ont., Canada.

Johannes, D. Delbert, B.S., Wheaton C.; B.S., Milwaukee Sch. Engineering; Product Analysis Engineer, Collins Radio Co.; 810 A Ave., N.E., Cedar Rapids, Iowa.

Johnson, Deryl F., B.A., Wheaton C.; B.D., Asbury Theol. Sem.; Sigma Pi Sigma; student at Fuller Theol. Sem.; 5734 Ebey Ave., Los Angeles 42, Calif.

Johnston, Lawrence H., A.B., Ph.D., U. of Calif.; A.P.S.; Sigma Xi; Instructor in Physics, U. of Minn.; 2629 Pleasant Ave. S., Minneapolis, Minn.

Joss, Charles, B.S., Wheaton C.; Phi Sigma; graduate asst. in Zoology, U. of N. H.; 4747 N. Kenneth Ave., Chicago 30, Ill.

Jung, Tennyson T., B.S., Oregon State Sch. Pharm.; 817 Olokele Ave., Honolulu, Hawaii.

Kaften, Warren A., B.A., Wheaton C.; 115-116 220th St., St. Albans 11, L. I., New York.

Karkalits, Olin Carroll, B.S., Rice Inst.; M.S., Ph.D., U. of Mich.; Am. Inst. Chem. Engrs; Tau Beta Pi; Lambda Phi Upsilon; Sigma Xi; Development Chem. Engineer, American Cyanamid Co., Calco Div.; 132 Oak Manor Parkway, South Plainfield, N. J.

Karsten, Martin, B.A., Calvin C.; M.S., U. of Mich.; Professor, Calvin C.; 1401 Eastern Ave., S.E., Grand Rapids, Mich.

Kaufman, Willis M., B.A., Goshen C.; 5808 Fordham St., Houston 5, Texas.

Keesey, Robert G., B.S., Wheaton C., M.A., U. So. Calif.; 4656 Nebo Drive, La Mesa, Calif.

Kennedy, E. James, B.S., Colo. A & M; Ph.D., Cornell U.; Am. Soc. Hort. Sc.; Am. Potato Assn.; Sigma Xi; Phi Kappa Phi; Beta Beta Beta; Alpha Zeta; Research Director, Spud Chips, Inc., 2626 8th Ave., Greeley, Colo.

Kennel, John R., B.A., Goshen C.; Supervisor of Service Training, New Holland Machine Co.; R. 1, Gap, Pa.

Key, Thomas, B.A., M.A., South. Meth. U.; N. Tex. Biol. Soc.; Texas Acad. Sc.; S.M.U. Biol. Soc.; Teacher Biol. and Jr. H.S. Science, Anahuac Public Schools; 7103 Casa Loma, Dallas 14, Texas.

Kingsley, Leonard, B.S., Purdue U.; Instructor in Voc. Agr. and science, Berne-French Twp. Schools; R. 1, Monroe, Indiana.

Kline, Leo V., B.M.E., U. of Akron; M.Sc., Ohio State U.; Am. Soc. M. E.; Sigma Tau; Graduate student, Ohio State U.; 33 Chittenden Ave., Columbus, Ohio.

Klingbiel, John H., B.S., Wheaton C.; Conservation Biologist, Wisconsin Conservation Dept., Fish Management Div.; Woodruff, Wis.

Kniss, Mark A., A.B., Wittenberg C.; Student, Hahnemann Medical C.; 1134 Pine St., Philadelphia 7, Pa.

Knobloch, Irving W., B.A., M.A., U. of Buffalo; Ph.D., Iowa State C.; Am. Fern Soc.; Sigma Xi; Botan. Soc. Am.; Am. Inst. Biol. Soc.; Am. Assn. U. Prof.; Prof. Biol. Science, Michigan State College, East Lansing, Michigan.

Knudsen, Robert D., A.B., U. of Calif.; Th.B., Th.M., Westminster Theol. Sem.; 3650 Pontiac St., Denver 7, Colo.

Koch, Gawain, B.A., Goshen C.; Development Engineer, the Polymer Corp.; 824 N. 10th St., Reading, Pa.

Kopp, Beno, B.E., Saskatchewan; Chem. Inst. Canada; Junior Development Engr., Consolidated Mining and Smelting Co. of Canada, Ltd.; Box 404, Rossland, B. C., Canada.

Kornfeld, Edmund C., B.A., M.A., Temple U.; Ph.D., Harvard; A.C.S., Sigma Xi; Research Chemist, Eli Lilly Research Laboratories, Indianapolis; 717 E. 55th St., Indianapolis, Ind.

Krabill, Vincent J., B.A., Goshen C.; M.A., U. of Iowa; Kans. Acad. Sc.; Science Instructor, Hesston C. and Bible S., Hesston, Kansas.

Krabill, Willard S., B.A., Goshen C.; M.D., Jefferson Med. C.; Christian Med. Soc.; physician; R. 3, Louisville, Ohio.

Kramer, Wilbur C., B.S., Ill. Inst. Tech.; Am. Soc. Mech. Engr.; Efficiency Supt., Chicago Dist. Elect. Gen. Corp.; 10622 Ave. E, Chicago 17, Ill.

Kreider, Charles, B.A., Goshen C.; High School Science Teacher; R. 2, Wadsworth, Ohio.

Kreider, Marlin B.; B.S., Houghton C.; M.S., Ph.D., U. of Md.; Sigma Xi; Am. Soc. Prof. Biol.; physiologist, Natick QM. Climatic Research Lab.; 3 Summer St., Andover, Mass.

Kruse, Wilfred F., B.S., Purdue U.; M.S., Nebr. U.; Phi Lambda Upsilon; Sigma Xi; Registrar and Prof. of Chem., Concordia Teachers C.; 1028 Bonnie Brae, River Forest, Ill.

Kuhns, James W., A.B., Goshen C.; Science teacher, Souderton, Pa.

Kulp, J. Laurence*, B.S., Wheaton C.; M.S., Ohio State; M.A., Ph.D., Princeton; A.A.A.S.; A.C.S.; Am. Min. Soc.; Geol. Soc. Am.; A.P.S.; Am. Geophys. Union; Assoc. Prof. of Geochemistry, Dept. of Geol., Columbia U.; Lamont Geological Observatory, Palisades, New York.

Lammerts, Walter E.*, B.S., Ph.D., U. of Calif.; Am. Soc. Hort. Sc.; Boton. Soc. Am.; Horticultural Research; P.O. Box. 253, Livermore, Calif.

Landis, Wilmer M., M.S., U. of Pa.; Asst. Prof. Agr., Eastern Mennonite C., Harrisonburg, Va.

Larsen, Horace A., B.D., Presby. Theol. Sem.; M.A., Th.D., Burton C.; D.D. (hon.) Pike's Peak Bible Sem.; Christian Med. Soc.; pastor, Englewood Presby. Ch.; 6627 S. Harvard Ave., Chicago, Ill.

Larson, Donald N., A.B., Wheaton C.; Instr. Greek and Linguistics, Trinity Sem.; 1726 Berteau, Chicago 13, Ill.

Laughlin, Winston M., B.S., U. of Minn.; M.S., Ph.D., Mich. State C.; Sigma Xi; Soil Sc. Soc. Am.; Soil Scientist, USDA; Alaska Experiment Station, Star Rte., Palmer, Alaska.

Leatherman, Paul A., B.A., Goshen C.; Salesman, Miller-Hess Shoe Co.; 111 S. 10th St., Akron, Pa.

Lefever, Grace B., B.S., Elizabethown C.; M.Ed., Pa. State C.; 1236 E. Vine St., Lancaster, Pa.

Leinbach, Earl R., B.A., Goshen C.; M.D., Indiana U.; physician, Hamlet, Indiana.

Leith, Thomas H., B.A., M.A., Toronto; Ph.D., Mass. Inst. Tech.; Am. Geophys. Union; Asst. Prof. Sc. and Math., Gordon Sch. of Theol.; 30 Evans Way, Boston 15, Mass.

Lichti, Leonard L., B.A., Goshen C.; M.A., U. of Nebr.; Dean of Student Personnel, Hesston C., Hesston, Kansas.

Lindquist, Stanley E., B.A., Fresno State C.; Ph.D., U. of Chicago; Am. Psych. Assn.; A.A.A.S.; Sigma Xi; Psy Chi; Kappa Delta Pi; Midwest. Psych. Assn.; Asst. Prof. Psych., Fresno State C.; 1122 Farris, Fresno, Calif.

Loewen, Henry H., B.S., Tabor C.; M.D., Kans. U.; A.M.A., Kans. Med. Soc.; physician and surgeon, 152 N. Dellrose, Wichita, Kansas.

Loewen, Melvin J., B.A., Goshen.; Brownton, Minn.

Lofgren, Norman L., B.S., Ph.D., U. of Calif.; A.C.S.; Pac. SW Assn. Chem. Teachers; Asst. Prof. Chem., Chico State C.; 1316 Sunset Ave., Chico, Calif.

Loomis, Robert C., B.S., Wheaton C.; missionary, Majuro, Marshall Islands.

Lord, Lois P., B.S., U. of N. H.; M.S., U. of Mich.; Phi Sigma; 8 Crowley St., Farmington, N. H.

Lortz, Harlan J., B.S., Wheaton C.; A.C.S.; Research Chemist, Penick and Ford, Ltd., Inc.; 249 12th St. N. W., Cedar Rapids, Iowa.

Loux, Harvey M., B.S., Bob Jones U.; teaching asst. and student, U. of Ill.; Box 1, St. Joseph, Ill.

Loux, Norman L., B.A., Goshen C.; M.D., Hahnemann; psychiatrist, Butler Hospital. Providence, Rhode Island.

Lowell, Ralph D., A.M., Ph.D., U. of Ill.; Sigma Xi; Phi Kappa Phi; Phi Sigma; 5049 W. Winona, Chicago 30, Ill.

Lubansky, Harry, B.S., Rutgers U.; A.C.S.; Asst. Chief Anal. Chem., Ortho Pharmaceutical Corp.; 10 Adams St., Somerville, N. J.

Lubansky, John, B.S., The Kings C.; Am. Med. Technol.; N. J. State Soc. Med. Technol.; Professional Asst. (Pharmacology), E. R. Squibb & Sons Res. Div. Mathieson Chem. Co.; Como Drive, Middlebush, N. J.

Luckey, Robert R., A.B., B.S., Houghton C.; M.A., N.Y.U.; Ph.D., Cornell U.; A.A.A.S.; Math. Assn Am.; Am. Math. Soc.; Assn. Math. Teachers N.Y.S.; Prof. Math. and Phys., Houghton C., Houghton, New York.

Luckman, Cyril E., B.S., Wheaton C.; M.S., U. of Ill.; Sigma Xi; Asst. Prof., Wheaton C.; 227 E. Lincoln Ave., Wheaton, Ill.

Lyon, Howard W., B.A., M.S., U. of Iowa; A.C.S.; Inst. Chem. and Science, Northwestern C. and Acad.; 206 S. Williams St., Orange City, Iowa.

Mack, Noah K., B.A., Lebanon Valley C.; M.D., Hahnemann; A.M.A.; physician, Box 107, Morgantown, Pa.

MacRae, Allen A.*, B.A., M.A., Occidental C.; Th.B., Princeton U.; Ph.D., U. of Pa.; Am. Oriental Soc.; President and Prof. Old Testament, Faith Theol. Sem., Elkins Park, Philadelphia 17, Pa.

Magal, Ivan V., Th.B., Baptist Theol. Sem.; B.S. Lebanon Valley C.; B.A., Eastern Mennonite C.; medical student, Medical C. of Va., Richmond, Virginia.

Maniaci, George D., B.A., Goshen C.; medical student, Indiana U.; 423 N. Alton, Indianapolis 22, Ind.

Marner, Beulah, B.A., Goshen C.

Marquart, Philip B.*, B.A., M.A., U. of Wis.; M.D., Harvard; Am. Psychiatric Assn.; Ill. Mental Hygiene Soc.; Prof. of Psychiatry, Wheaton C., Wheaton, Ill.

Martin, Donald E., B.S., Eastern Mennonite C.; Student A.M.A.; student Hahnemann Med. C.; 127 N. Tenth St., Philadelphia, Pa.

Martin, J. Robert, B.A., Goshen C.; M.S., Ph.D., Pa. State C.; A.C.S.. Phi Lambda Upsilon; Research Chemist, E. I. DuPont de Nemours & Co.; 111 North Virginia Ave., Penns Grove, New Jersey.

Martin, Paul H., B.A., Goshen C.; M.A., Bob Jones U.; Asst. Prof. Bible, Eastern Mennonite C., Harrisonburg, Va.

Mathews, Frank S., B.A., M.A., U. of British Columbia; Physics Dept., Purdue U., West Lafayette, Ind.

Matthews, Edgar W., Jr., B.E.E., M.E.E., Rennselaer Poly. Inst.; Sigma Xi; Tau Beta Pi; Eta Kappa Nu; Inst. Radio Engrs.; 172 Colonial Ave., Williston Park, L. I., New York.

Mattson, Enoch E., B.Sc., Wheaton C.; Th.M., Th.D., Dallas Theol. Sem.; Am. Sch. Oriental Research; Evang. Theol. Soc.; Asst. Prof. Theol., Northwestern Schools, 3909 44th Ave. S., Minneapolis 6, Minn.

Mauer, Paul B., B.S., Rensselaer Poly. Inst.; Sigma Xi; Junior Physicist, Eastman Kodak Co.; 344 Elmgrove Road, Rochester 13, New York.

Maxwell, Joseph S.*, B.A., Muskingum; M.D., Pittsburgh; F.A.C.S.; Fellow Am. Acad. Otolaryng. and Ophthalmol.; Diplomate Am. Bd. Ophthalmology; Ophthalmologist, Box 89, Fremont, W. Va.

Merrill, Paul L., B.A., U. of Fla.; M.A., N.Y.U.; Am. Psych. Assn.; Ariz. Psych. Assn.; Instructor in Psych., Phoenix C.; 2125 W. Hazelwood St., Phoenix, Arizona.

Merritt, Robert K., B.A., San Jose State C.; Victoria Inst. (Great Britain); student, Fuller Theol. Sem.; 311 W. Walnut, Pasadena, Calif.

Meyer, Arthur D., B.A., Goshen C.; Natl. Science Teachers Assn.; Science teacher, 205 East Baird St., West Liberty, Ohio.

Meyer, Herbert A., M.A., Nebr. U.; Assoc. Prof., Concordia Teachers C.; 199 College Ave., Seward, Nebr.

Meyers, Wayne M., B.S., Juniata C.; A.A.A.S.; grad. student and teaching asst., U. of Wis., Med. Microbiol. Dept.; 310 N. Blount St., Madison 3, Wisconsin.

Miller, Clyde E., B.A., Goshen C.; M.A., Kent State U.; Va. Acad. Sc.; Sigma Xi; 243 Parklawn Blvd., Columbus 13, Ohio.

Miller, David R., B.A., Goshen C.; M.A., Denver U.; mathematician, Bendix Corp.; 725 W. Colfax, South Bend, Indiana.

Miller, Donald G., B.A., Goshen C.; medical student; 121 S. Clinton Ave., Doylestown, Pa.

Miller, Lorin G., B.S., B.S.E.E., Highland Park C.; Dr. Eng.; Dean of Engineering, Michigan State C.; 232 University Drive, East Lansing, Mich.

Miller, Oscar W., B. A., Union C.; M.A., Ph.D., Cincinnati; Prof. Psych. and Phil., U. of Cincinnati; 909 Gibson Drive, Madison, Tenn.

Minter, Donald L., B.A., Goshen C.; medical student, Shepherdstown, Pa.

Mitchell, Richard S., B.S., M.S., U. of Mich.; Mineral. Soc. Am.; Am. Crystal. Assn; Asst. Prof of Geology, U. of Virginia, Charlottesville, Va.

Mitchell, Robert, B.S., Wheaton C.; Colo. Staffman and Area Director, Young Life Campaign; Star Ranch, Colorado Springs, Colo.

Mixter, Russell L.*, Prof. of Zoology, Wheaton C., Wheaton, Ill.

Monsma, Edwin Y.*, B.A., Calvin C.; M.S., U. of Ill.; Ph.D., Mich. State C.; Mich. Acad. Sc.; Phi Sigma; Sigma Xi; Sem. Bot.; Prof. of Biology, Calvin C.; 719 Fuller Ave., S.E., Grand Rapids 6, Michigan.

Monson, Karl W., B.S., Wheaton C.; Zeta Pi Zeta; general Manager, Perry Knitting Company; 4 Main Terrace, Perry, N. Y.

Moreland, George E., B.S., Greenville C.; M.S., Mich.; Ph.D., Cornell; Am. Soc. Zool.; Am. Ornith. Union; Am. Micro. Soc.; Sigma Zi; Prof. Zoology and Chairman Div. Sc. and Math., Houghton C., Houghton, New York.

Morris, Henry M., B.S.C.E., Rice Inst.; M.S., U. of Minn.; Ph.D. ibid; Am. Soc. Civil Engrs.; Am. Soc. Eng. Ed.; Am. Geophys. Union; Am. Meteorology Soc.; A.A.A.S.; Tau Beta Pi; Sigma Xi; Prof. and Head of Dept. Civil Engineering, Southwestern Louisiana Inst.; Lafayette, La.

Moser, Arthur L., B.A., Goshen C.; Test Engineer, Penn Controls, Inc.; R. 4, Goshen, Indiana.

McAllister, Robert D., B.S., Wash. State C.; Assoc. A.I.E.E., Sigma Tau; Engr.-in-Training Assn. of Prof. Engr. of B.C.; Royal Astron. Soc. Canada; Engineering Research and Development Div., Consolidated Mining & Smelting Co. of Canada, Ltd.; Box 399, Rossland, B. C., Canada.

McClain, Alva J., B.A., Occidental C.; Th.M., Xenia Theol. Sem.; Pres. and Prof. Christian Theology, Grace Theological Sem., Winona Lake, Indiana.

McCleery, John M., B.S., Muskingum C.; M.D., Western Reserve; A.M.A.; Ohio State Med. Assn.; Ohio Student Health Assn.; Am. Student Health Assn.; Physician and Prof. Biol., Muskingum C.; 108 Montgomery Blvd., New Concord, Ohio.

McColley, Earl S., Ph.B., M.A., Brown U.; Ph.D., Boston U. A.C.S.; New England Assn. Chem. Teachers; Fellow Am. Inst. Chem.; Chief Chemist, Celanese Corp. of America; 1035 Bose Ave., Rock Hill, S. C.

McDowell, Donald E., B. S., Wheaton C.; M.D., Temple U.; Babcock Surg. Soc.; R. 1. Nottingham, Pa.

McFarland, James W., M.S., U. of Ky.; Am. Assn. Plant Taxon.; Calif. Botan. Soc.; Oregon Acad. Sc.; Major, Air Force Office of Atomic Energy, Room 5C930, The Pentagon, Washington 25, D. C.

McGowan, John, B.A.Sc., U. of B.C. (Canada); Chem. Inst. of Canada; Supt. of Ammonia Plant, Consolidated Mining & Smelting Co. of Canada, Ltd.; 2573 Kootenay Ave. (Box 933), Rossland, B. C., Canada.

McLaren, David P., B. A., George Pepperdine C.; Educ. films, Moody Inst. of Science; 7959 Shady Glade Ave., No. Hollywood, Calif.

Nafziger, Mervin D., B.A., Goshen C., Med. Technologist, Samaritan Hospital; Colonial Apts. No. 7, Nampa, Idaho.

Nafziger, Myrl A., B.A., Goshen C.; medical student, Northwestern U.; 3239 W. Warren Blvd., Chicago 24, Ill.

Nafziger, Samuel B., Th.B., Eastern Mennonite C.; B.A., Kansas City U.; teacher, c/o Mennonite Colony, Ft. Vermilion, Alta., Canada.

Nase, Howard M., B.A., Goshen C.; Ed.M., Temple U.; Principal, Sellersville-Perkasie High School; 515 Market St., Perkasie, Pa.

Neff, Walter S., B.S., Juniata C.; M.D., Jefferson Med. C.; A.M.A.; Am. Heart Assn.; Fellow Am. Col. Physician; Minn. Soc. Internal Med.; Physician, Lenont-Peterson Clinic and Virginia Hospital; 324 Seventh St. S., Virginia, Minnesota.

Neher, Oscar W., B.A., Mount Morris; B.S., Iowa State C.; M.S., U. of Chicago; A.A.A.S.; Pi Gamma Mu; Ind. Acad. Sc.; Assoc. Prof. Biol., Manchester College; 608 Miami St., North Manchester, Indiana.

Nesbitt, William R., B.S., M.D., Duke U.; A.M.A., Am. College Health Assn.; 1234 Empire St., Fairfield, Calif.

Neumann, Roger E., B.A., Goshen C.; M.D., Northwestern U.; physician, Box 637, Delavan, Ill.

Nickel, Ted D., B.S., Wheaton C.; Kans. Acad. Sc.; Science Instructor, Berean Academy, Elbing, Kansas.

Nida, Eugene A., B.A., U.C.L.A.; M.A., U. of So. Cal.; Ph.D., U. of Mich.; Linguistic Soc. Am.; A.A.A.S.; Secretary for Translations, American Bible Society; 450 Park Ave., New York 22, N. Y.

Nygaard, Agnar P., M.S., Norwegian Tech. U.; Ph.D., Oregon State C.; Sigma Xi; Nedre Alle 11 b, Trondheim, Norway.

Oldham, Robert B., Jr., B.A., Western State C.; Th.B., Southern Baptist Sem.; P.O. Box 175, Shaw AFB, Sumter, S. C.

Olney, Harvey O., B.S., John Brown U.; Th.M., Dallas Theol. Sem.; Asst. Prof. Biol., The King's College, New Castle, Delaware.

Oorthuys, Hendrik J.*, B.S., M.S., Oregon State; Am. Inst. Elec. Engrs.; Am. Inst. Radio Engrs; Asst. Prof., Dept. of Elect. Engineering, Purdue U.; 435 Robinson St., West Lafayette, Indiana.

Osborne, William D., Jr., A.B., Gordon C.; Th.B., Eastern Nazarene C.; missionary, Conserv. Baptist Foreign Mis. Soc.; R. 2, Wareham St., Middleboro, Mass.

Osepchuk, John M., B.A., M.A., Harvard U.; Harvard Eng. Soc.; Inst. Radio Engrs.; applied physicist, Raytheon Mfg. Co.; 44 Aborn St., Peabody, Mass.

Paine, S. Hugh, Jr.; B.S., Wheaton C.; Sigma Pi Sigma; metallurgist, Argonne Natl. Lab.; 10551 S. State St., Chicago 28, Ill.

Parker, Paul E.*, B.A., Ariz. State; M.A., Ph.D., U. of Ariz.; Ind. Acad. Sc.; A.A.A.S.; President, George Fox College; 915 Vermillion St., Newberg, Oregon.

Parker, Paul E., Jr., B.S., M.D., Indiana U.; A.M.A.; Christian Med. Soc.; medical missionary; Kano Eye Hospital, Kano, Nigeria.

Parks, Thomas D., B.S., Wheaton C.; Ph.D.; Head Analytical Chem., Stanford Research Inst.; 15788 via Arroyo, San Lorenzo, Calif.

Parmerter, Stanley M., B.S., Greenville C.; Ph.D., U. of Ill.; A.C.S.; Sigma Xi; Wheaton College, Wheaton, Ill.

Paul, William W., B.A., Temple U.; B.D., Faith Theol. Sem.; M.A., U. of Pa.; Am. Phil. Assn.; Am. Sociol. Soc.; Evang. Theol. Soc.; Assoc. Prof. Phil. and Social Sc., Shelton C., Ringwood Borough, N. J.

Peachey, Ruth, B.S., Eastern Mennonite C.; Christian Med. Soc.; senior med. student, Hahnemann Med. C.; 133 N. Mole St., Philadelphia 2, Pa.

Peters, Ernest, B.A., M.A., U. of B. C. (Canada); Can. Inst. Mining & Metallurgy; Am. Inst. Mining & Metallurg. Engrs.; grad. student, Dept. of Metallurgy, U. of British Columbia; 4501 West 7th St., Vancouver 8, B. C., Canada.

Peterson, Norvell L., B.A., Gordon C. of Theol.; M.D., K.C.U. of Phys. and Surg.; A.M.A.; Christian Med. Soc.; psychiatrist, Box B, Georgetown, Mass.

Peterson, Wesley J., B.A., Wheaton C.; 10351 Emerald Ave., Chicago 28, Ill.

Pike, Julian M., B.A., Cascade C.; Am. Radio Relay League; grad. student, phys. Oregon State C.; 2820 Orchard St., Corvallis, Oregon.

Pipenberg, Kenneth J., B.S., Wheaton C.; Ph.D., U. of Ill.; A.C.S.; A.A.A.S.; Am. Crystal. Assn.; Sigma Xi; Sigma Pi Sigma; Research Chem., Supervisor of Instrumental Analysis, E. I. du Pont de Nemours & Co.; Park Avenue, Llangollen Estates, New Castle, Delaware.

Pletcher, William D., B.A., Goshen C.; Student A.M.A.; med. student, Northwestern U.; Abbott Hall, 710 N. Lakeshore Drive, Chicago, Ill.

Porter, Donald H., B.A., B.S., Marion C.; M.A., Ph.D., Indiana U.; Math. Assn. Am.; Prof. Math. and Phys., Marion C.; 4105 Wigger St., Marion, Ind.

Post, Howard W., B.S., M.S., Syracuse U.; Ph.D., Johns Hopkins U.; A.C.S.; Alpha Chi Sigma; Gamma Alpha; Chi Beta Phi; Sigma Xi; Pi Mu Epsilon; Research and Teacher, U. of Buffalo; 94 N. Ellicott St., Williamsville Branch, Buffalo 21, N. Y.

Posthuma, Millard M., M.D., U. of Mich.; Christian Med. Soc.; A.M.A.; Sen. Cand. Am. Coll. Surg.; surgeon, 423 E. Cass, Cadillac, Mich.

Potts, John C., Jr., B.S., Wheaton C.; Th.M., Dallas Theol. Sem.; District Director, Young Life Campaign; 609 S. Cedar, Yuma, Colo.

Potts, Warren N., B.S., Miss. C.; B.D. Columbia Theol. Sem.; pastor, Greenfield Chapel; 1302 Central St., Jackson, Miss.

Pressan, Jean Pierre, B.A., Houghton C.; A.C.S.; Research, Callery Chemical Co.; Oak Road, Box 53, Bairdford, Pa.

Price, Richard W., B.A., Houghton C.; Instr. Math. and Phys., Houghton C., Houghton, N. Y.

Pryor, Joseph E., B.A., B.S., Harding C.; M.A., Ph.D., La. State U.; A.C.S.; Math. Assn. Am.; A.A.A.S.; Am. Inst. Phys.; Natl. Council Teachers Math.; Sigma Xi; Head, Dept. Chem. and Phys., Harding C., Searcy, Arkansas.

Radimer, Kenneth J., B.S., M.I.T.; Ph.D., ibid; A.C.S.; A.A.A.S.; Sigma Xi; Phi Lambda Upsilon; Research Chemist, Vitro Corp. of America; 12 Martin Place, Little Falls, N. J.

Randall, Dwight L., B.S., Tulane U.; M.S., Georgetown U.; Am. Meteor. Soc.; Acoustical Soc. Am.; Physicist, Naval Research Lab.; 312 N. Edison St., Arlington 3, Va.

Rasmussen, Clayton F., B.S., U. of Wis.; Design Engineer, Beckman Instruments, Inc.; 603 Washington St., Apt. 2, Alhambra, Calif.

Ratzlaff, Kermit, B.A., M.A., U.C.L.A.; Teacher, Bible Inst. Los Angeles; 100 W. Washington St., Pasadena 3, Calif.

Rawlings, Floyd F., Jr., B.A., U. of Redlands; M.S., Oregon State C.; Ph.D., U. of Wash.; A.C.S.; Sigma Xi; Phi Lambda Upsilon; Prof. Chem. La Verne C.; 2325 Third St., La Verne, Calif.

Rayburn, James C., B.S., Kans. State C.; Th.M., Dallas Theol. Sem.; Natl. Field Director, Young Life Campaign, Inc.; Star Ranch, Colorado Springs, Colo.

Reese, Floyd, B.S., Greenville C.; M.S., Ph.D., Purdue U.; A.C.S.; Assoc. Prof. Chem., Houghton C.; Box 233, Houghton, New York.

Reisler, Ralph E., B.S., Wheaton C.; Physicist GS-5, US Civil Service, Ballistic Research Lab.; R. 1, Nottingham, Pa.

Reist, Robert L., B.A., Goshen C.; Dairy farmer, R. 1, Box 92, Falfurrias, Texas.

Reno, Cora A., B.S., Wheaton C.; M.A., U. of Mich.; Biol. Teacher, Falconer Central Schools; 129 E. Mosher, Falconer, N. Y.

Rex, Earl C., B.S., U.N.D.; M.S., U. of W.; Math. Assn. Am.; Central Assn. Sc. & Math. Teachers; Pi Mu Epsilon; Asst. Prof. Phys., Geo. Pepperdine C.; 1021 W. 81st St., Los Angeles 44, Calif.

Reyburn, Mrs. William D. (Marie Fetzer), B.A., Wheaton C.; M.A., Columbia U.; Pi Gamma Mu; anthropological and linguistic field work; Casilla 4743, Riobamba, Ecuador.

Rheinheimer, Floyd L., B.A., Goshen C.; medical student, Indiana U.; 750 N. Tibbs Ave., Indianapolis 22, Ind.

Rice, David, B.A., Asbury C.; M.A., U. of Ill.; Am. Assn. Phys. Teachers; Math. Assn. Am.; Ill. Acad. Sc.; Prof. and Head of Dept. Phys., Olivet Nazarene C.; 24 Convent, Bourbonnais, Ill.

Rice, David F., B.A.Sc., U. of B.C. (Canada); Assn. Prof. Engrs. B.C.; Can. Inst. Mining & Metallurgy; Supervisor of Projects, Consolidated Mining & Smelting Co. of Canada, Ltd.; P.O. Box 1222, Rossland, B. C., Canada.

Ries, John F., B.A., The King's C.; M.A., U. of Del.; B.D., Faith Theol. Sem.; Am. Math. Soc.; Math. Assn. Am.; Natl. Assn. Math. Teachers; Asst. Prof. Math, The King's C.; Kings College, Delaware.

Robertson, Donald S., B.A., Stanford; Ph.D., Cal. Inst. Tech., Sigma Xi; Head of Sc. Dept., Bible Inst. Los Angeles; 835 Padilla St., San Gabriel, Calif.

Robertstad, Gordon W., B.S., M.S., U. of Wisc.; Soc. Am. Bact.; Phi Sigma; Instructor, Dept. of Vet. Science and Bact.; U. of Wyo.; Laramie, Wyoming.

Robinson, Douglas D., B.S., Cornell U.; Am. Soc. Mec. Eng.; Illuminating Eng. Soc.; 719 Irving, Wheaton, Ill.

Roose, Lisle W., B.A., Goshen C.; M.D., Northwestern U.; A.M.A.; physician, 1715 Wexford Ave., Parma, Ohio.

Rork, Crystal L., B.A., Houghton C.; M.A., U. of Mich.; Ph.D., Cornell U.; Am. Botan. Soc.; Am. Soc. Genetics; Prof. of Botany, Houghton C.; Houghton, N. Y.

Roth, George V., B.Ed., Milwaukee State Teachers C.; M.S., U. of Wisc.; H.S. Instructor, general science; 1714 Howard Ave., Des Plaines, Ill.

Roth, Linwood E., B.A., Indiana U.; electron microscopy; 10456 S. Sangamon St., Chicago 43, Ill.

Rouch, Jon H., B.S., Franklin & Marshall C.; M.D., Indiana U.; M.A., Wheaton C.; Christian Med. Soc.; Alpha Omega Alpha; medical missionary; Mid-Missions Hospital, Ippy par Bambari, French Equatorial Africa.

Rouch, Lou Ellen, B.A., Wheaton C.; M.S., Purdue U.; Asst. Prof., Bryan U., Dayton, Tenn. Box 262, Mentone, Indiana.

Rusk, Roger W., B.A., Maryville C.; M.S., U. of Tenn.; Natl. Sc. Teachers Assn.; A.P.S.; Am. Assn. Phys. Teachers; Tenn. Acad. Sc.; Asst. Prof. Phys., U. of Tenn.; R. 4, Knoxville, Tennessee.

Saarnivaara, Uuras, M.A., Th.D., Helsinki; Ph.D., Chicago; Professor, Suomi C. and Theol. Sem.; 943 Lincoln Ave., Hancock, Mich.

Saye, Ernest B., M.D., U. of Ga.; A.M.A.; Am. Soc. Clin. Pathol.; physician. Archbold Hospital, Thomasville, Georgia.

Schepp, William J., G.C., Cooper Union; Fellow, Am. Inst. Chem.; A.A.A.S.; A.C.S.; Assn. Consult. Chem. & Chem. Engrs.; N. Y. Acad. Sc.; Pres. and Research Director, The Schepp Laboratories and Wm. J. Schepp Co., Inc.; 151 River Drive, East Paterson, N. J.

Schlabach, Walter E., B.A., Goshen C.; M.D.; Christian Med. Soc.; medical missionary; Deder Hospital and Clinics, Box 102, Dire Dawa, Ethiopia.

Schmidt, Vernon H., B.A., Goshen C.; A.C.S.; chemist, Park View, Harrisonburg, Va.

Schrock, Alta E.*, B.A., Waynesburg C.; M.A., Kent State U.; Ph.D., U. of Pittsburgh; Soc. Bacteriologists; Ind. Acad. Sc.; A.A.A.S.; relief worker, Mennonite Central Committee; MCC Public Welfare Branch, HICOG Berlin Element, APO 742, P.M. General, New York City.

Schrock, Elnora A., B.A., Goshen C.; Teacher, Grantsville (Md.) H.S.; Niverton Road, Salisbury, Pa.

Schultz, Arnold C., Ph.B., M.A., U. of Chicago; B.D., Th.D., Northern Baptist Theol. Sem.; Am. Sch. Orient. Research; Soc. Biblical Lit. and Exegesis; Prof. Old Testament and Archaeology, Northern Baptist Theol. Sem.; 3032 Washington Blvd., Chicago 12, Ill.

Schwartz, Charles E., B.A., Ed.M., U. of Miami; Fla. Assn. Science Teachers; teacher, Shenandoah Jr. H. S.; 3260 S.W. 20th St., Miami 34, Florida.

Schweitzer, George K., B.A., Central C.; M.A., Ph.D., U. of Ill.; A.C.S.; Sigma Xi; Phi Lambda Upsilon; Tenn. Acad. Sc.; Ill. Acad. Sc.; Assoc. Prof. Chem., U. of Tenn.; 1105 Forest Heights Drive, Knoxville, Tenn.

Schwitters, Faye L., B.S., Wheaton C.; A.C.S.; chemist; Steamboat Rock, Iowa.

Scorza, Arnold, B.S., Wheaton C.; M.S., DePaul U.; 1038 N. Hamlin Ave., Chicago 51, Ill.

Scott, Kenneth M., B.A., Davidson C.; M.D., U. of Pa.; general and thoracic surgeon; c/o Presbyterian Board of Foreign Missions, 156 Fifth Ave., New York 10, N. Y.

Seal, Herb, B.A., San Francisco State C.; National Director, Youth Gospel Teams, Inc.; 49 Carmelita St., San Francisco 17, Calif.

Seiler, Dayton A., B.S., M.S., A.E.; Commander, U. S. Navy, Bureau Aeronautics, Western Div. Room 702, 1206 S. Santee St., Los Angeles 15, Calif.

Seip, William F., B.S., Kutztown (Pa.) State Teachers C.; Am. Malacol. Union; Pa. Acad. Sc.; A.A.A.S.; Special research asst., Depts. of Med. and Physiol. Chem., Johns Hopkins U. Sch. Med.; 2115 Linden Ave., Baltimore 17, Md.

Shaffer, Roy D., B.S., Wheaton C.; missionary, Africa Inland Mission; P. O. Kijabe, Kenya Colony, East Africa.

Shank, Ernest C., B.A., Goshen C.; Teacher, Jr. H.S.; R. 3, Box 405, Sarasota, Florida.

Sheriff, David R., electronic engineer, Aerojet Engineering Corp.; 157 W. Grandview, Sierra Madre, Calif.

Shipps, Hammell P., B.S., Temple U.; M.D., Jefferson Med. C.; F.A.C.S.; Dipl. Am. Bd. Ob. and Gyn.; A.M.A.; Christian Med. Soc.; gynecologist; 739 Chestnut St., Delanco, N. J.

Shoemaker, Orval, B.A., Goshen C.; M.A., U. of Chicago; dean of men, Hesston C., Hesston, Kansas.

Shrader, James H., B.A., Geo. Washington; Ph.D., Johns Hopkins; A.C.S.; Am. Pub. Health Assn.; Am. Dairy Sc. Assn.; Internatl. Assn. Milk & Food Sanitarians; A.A.A.S.; Inst. Food Technol.; Prof. Chem. and Chairman, Div. Science, Eastern Nazarene C.; 30 Copley St., Wollaston 70, Mass.

Sinclair, John C., B.A., U. of Calif.; research asst. in Ophthalmology, U.C.L.A. medical school; 1603½ Brockton Ave., Los Angeles 25, Calif.

Skibitzke, Leonard F., B.A., Wheaton C.; Film Representative, Moody Bible Inst.; 10857 Rose Ave., Los Angeles 34, Calif.

Skory, John, B.S., U. Alberta; M.S., Iowa State C.; Ph.D., Cornell U.; Biometric Soc.; biometrician, American Cancer Society; 25 Hillcrest Ave., Yonkers, N. Y.

Smalley, William A.*, B.A., Houghton C.; Am. Anthropol. Assn.; Ling. Soc. Am.; Am. Ethnol. Soc.; missionary, Christian and Missionary Alliance; Mission Evangelique, 329 Rue Freres Louis, Saigon, Vietnam.

Smith, Edgar C., Jr., B.S., M.S., Stanford U.; Am. Math. Soc.; Math. Assn. Am.; Sigma Xi; Instructor Math., U. of Oregon; 1535 Agate St., Eugene, Oregon.

Smith, Howard M., Jr., B.S., M.S., Columbia U.; Epsilon Chi; Am. Inst. Elect. Engrs.; Assoc. Prof. Elect. Eng., U. of Vt.; Harbor Road, Shelburne, Vermont.

Smucker, Arthur A., B.A., Goshen C.; M.S., U. of Ill.; Phi Lambda Upsilon; Instructor, Chem.; Goshen C.; 1701 Lawndale Place, Goshen, Ind.

Smucker, Silas J., M.S., Purdue U.; Soil Conserv. Soc. Am.; Am. Phytopathol. Soc.; Indiana Acad. Sc.; Soil Conservationist, USDA; 403 S. Weston St., Rensselaer, Indiana.

Snell, William A., B.S., U. of Rochester; grad. student, Columbia U.; 654 W. 161st St., Apt. 6-B, New York 32, N. Y.

Snow, Richard M., B.S., Wheaton C.; Mass. Sch. Optometry; optometrist, 137 Shore Drive, Laconia, N. H.

Sommers, Myron, B.A., Goshen C.; Teacher, Pueblo Rural Sch. Dist. No. 70; 419 Van Buren, Pueblo, Colo.

Spaulding, David M., B.A., Pasadena C.; M.A., U. So. Cal.; Teacher, Physiol. and Anat., Pasadena City C. and U. So. Cal.; 1278 Bresee Ave., Pasadena 7, Calif.

Speake, George E., B.S., U. of Pa.; lecturer for Moody Inst. Science; 10773 National Blvd., Los Angeles 64, Calif.

Speckeen, Fred J. B.A., Goshen C.; student, Knox C.; 1321 Duke St., Preston, Ont., Canada.

Springer, Glenn, D.O., Kirksville C. of Osteopathy & Surgery; Am. Osteopath. Assn.; Acad. Appl. Osteopathy; Osteopath. Cranial Assn.; Prof. of Principles, K.C. College of Osteopathy and Surgery; 5503 E. 13th St., Kansas City 26, Mo.

Sprunger, Edgar, D.D.S., Northwestern U.; Am. Dent. Assn.; dentist, 765 W. Main St., Berne, Indiana.

Stam, Paul B., B.S., Wheaton C.; M.A., Ph.D., Princeton; Sigma Xi; Sigma Pi Sigma, Asst. Director Research, Dan River Mills; 157 Marshall Terrace, Danville, Va.

Stanley, Paul E., B.A., Manchester C.; M.A., Ph.D., Ohio State; Sigma Xi; Sigma Pi Sigma; A.A.A.S., Assoc. Prof. Aeronautical Engineering, Purdue U.; 1621 Adams St., Lafayette, Ind.

Starkey, Lawrence H., B.A., U. of Louisville; B.D., So. Baptist Theol. Sem.; M.A., U. So. Cal.; Registrar & Prof. Science & Phil., L.A. Baptist Theol. Sem.; 2690 Ellendale Place, Los Angeles 7, Calif.

Starkey, Walter L., B.M.E., U. of Louisville; M.Sc., Ph.D., Ohio State U.; Sigma Xi; Tau Beta Pi; Asst. Prof. and Research Supervisor, Ohio State U.; 2579 Swansea Road, Columbus 12, Ohio.

Stephens, Roland R., B.S., Bob Jones U.

Stoll, Paul M., B.A., Goshen C.; 1907 S. Union Ave., Chicago, Ill.

Stoner, Peter W.*, B.S., Kans. Chr. C.; M.S., U. of Calif.; Chairman, Math. and Astr. Dept., Pasadena City C.; 92 Ave. 64, Pasadena 2, Calif.

Strickler, Richard E., B.A., U. of Calif.; Am. Astron. Soc.; A.A.A.S.; Sigma Xi; astronomer, Box 812, South Miami, Florida.

Strubhar, Timothy J., B.A., Goshen C.; teacher, Western Mennonite School; R. 1, Box 617, Salem, Oregon.

Stuart, A. Ashley, B.S., Nebr. Central C.; Inspector, Automatic Washer Co.; Box 83, Lynnville, Iowa.

Sturgis, Russell D., M.S., Ph.D.; Teacher, Analytical & Physical Chem., Ursinus C.; 26 Sixth Ave., Collegeville, Pa.

Suter, Daniel B., M.A., Vanderbilt U.; Sigma Xi; Va. Soc. Ornith.; Assoc. Prof. Biol., Eastern Mennonite C., Harrisonburg, Va.

Sutherland, Brian P.*, B.A.Sc., U. of B.C.; M.Sc., Ph.D., McGill; Assn. Prof. Engrs. of B.C.; A.C.S.; Adm. Asst., Consolidated Mining & Smelting Co. of Canada, Ltd.; P.O. Box 74, Rossland, B. C., Canada.

Sutherland, Robert T., B.S., M.D., U. of Calif.; A.M.A.; Cal. Acad. Med.; F.A.C.P.; Alpha Omega Alpha; physician, 2524 Benvenue Ave., Berkeley, Calif.

Swartzendruber, Maude, B.S., Goshen C.; R.N.; Am. Nurse Assn.; Am. Pub. Health Assn.; Natl. League Nurs. Ed.; Colo. State Nurses Assn.; Director of School and Nursing Service, La Junta Mennonite Sch. of Nursing; 515 W. 14th La Junta, Colo.

Swartzendruber, Mervin, B.A., Th.B., Goshen C.; 416 N. Main St., Plymouth, Mich.

Swensen, Alf W., B.A., Luther C.; M.S., Ph.D., S.U.I.; A.C.S.; A.A.A.S; Phi Lambda Upsilon; Sigma Xi; Iowa Acad Sc.; Am. Men of Sc.; Head of Science Dept.; Wartburg C.; 709 Fourth Ave. N.W., Waverly, Iowa.

Talmage, John V. N., B.E., Tulane U.; D.D., Southwestern Pres. U.; missionary in Korea, Board of World Missions, Presbyterian Church, U. S., Box 330, Nashville, Tenn.

Taylor, Douglas H., B.S., Wheaton C.; M.D., U. of Oregon; Pi Gamma Mu; Med. Assn. S. Africa; medical director, Mosvold Mission Hospital, Ingwavuma, Natal, Union of S. Africa.

Taylor, Hawley O.*, B.A., Ph.D., Cornell U.; A.P.S.; Acoustical Soc. Am.; Am. Soc. Phys. Teachers; A.A.A.S.; Sigma Xi; Sigma Pi Sigma; Prof. Emeritus, Phys. Wheaton C., (retired); 3077 Olive Ave., Altadena, Calif.

Tinkle, William J.*, B.A., Manchester C.; M.A., Ph.D., Ohio State; R. 1, Albany, Indiana.

Trotter, M. Edith, B.S., Teachers C, Columbia; M.A., Montclair State Teachers C.; N. J. Science Teachers Assn.; Gen. Science Teacher, Jr. H.S.; 166 Porter Ave., Bergenfield, N. J.

Troyer, Dana O., B.A., Goshen C.; M.D., Northwestern; Mennonite Med. Assn.; physician, 405 N. School St., Normal, Ill.

Tryon, Barbara B., B.S., Wheaton C.; M.S., N.Y.U.; A.C.S.; 116 Columbia Ave., Dumont, N. J.

Tryon, Lansing E., B.A., Cornell U.; M.A., Columbia U.; A.P.S.; grad. student, Columbia U.; 116 Columbia Ave., Dumont, N. J.

Tschudy, Earl W., B.A., Lebanon Valley C.; M.A., Columbia U.; Head Science Dept., Hazelton Sr. H.S.; 932 W. Fourth St., Hazelton, Pa.

Turekian, Karl, B.A., Wheaton C.; M.A., Columbia U.; grad. student, geochemistry, Columbia U.; 1392 St. Lawrence Ave., Bronx 72, N. Y.

Turner, Thomas J., B.S., U. of N.C.; M.S., Clemson; Ph.D., U. of Va.; A.C.S.; Sigma Xi.; 530 Wait St., Wake Forest, N. C.

Van Bruggen, Theodore, B.S., Buena Vista C.; M.A., U. of S.D.; Iowa Acad. Sc.; A.A.A.S.; Instructor in Biol., Northwestern C.; 616 S. Washington, Orange City, Iowa.

Van Cleave, Raleigh J., B.S., Wheaton C.; M.D., Northwestern; var. med. & surg. soc.; physician, 515 W. Main St., Silverton, Oregon.

Van Der Ziel, Aldert*, B.A., M.A. Ph.D., Groningen (Netherlands); Dutch Physical Soc.; A.P.S.; Inst. Radio Engrs.; Dept. of Electrical Engineering, U. of Minn., Minneapolis, Minn.

Van Noord, Gelmer A., B.A., Calvin C.; M.D., Michigan; Am. Psychiatric Assn.; Mich. Soc. Neur. & Psych.; A.M.A.; Asst. Supt. medical, Christian Psychopathic Hosp. and Pine Rest Assn.; 6850 Division Ave. S., Grand Rapids 6, Mich.

Vis, William R.*, B.S., M.D., U. of Mich.; A.M.A.; Mich. Trudeau Soc.; Mich. State Tuberculosis Assn.; physician, 1709 Breton Road, East Grand Rapids, Mich.

Von Bergen, Werner, Dipl., Tech. C., Burgdorf, Switzerland; A.C.S.; Am. Assn. Textile Technol.; Am. Soc. for Testing Materials; Director of research, Forstmann Woolen Co.; 26 Hamilton Drive North, North Caldwell, N. J.

Vosbigian, John, B.S., Penn. Mil. C.; M.S., U. of Del.; A.C.S.; Asst. Prof. Chem., Westmont C.; 55 La Paz Road, Santa Barbara, Calif.

Voskuyl, Roger J.*, B.A., Hope C.; M.A., Ph.D., Harvard; A.C.S.; Sigma Xi; A.A.A.S.; Sigma Pi Sigma; President, Westmont College; 55 La Paz, Santa Barbara, Calif.

Wagner, Robert P., B.A., Lafayette C.; 6024 Wayne Ave., Philadelphia 44, Pa.

Waite, Roy E., B.A., M.S., U. of Mich.; S.C. Acad. Sc.; Phys. Instructor, Bob Jones U., Greenville, S. C.

Waldo, George F., B.S., Oregon State C.; M.S., Mich. State C.; Am. Soc. Hort. Sc.; Am. Genetic Assn.; horticulturist, U.S.D.A.; R. 4, Box 63, Corvallis, Oregon.

Wales, Charles P., B.S., Geo. Washington U.; A.C.S.; Physical Chemist, Naval Research Lab.; R. 1, Box 671, Alexandria, Va.

Walker, Thomas M., B.A., Evansville C.; medical student, Indiana U.; 750 N. Tibbs Ave., Indianapolis, Ind.

Warwick, Lewis A., B.A., Asbury C.; M.A., U. of Mich.; Math. Assn. Am.; Head, Dept. of Math., Bob Jones U.; Box 783, Spartansburg, S. C.

Wassink, Harry, B.A., Calvin C.; B.S., U. of Mich.; Am. Assn. Phys. Teachers; Am. Soc. Mech. Eng.; Prof. Phys. and Engineering, Calvin C.; 835 Eastern Ave. S.E., Grand Rapids 7, Mich.

Weaver, Henry, Jr., B.S., Geo. Washington U.; Ph.D., U. of Del.; A.C.S.; Mennonite Relief Committee; 211 Cleveland Ave., Elkhart, Indiana.

Weaver, Titus, B.A., Goshen C.; Am. Leather Chem. Assn.; A.C.S.; Chemist, Ohio Leather Co.; 521 N. Ward Ave., Girard, Ohio.

Weinman, Robert E., B.S., U. of Pittsburgh; Dallas Theol. Sem.; 3909 Swiss Ave., Dallas 4, Texas.

Weir, James R., B.S., Wheaton C.; M.D., U. of Ill.; A.M.A.; Alpha Omega Alpha; Obstetrician, Monroe Clinic; 2340 17th St., Monroe, Wisconsin.

Weldy, Maurice L., D.V.M., Mich. State C.; Natl. Vet. Med. Assn.; Ind. Vet. Med. Assn.; Michiana Vet. Med. Assn.; veterinarian, Wakarusa, Indiana.

Welles, Marshall P., Ph.C., B.S., Oregon State C.; M.D., Rush Med. C.; M.Sc., U. of Pa.; medical missionary; c/o Bangkok Christian Hospital, 124 Silom Road, Bangkok, Thailand.

West, Earle H., B.A., M.S., Vanderbilt U.; on leave from David Lipscomb C.; grad. student. Geo. Peabody C.; Dickerson Road, Goodlettsville, Tenn.

Widmer, James G., M.D., S.U.I.; A.M.A., Iowa Med. Soc.; Am. Acad. Gen. Practice; physician, Wayland, Iowa.

Widmer, Reuben B., B.A., Goshen C.; M.S., M.D., S.U.I.; A.M.A., Iowa Med. Soc.; Am. Trudeau; Am. Acad. Gen. Practice; Physician, Winfield, Iowa.

Wiebe, Harold T., B.A., Greenville C.; M.A., Ph.D., U. of Ill.; Phi Sigma; Sigma Xi; Ind. Acad. Sc.; Director of Grad. Studies, teacher Biol. Sc., Seattle Pacific College. Seattle 99, Wash.

Wiebe, Vernon R., B.A., Tabor C.; M.A., S.U.I.; 214 S. Adams, Hillsboro, Kansas.

Willis, David L., Th.B., B.A., Bible Inst. L.A.; B.S., Wheaton C.; Teacher of Bible, Sc., Math., Brethren H.S.; 5462 Andy St., Bellflower, Calif.

Willits, Charles H., B.S., Wheaton C.; M.S., Ohio State U; A.C.S.; Teaching Fellow, Oregon State C.; 234 Mall Apts., Corvallis, Ore.

Wills, Irvin A., B.S., Wheaton C.; M.S., Ph.D., S.U.I.; Am. Microscop. Soc.; A.A.A.S.; Sigma Xi; Ark. Acad. Sc.; Dean and Prof. Biol., John Brown U., Siloam Springs, Ark.

Wilson, James V., Teacher, Kern County Union H.S.; P.O. Box 244, Shafter, Calif.

Wilson, Robert L., B.A., Wheaton C.; M.S., S.U.I.; Sigma Xi; Grad. Asst., U. of Tenn.; 5219 Holston Drive, Knoxville, Tenn.

Wilson, Walter L., M.D., K.C. Med. C.; L.H.D., Bob Jones; Pres., Kansas City Bible C.; 110 E. 31st Terrace, Kansas City 2, Mo.

Winters, Howard E., B.A., Greenville C.; M.A., U. of Mich.; A.C.S.; Am. Assn. U. Profs.; Sigma Xi; Asst. Prof. Nat. Sc., Mich. State C.; 727 Chittenden Drive, East Lansing, Mich.

Wise, Carl S., B.A., Alma C.; M.S., U. of Mich.; A.C.S.; A.A.A.S.; Research Chemist, Northern Regional Research Lab., U.S.D.A.; 607 Bigelow St., Peoria, Ill.

Witmer, Safara A., B.A., Taylor U.; M.A., Winona Lake

Sch. Theol.; Ph.D., U. of Chicago; Pres., Fort Wayne Bible C.; 4112 Arlington Ave., Fort Wayne 6, Ind.

Witmer, S. W., B.A., Goshen C.; M.A., U. of Wisc.; Ph.D., Indiana U.; Ind. Acad. Sc.; Sigma Xi; Wilson Ornith. Club; So. Appalachian Bot. Club; Botan. Soc. Am.; Internatl. Soc. Plant Morphol.; Prof. Biol. Sc., Goshen C., Goshen, Indiana.

Wolstenholme, Marilyn, B.S., The King's C.; 1932 Filmore St., Hollywood, Florida.

Woods, Francella, B.S., M.S., U. of N.H.; c/o Rev. James Dickson, 2 of 94 Chung San Peh Lu, Taipeh, Formosa.

Worman, Robert K., B.A., Wheaton C.; M.D., Jefferson Med. C.; A.M.A.; Student Flight Surgeon, USN, Pensacola, Fla.; 25 Long St., Clarence Center, N. Y.

Wright, Paul M.*, B.S., Wheaton C.; M.S., Ph.D., Ohio State U.; A.C.S.; A.A.A.S.; Ill. Acad Sc.; chairman, Dept. Chem. and Geol., Wheaton C.; Wheaton, Ill.

Yoder, Jonathan G., B.A., Goshen C.; M.D., Indiana U.; Alpha Omega Alpha; Medical Supt., Dhamtari Christian Hospital, Dhamtari, M.P., India; furlough add: 1204 S. 8th St., Goshen, Indiana.

Yoder, Maurice A., M.S., U. of Iowa; Kans. Acad. Sc.; A.A.A.S.; Instructor in Biol. Sc., Hesston C., Hesston, Kansas.

Yoder, Paul E., B.A., Goshen C.; M.S., Oregon State; pastor, Albany Mennonite Church; 915 Waverly Drive, Albany, Oregon.

Yoder, Richard J., B.A., Goshen C.; M.D., Northwestern U.; Mennonite Med. Assn.; physician, La Plata, Puerto Rico.

Yoder, Richard P., B.A., Goshen C.; M.D., Ohio State U.; Ind. Med. Assn.; A.M.A.; physician, Cuylor-Nickel Clinic; R. 3, Box 48, Bluffton, Indiana.

Young, G. Douglas, B.Sc., Acadia; B.D., S.T.M., Faith Theol. Sem.; Ph.D., Dropsie C. for Hebr. & Cognate Learning; Soc. Bibl. Lit.; Am. Orient. Soc.; Internatl. Old Testament Soc.; Soc. O.T. Studies (Brit.); Natl. Assn. Prof. Hebrew; Acad. Pol. Sc.; Dean of Educ., Northwestern Schools, 50 Willow St., Minneapolis 3, Minn.

Ziegler, Robert G., B.A., M.S., Oregon State C.; A.C.S.; Research Chemist, Nitrogen Div., Allied Chem. & Dye Corp.; 222 S. 11th St., Hopewell, Va.

Zimmerman, Lester J., B.A., Goshen C.; M.S., Purdue U.; Am. Soc. Agron.; Soil Sc. Soc. Am.; A.A.A.S.; Am. Math. Assn.; grad. student, Purdue U.; F.P.H.A. 541-3, Airport Road, West Lafayette, Indiana.

Zook, Alfred G., B.A., Goshen C.; M.A., Ariz. State C.; Sc. Instructor, Benson Union H.S.; Box 688, Benson, Arizona.

Zumberge, James H. B.A., Ph.D., Minn.; Geol. Soc. Am.; Sigma Xi; British Glaciol. Soc.; Instructor, Dept. of Geology, U. of Mich.; 114 North Division St., Ann Arbor, Mich.

De Graff, Donald E., B.A., Calvin C.; B.S.E., M.S., U. of Mich.; Sigma Xi; Tau Beta Pi; A.P.S.; Lt., USNR, Tech. Aide for Appl. Phys., Office of Naval Research; 204-2716 Kirkwood Pl., W. Hyattsville, Md.

Buschert, Robert C., B.A., Goshen C.; M.S., Purdue U.; Sigma Xi; Grad. Teaching Asst., Purdue U.; F.P.H.A. 532-1, West Lafayette, Indiana.

Feely, Herbert W., B.S., C.C.N.Y.; M.A., Columbia U.; Research Asst., Lamont Geol. Observatory, Palisades, N. Y.

Harlow, Robert E., B.A., M.A., Ph.D., U. of Toronto; Principal, Emmaus Bible School; 23 Barbara Cres., Toronto 6, Ontario, Canada.

Henning, Willard L., B.A., Miami U. (Ohio); M.A., U. of Mo.; Ph.D., Ohio State U.; A.A.A.S.; Ark. Acad. Sc.; Am. Soc. Mammal.; Assoc. Prof. Biol., Union U.; 574 E. Main St., Jackson, Tenn.

Kauffman, E. Ellsworth, B.A., Goshen C.; Manager, Maple Drive Dairy; 322 E. Columbus St., West Liberty, Ohio.

Maurer, Elmer W., B.S., Iowa State C.; A.C.S.; Assayer's Asst., U.S. Mint; 4405 Longshore Ave., Philadelphia 35, Pa.

Montzingo, Lloyd J., Jr., B.A., Houghton C.; M.A., U. of Buffalo; Math. Assn. Am.; Asst. Prof., Roberts Wesleyan C.; 25 College Dr., North Chili, N. Y.

Directory of the A.S.A. by States and Cities

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  - Ratzlaff. Kermit
  - Spaulding, David M.
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- San Diego
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Colorado
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Yuma
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Connecticut
Darien
Averell, Philip R.
New Haven
Burke, Derek C.
Talcottville
Howard, Leland L.
Delaware
Greenwood
Grassmyer, A. Fay
Kings College
Gates, John F.
Reis, John F.
Newark
Gustafson, Carl G.
New Castle
Olney, Harvey O.
Pipenberg, Kenneth J.
District of Columbia
Barnes, Harley
Coleman, Charles G., Jr
McFarland, James W.
Florida
Hollywood
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Miami
Schwartz, Charles E.
Sarasota
Shank, Ernest C.
South Miami
Strickler, Richard E.
Georgia
Decatur
Anderson, Howell B.
Goodson, Curtis C.
Macon
Allen, Robert I.
Thomasville
Saye, Ernest B.
Idaho
Boise
Burkholder, Maurice M.
Nampa
Nafziger, Mervin D.
Priest River
Baylor, J. Wright
Illinois
Bourbonnais
Rice, David
Chicago
Arnold, Glenn C.
Bennett, John E.
Eggenberger, Delbert N.
House, Richard D.
Joss, Charles
Kramer, Wilbur C.
Larsen, Horace A.
Larson, Donald N.
Lowell, Ralph D.
Nafziger, Myrl A.
Paine, S. Hugh, Jr.
Peterson, Wesley J.
Pletcher, William DeWitt
Roth, Linwood Evans
Schultz, Arnold C.
Scorza, Arnold C.
Stoll, Paul M.
Delavan
Neumann, Roger E.
Des Plaines
Roth, George V.
Evanston
Cramer, Howard R.
Lombard
Brunk, Ivan W.
Morton
Crager, Mary Katherine
Normal
Troyer, Dana O.
Oak Park
Hyde, John S.
Peoria
Wise, Carl S.
Prospect Heights
Beaumont, Donald F.
River Forest
Kruse, Wilfred Frederick
Stillman Valley
Hoisington, Raymond E.
St. Joseph
Loux, Harvey M.
Wheaton
Boardman, Donald C.
Claassen, Howard H.
Erdman, M. Cordelia
Gieser, P. Kenneth
Green, Frank O.
Houser, Frank E.
Luckman, Cyril E.
Mixter, Russell L.
Marquart, Philip B.
Parmerter, Stanley M.
Robinson, Douglas D.
Wright, Paul M.
Indiana
Albany
Tinkle, William J.
Berne
Sprunger, Edgar
Bloomington
Classen, Pete R.
Fischer, Robert B.
Bluffton
Yoder, Richard P.
Elkhart
Baker, Robert, Jr.
Weaver, Henry, Jr.
Ft. Wayne
Witmer, Safara Austin
Goshen
Bender, Paul
Hartzler, H. Harold
Hoover, Alfred E.
Hoover, Esther J.
Jacobs, Merle E.
Moser, Arthur L.
Smucker, Arthur A.
Witmer, S. W.
Yoder, Jonathan G.
Hamlet
Leinbach, Earl R.
Huntington
Coleson, Edward P.
Indianapolis
Hooley, Paul E.
Kornfeld, Edmund C.
Maniaci, George D.
Rheinheimer, Floyd L.
Walker, Thomas Martin
Lafayette
Stanley, Paul E.
Marion
Hodson, Margaret E.
Porter, Donald H.
Mentone
Rouch, Lou Ellen
Monroe
Kingsley, Leonard
Mishawaka
Goodman, Woodrow I.
Muncie
Fast, Peter G.
North Manchester
Dotterer, J. E.
Neher, Oscar W.
North Webster
Blosser, Fred B.
Rensselaer
Smucker, Silas J.
Shipshewana
Bontrager, Marion M.
South Bend
Miller, David Russell
Upland
Cross, Hildreth M.
Bushey, Clinton J.
Wakarusa
Weldy, M. L.
W. Lafayette
Buschert, Robert C.
Mathews, Frank S.
Oorthuys, Hendrik J.
Zimmerman, Lester J.
Winona Lake
Bauman, Paul R.
Hoyt, Eldon D.
McClain, Alva J.
Iowa
Cedar Rapids
Johannes D. Delbert
Lortz, Harlan J.
Kalona
Gingerich, Orie J.
Lynnville
Stuart, A. Ashley
Promise City
Green, John W.
Orange City
Lyon, Howard W.
Van Bruggen, Theodore
Steamboat Rock
Schwitters, Faye
Waverly
Swensen, Alf. W.
Wayland
Widmer, James G.
Wellman
Guengerich, L. Glen
Winfield
Widmer, Reuben B.
Kansas
Elbing
Nickel, Ted D.
Hesston
Krabill, Vincent J.
Lichti, Leonard L.
Shoemaker, Orval
Yoder, Maurice A.
Hillsboro
Eitzen, A. C.
Wiebe, Vernon R.
Wichita
Loewen, Henry H.
Kentucky
Georgetown
Clark, Genevieve
Wilmore
Hamann, Cecil B.
Louisiana
Lafayette
Morris, Henry M.
Pineville
Godfrey, Paul R.
Maryland
Baltimore
Seip, William F.
Cresaptown
Drechsel, Paul D.

Hagerstown
Grove, Mrs. Leona Parmer
W. Hyattsville
DeGraff, Donald E.
Massachusetts
Amherst
Frair, Wayne F.
Andover
Kreider, Marlin B.
Boston
Leith, Thomas H.
Brockton
Armerding, Hudson T.
Georgetown
Peterson, Norvell L.
Middleboro
Osborne, William D. Jr.
Milton
Cowperthwaite, Irving A.
New Salem
Hunting, Ward Martin
Peabody
Osepchuk, John M.
Stoneham
Gedney, Edwin K.
Wollaston
Shrader, James H.
Worcester
Barker, Harold E., Jr.
Michigan
Ann Arbor
Cook, Phyllis C.
Stephens, Roland R.
Zumberge, James H.
Cadillac
Posthuma, Millard M.
Detroit
Barnes, James H., Jr.
East Grand Rapids
Vis, William R.
East Lansing
De Koning, Paul
Frisbey, Norman
Knobloch, Irving William
Miller, Lorin G.
Winters, Howard E.
Grand Rapids
DeVries, John
Karsten, Martin
Monsma, E. Y.
Van Noord, Gelmer A.
Wassink, Harry
Hancock
Saarnivaara, Uuras
Holland
Granberg, Lars I.
Omer
Gehman, John R.
Pinckney
Brand, Raymond H.
Plymouth
Swartzendruber, Mervin
Minnesota
Brownton
Loewen, Melvin J.
Duluth
Cothran, John C.
Minneapolis
Butler, Ervin B.
Hatfield, Charles, Jr.
Jennings, George J.
Johnston, Lawrence H.
Mattson, Enoch E.
Van der Ziel, A.
Young, G. Douglas
Virginia
Neff, Walter S.
Mississippi
Jackson
Potts, Warren N.
Missouri
Kansas City
Springer, Glenn
Wilson, Walter L.
Nebraska
Milford
Jantze, R. Dale
Seward
Brandhorst, Carl T.
Meyer, Herbert A.
New Hampshire
Durham
Bullock, Wilbur L.
Farmington
Lord, Lois P.
Laconia
Snow, Richard M.
New Jersey
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Bate, George L.
Trotter, M. Edith
Delanco
Shipps, Hammell Pierce
Dumont
Tryon, Barbara B.
Tryon, Lansing E.
East Orange
Breyer, Arthur C.
East Paterson
Schepp, William J.
Little Falls
Radimer, Kenneth John
Middlebush
Lubansky, John
Newark
Horner, George R.
North Caldwell
Von Bergen, Werner
Penns Grove
Martin, J. Robert
Princeton
Bube, Richard H.
Holland, Heinrich D.
Radburn Fairlawn
Glasser, John W. H.
Ridgefield Park
Eckelmann, F. Donald
Ringwood
Buswell, James O. III
Buswell, J. Oliver, Jr.
Paul, William Wright
Somerville
Lubansky, Harry
South Plainfield
Karkalits, Olin Carroll
Teaneck
Eckelmann, Walter R.
Verona
Allen, Roy M.
Woodstown
Critchlow, Robert J.
Zarephath
Dallenbach, Robert B.
New Mexico
Albuquerque
Ferm, Richard L.
Los Alamos
Icke, Ronald N.
New York
Binghamton
Congdon, M. Stanley
Bronx
Turekian, Karl
Buffalo
Post, Howard W.
Cherry Creek
Hadley, Mrs. Jessie A.
Clarence Center
Worman, Robert K.
Falconer
Reno, Cora A.
Flushing
Hummel, Charles E.
Houghton
Burnell, Dorah Luscombe
Luckey, Robert R.
Moreland, George E.
Price, Richard W.
Reese, Floyd
Rork, Crystal L.
Inwood
Cooke, Robert Wayne
Kew Gardens
Holland, Hans J.
New York City
Davis, David S.
Fetler, Daniel
Nida, Eugene A.
Scott, Kenneth M.
Snell, William A.
North Chili
Montzingo, Lloyd J. Jr.
Orangeburg
Carr, Donald R.
Palisades
Feely, Herbert W.
Kulp, J. Laurence
Perry
Monson, Karl W.
Rochester
Clapp, Wesley Myron
Davis, Stanley Nelson
Dayton, Benjamin B.
Mauer, Paul B.
Scotia
Chesnut, D. Lee
St. Albans
Kaften, Warren A.
Syracuse
Eichelberger, William C.
Tonawanda
Eckert, Alfred C., Jr.
Williston Park
Matthews, Edgar W., Jr.
Woodhaven
Chan, Margery May
Yonkers
Skory, John
North Carolina
Durham
Carpenter, Dewey
Laurinburg
Gibson, Thelma
Shelby
Harris, Harlan, Jr.
Wake Forest
Turner, Thomas J.
North Dakota
Fargo
Cassel, J. Frank
Ohio
Canton
Ebersole, Allen B.
E. Cleveland
Brinks, Henry L.
Cleveland
Fisher, Gerald E.

Columbus
Ensminger, Dale
Kline, Leo V.
Starkey, Walter L.
Miller, Clyde E.
Girard
Weaver, Titus
Louisville
Krabill, Willard S.
North Lawrence
Hooley, Clarence D.
New Concord
McCleery, John M.
Orrville
Falb, George E.
Parma
Roose, Lisle W.
Pitsburg
Heise, Jesse L.
Rossford
Ebersole, Robert A.
Stryker
Graber, Elwood C.
Wadsworth
Kreider, Charles
West Liberty
Kauffman, E. Ellsworth
Meyer, Arthur D.
Wooster
Hershberger, Truman V.

Oklahoma
Oklahoma City
Blythe, Jack G.

Oregon
Albany
Yoder, Paul E.
Corvallis
Clunes, Roy B.
Hergert, Herbert L.
Pike, Julian M.
Waldo, George F.
Willits, Charles H.
Eugene
Smith, Edgar C. Jr.
Gresham
Butler, J. Lowell
Newberg
Parker, Paul E.
Portland
Corbin, Ludlow V.
Salem
Strubhar, Timothy J.
Silverton
Van Cleave, Raleigh J.

Pennsylvania
Akron
Esh, Glenn
Leatherman, Paul A.
Bairdford
Pressan, Jean Pierre
Bala-Cynwyd
Glover, Robert P.
Belleville
Clemens, Edgar M.
Collegeville
Sturgis, Russell D.
Doylestown
Miller, Donald G.
Drexel Hill
Bender, John M.
Hoffman, Glenn H.
Easton
Childs, Wylie J.
Gap
Kennel, John R.
Hazleton
Tschudy, Earl H.
Lancaster
Cramer, Howard R.
Lefever, Grace B.
Lewistown
Howe, William A.
Morgantown
Mack, Noah K.
Narbeth
Graybill, John B.
New Wilmington
Cummings, Thomas F.
Nottingham
McDowell, Donald Eugene
Reisler, Ralph E.
Oakmont
Frary, Francis C.
Perkasie
Nase, Howard M.
Philadelphia
Beilstein, Henry R.
Carlson, Paul C.
Clayton, John Wesley, Jr.
Harris, R. Laird
Kniss, Mark A.
Mac Rae, Allen A.
Martin, Donald E.
Maurer, Elmer W.
Peachey, Ruth
Wagner, Robert P.
Pittsburgh
Baldwin, Edward N.
Cadwell, Carl L.
DeWalt, Curtis W., Jr.
Reading
Koch. Gawain
Salisbury
Schrock, Elnora A.
Sewickley
Henkel, Milford F.
Shepherdston
Minter, Donald L.
Souderton
Baghurst, Walter F.
Kuhns, James W.
Terre Hill
Hess, Robert B.
Tyrone
Aman, Charles W.
Wilkes-Barre
Hammer, Eugene L.
Wynnewood
Durant, Thomas M.

Rhode Island
Providence
Coddington, Raymond M.
Loux, Norman L.

South Carolina
Columbia
Culley, Paul G.
Greenville
Ensign, Stewart E. Jr.
Hitchcock, Eldon T.
Waite, Roy E.
Rock Hill
McColley, Earl S.
Spartansburg
Warwick, Lewis A.
Sumter
Oldham, Robert B., Jr.

Tennessee
Brentwood
Artist, Russell C.
Goodlettsville
West, Earle H.
Jackson
Henning, Willard L.
Knoxville
Rusk, Roger W.
Schweitzer, George K.
Wilson, Robert L.
Madison
Miller, Oscar W.
Nashville
Talmage, John V. N.

Texas
Dallas
Bertsche, George J.
Key, Thomas
Weinman, Robert Edward
Falfurrias
Reist, Robert L.
Houston
Fan, Paul H.
Frost, Robert C.
Hearn, Walter R.
Kaufman, Willis M.

Utah
Tooele
Gering, Robert L.

Vermont
Shelburne
Smith, Howard M. Jr.

Virginia
Alexandria
Fielding, George H.
Wales, Charles P.
Arlington
Randall, Dwight L.
Charlottesville
Brunk, James R.
Mitchell, Richard S.
Danville
Stam, Paul B.
Hampden-Sydney
Gilmer, Thomas E.
Harrisonburg
Brackbill, Maurice T.
Landis, Wilmer M.
Martin, Paul H.
Schmidt, Vernon H.
Suter, Daniel B.
Hopewell
Ziegler, Robert George
Linville
Hertzler, Elam K.
Richmond
Magal, Ivan Vasil

Washington
Bellevue
Babcock, Douglas C.
Seattle
Ashton, Philip F.
Babb, Albert L.
Dunkel, Joan
Grose, Vernon L.
Wiebe, Harold Torrey
Spokane
Duvall, R. Fenton
Vancouver
Brougher, John C.

West Virginia
Fairmont
Brewer, Wesley David
Maxwell, Joseph S.

Wisconsin
Madison
Hunt, Robert E.
Meyers, Wayne M.
Milwaukee
Blann, William A.
Monroe
Weir, James R.

Racine
Chapman, Francis E.
Woodruff
Klingbiel, John H.
Wyoming
Laramie
Robertstad, Gordon Wesley
Alaska
Palmer
Laughlin, Winston M.
American Samoa
Pago Pago, Tutuila
Brenneman, Frederick S.
Canada
Alberta
Ft. Vermillion
Nafziger, Samuel B.
British Columbia
Rossland
Kopp, Beno
McAllister, Robert D.
McGowan, John
Rice, David F.
Sutherland, Brian P.
Trail
Gowans, William K.
Vancouver
Peters, Ernest
Victoria
Hall, Alex.
Manitoba
Winnipeg
Allen, Frank
Cox, Robert A.
Dirks, Henry T.
Ontario
Elmira
Cressman, H. Keith
Ft. William
Howitt, John R.
Preston
Groh, Harold D.
Speckeen, Fred J.
Willowdale
Custance, Arthur C.
Toronto
Harlow, Robert E.
Jarvis, Robert Edwin
East Africa
Ethiopia
Eshleman, D. Rohrer
Schlabach, Walter E.
Kenya Colony
Shaffer, Roy D.
Tanganyika Territory
Eshleman, J. Lester
Ecuador
Rayburn, Marie Fetzer
Formosa
Taipeh
Woods, Francella
Tamsui
Chappell, John T.
French Equatorial Africa
Rouch, Jon H.
Germany
Berlin
Schrock, Alta E.
Hawaii
Honolulu
Jung, Tennyson T.
Iran
Hamadan
Frame, John D., Jr.
Marshall Islands
Majuro
Loomis, Robert C.
Netherlands
The Hague
Blaauw, Gerrit A.
Norway
Trondheim
Nygaard, Agnar P.
Puerto Rico
La Plata
Yoder, Richard J.
Thailand
Bangkok
Welles, Marshall P.
Union of South Africa
Ingwavuma Natal
Taylor, Douglas H.
Vietnam
Saigon
Smalley, William A.
West Africa
Nigeria
Goldie, Robert F.
Parker, Paul E. Jr.

Associates	461
Fellows	36
Total Membership Dec. 1, 1953	497