

extensive ministry with multiple handicapped children and retarded children in the world. Editor of CHRISTIAN LIFE, Robert Walker, said of his recent visit, "the most remarkable and by far the most dramatic situation we have walked into was our visit today at the 2-unit camp at Carmel, N. Y. known as Joy and Hope."

#### GEOLOGY

led by Wayne Ault

The Geology field Trippers will visit Bear Mtn whos granite formed over one billion years ago, the Palisades along the west bank of the Hudson River whose 1000 ft. thick lava sill was injected between the Triassic sandstone beds about 190 million years before the present; they will also have opportunity to visit the Age Determination Laboratories of Isotopes, Inc. in Westwood, N. J. and observe the well known methods of potassium-argon and radiocarbon dating and others.

#### 1965 ASA CONFERENCE

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

**RATES**—(board and room—all single beds)

Single room with private bath—\$7.00 a day.

Room with 2-4 occupants \$6.00 a day. Children 1/2 price if under parents' care.

No charge for babies providing parents provide own crib, linen, food, etc.

Meals cafeteria except for Wednesday banquet which will be served at tables.

ASA rates on unit basis—breakfast 75c; lunch \$1.10; dinner, \$1.50; overnight \$3.00. We also have a snack shop for between meal time.

Rates for the week before the conference and week after are the same.

A Bible conference ends one week before ASA starts, and other rates are in effect then, but rooms are available all summer.

Campus of about 65 acres including woods and a small lake. There's plenty of parking space either at top or bottom of the hill.

There's a swimming pool on campus.

A smorgasbord will be served Saturday evening Aug. 21, and 28. Cost is \$2.50. This is followed by a free concert.

**FOR CHILDREN**—Reduced rate if under 12.

There will be baby sitters available at extra cost. We expect to have plenty of sitters available for all times of day and night.

Royal Rock Day Camp is in operation from 0900-1650 Mon.-Fri. for children aged between 3 and 14. Cost is \$20.00 for five days or about \$5.00 a day. Box lunch is provided for those paying board at the college. The camp is run by King's faculty and students on college property several miles from the main campus. Facilities there include 2 swimming pools (one a wading pool for tots), tennis courts, etc.

**WORLD'S FAIR**—

Less than one hour's driving time from the college. College will provide round trip transportation plus fair ticket for \$5.00. (If one drives, cost is \$1.50 to park and \$2.50 for ticket). For those staying at the college a free box lunch will be provided.

**TRANSPORTATION**—

Train from Grand Central Station in N. Y. City to Scarborough (Briarcliff Manor). Call the college and you will be picked up at no charge. Or we will try to meet train if we know you are coming. (Taxi fare from station is 75c to \$1.00). Train ticket is between \$1.00 and \$1.50 depending upon time of day. Riding time 1 hour.

Plane to LaGuardia or Kennedy Airport. LaGuardia is closer. College car will meet the plane; or call from airport. Cost from airport to college by college car is \$5.00. From airport time about 1 hr. For private planes Armonk Airport and Westchester County Airport each about 1/2 hr from King's. Mohawk Airlines lands Westchester. Cost from airport to college by college car \$4.00.

Boat or ship—Travel up beautiful Hudson River. Notify us ahead and we will try to find docking place.

Car—From N. Y. City take Saw Mill River Pkwy. to Rt. 100 into Briarcliff. From New Jersey get off 1st exit after Tappan Zee Bridge, go north on Rt. 9 turning east by traffic light and stone Presbyterian Church.

# Christian Commitment and the Scientific Attitude



Twentieth Annual  
Convention  
of the

## AMERICAN SCIENTIFIC AFFILIATION

and joint meeting  
with the

## INTER-VARSITY CHRISTIAN FELLOWSHIP



August 23-27, 1965  
THE KING'S COLLEGE  
Briarcliff, New York

## THE VALIDATION OF SCIENTIFIC THEORIES

Bob Jewell, West Virginia University

It is almost universally agreed that whatever may be the final statement of the "scientific method" it will include the procedure of suggesting hypotheses and theories and then testing them by consulting data and performing experiments in order to gain evidence for or against them.

It is the intent of this paper to discuss certain aspects of the second part of this procedure, that of confirming the hypotheses or theories. In particular the problem of laying down criteria for such confirmations are to be discussed. In order to later be able to bring out certain considerations relevant to christian theism in this area two or so presently popular analyses of confirmation are sketched. In particular those based upon **Bayes' theorem** and those which emphasize the gain or loss, or the **utility**, which would result from acceptance of the hypothesis. (Others should, of course, be discussed, but the limitations of time prevent this.)

From these examples of confirmation theories are shown several of the reasons for the current feeling that there are "extra scientific" considerations involved in the very application of a confirmation theory (that is, in the acceptance of an hypothesis by the scientific community.) (These are found expressed in "a priori" or antecedent, probabilities and in "utilities".) It is suggested that these "extra-scientific" or "non-rational" factors do, in fact, involve judgments of value.

Next a certain scepticism or pessimism or, if you will, irrationalism which is present in some current philosophical positions (although only as an under-current usually not on the surface) is presented and discussed. It being that finally a justification for something is its acceptance by the scientists of our culture circle, an argument from authority, but not a valid one.

It is then pointed out how this position sometimes has the effect of disguising the element of value involved in confirming a theory or hypothesis and hence can be used by the anti-theist to conceal the fact that there is an element of faith involved in the "scientific" theories which he delights to raise as an obstacle for the christian theist.

A few concluding remarks are made in which the author expresses the hope that christian theists will become interested and do some work in this area not only for apologetic purposes but also in order to distinguish where the criteria of confirmation are deductively or inductively established and where they involve more than this so that the christian who works in science may avoid thinking that his science must, in a particular case, make him question special revelation and also so that he may more properly perform his task of bringing glory to God in the investigation of His revelation in nature.

## PROBLEMS IN THE MEANING AND TESTING OF RELIGIOUS LANGUAGE

Robert D. Knudsen

Religious language is widely diversified. It can be mythical, poetic, didactic, etc. Of these mythical language has been the subject of much recent debate.

Within the sphere of religion, however, language is not the final problem. One's idea of the verification of religious language will depend upon his answer to broader questions and ultimately upon his world view.

For the Christian the problem of the verification of religious language cannot be viewed apart from the question of the authority of the Scriptures as the revelation of God.

## THE THEOLOGIAN'S CRAFT:

### A Discussion of Theory Formation and Theory Testing in Theology

John Warwick Montgomery, Trinity Evangelical Divinity School

What is it to "do theology"? Numerous conflicting and inadequate answers (e.g., Bultmannian existentialism, the post Bultmannian "New Hermeneutic") hold the field today; these have in common a basic misunderstanding as to the relation of theological theorizing to theory construction in other fields of knowledge, and a fundamental misconception in regard to the proper way of confirming or disconfirming theological judgments. In this essay, a detailed comparison between scientific and theo-

gical methodologies is set forth, and the artistic and sacred dimensions of theological theorizing are explicated by way of an original structural model suggested by Wittgensteinian philosophical and linguistic analysis.

## CHRISTIANITY AND RECENT PHILOSOPHY

Arthur F. Holmes, Wheaton College

The twentieth century has produced a twofold reaction against traditional philosophy: in Europe phenomenology and existentialism, and in Britain analytic philosophy. This paper attempts to place this reaction in context of "the crisis of the sciences", and to relate it to the quest for meaning in a scientific age and for apodictic foundations of human knowledge. Particular attention is given to the effect of existentialism's historical relativism on religious knowledge, and to the discussion of religious language among British analysts. In both cases it becomes essential to re-unite conceptual to existential knowledge within the framework of a metaphysic made modest through chastening.

## TRADITION, COMPOSITION, CORROBORATION, AND RECONSTRUCTION IN CLASSICAL AND BIBLICAL STUDIES

Edwin Yamauchi, Rutgers University

The subject and resources for classical and biblical studies are similar in many ways. It is not surprising that the development of these studies has followed parallel trends. Many scholars in the nineteenth century, and some also today have questioned the authenticity of the historical material in Homer, Herodotus, Genesis, and Daniel—to cite some representative examples. Anachronisms have been pointed out and late composition alleged on literary criteria. The expansion of archaeological research in the nineteenth and twentieth centuries has done much to confirm the credibility of ancient traditions, and has shown that some of the assumptions of critics have been unreasonable ones. Suggestions of means to a synthesis of our available evidence include: 1) empirical study of the transmission of ancient traditions, both oral and written; 2) a realization of what the fragmentary extent of survivals and the impartial extent of excavations and translations imply, positively and negatively; and 3) an understanding of the traditions in their cultural contexts, taking into account the limits set by particular viewpoints and by literary forms.

## THE SEQUENCE OF CAUSAL ANALYSIS IN SOCIAL SCIENCE

Russell Heddendorf, Geneva College

An explanation in the social sciences differs from that used in physical science. Since man seeks goals, one must often understand the effects of social action before the causes can be known. The fact that man has choice prevents the assumption of a strong deterministic position in social science. Similarly, the objectivity of the social scientist is weakened and his statements of social causation are tempered by his own evaluations.

The problem of defining social reality remains. Moving from the organicism of Durkheim to the interpretive approach of Weber, one arrives at a position which recognizes the importance of the individual. It is on this level that the convergence between Christianity and social science begins.

## FIELD TRIPS

### BIOLOGY

led by Wayne Frair

Visit the New York Botanical Garden, in the Bronx, one of the world's great research, educational, and display centers for plant sciences. Dr. Iain Prance will lead the group on a tour of the museum building gardens and tropical houses. Also visit Boyce Thompson Institute for Plant Research in Yonkers where many internationally famous scientists are carrying on basic botanical research.

### SOCIAL SCIENCE

led by John Carter, Dept. of Psychology at The King's College

Visit camps Joy and Hope. The former is for normal healthy children. The latter is unique in that it is reputed to be the only

**AUGUST 23-25, 1965**  
**American Scientific Affiliation**  
**CHRISTIAN COMMITMENT**  
**AND**  
**SCIENTIFIC ATTITUDE**  
**Convention Objectives**

1. Assess the Christian attitude toward science.
2. Examine methods by which scientific theories are developed and tested.
3. Study the social factors influencing science.
4. Provide a context for discussing the relationship of general and special revelation.

**AUGUST 25-27, 1965**

**Inter-Varsity Christian Fellowship**  
**NATIONAL FACULTY CONFERENCE**  
**CHRISTIAN WITNESS**  
**IN THE**  
**SECULAR UNIVERSITY**  
**Conference Objectives:**

1. Discuss the communication of the Christian message to modern man.
2. Study trends among students and faculty in the university.
3. Examine the Christian professor's witness on the campus, in the home, and in the community.
4. Share ideas and projects for an evangelical strategy of campus evangelism.

**MONDAY, AUGUST 23**

- 9:00-10:00 **Registration**—inside main door of main building at The King's College
- Morning Session:** Chairman, Thomas H. Leith, York University
- 10:00-11:15 Kurt Weiss, University of Oklahoma Medical Center, "The Scientist's Confrontation with Reason and Faith."
- 11:15-12:30 Robert J. O'Connell, S.J., Fordham University "The Scientific Attitude of Teilhard de Chardin."
- 12:30-1:30 Lunch
- Afternoon Session:** Chairman, John Montgomery, Trinity Evangelical Divinity School
- 2:00-3:15 Robert Jewell, West Virginia University, "The Validation of Scientific Theories."
- 3:15-4:30 Robert Knudsen, Westminster Theological Seminary, "Problems in the Meaning and Testing of Religious Language."
- 4:30-5:45 Paul Schrottenboer, Executive Director of the Association for Reformed Scientific Studies. Report of their work and purposes.
- 6:30-7:30 Dinner
- Evening Public Lecture:** Chairman, Wayne Frier, The King's College
- 8:00-10:00 John Montgomery, "The Theologian's Craft: a Discussion of Theory Formation and Theory Testing in Theology."

**TUESDAY, AUGUST 24**

- 7:00-7:30 Breakfast
- 7:30-12:30 Field Trips  
 Biology—Wayne Frier  
 Geology—Wayne Ault  
 Social Science—John Carter
- 12:30-1:30 Lunch
- 1:30-2:30 Meetings of Boards and Commissions
- Afternoon Session:** Chairman, Robert Knudsen, Westminster Theological Seminary
- 2:30-3:30 Gary Collins, Bethel College, "Wanted — A Christian Theory of Personality."
- 3:30-4:30 Edwin Yamauchi, Rutgers University, "Tradition, Composition, Corroboration, and Reconstruction in Classical and Biblical Studies."

- 4:30-5:30 Russell Heddiendorf, Geneva College, "The Sequence of Casual Analysis on Social Science."
- 6:30-7:30 Dinner
- Evening Public Lecture:** Chairman, Thomas H. Leith, York Univ.
- 8:00-10:00 Arthur Holmes, Wheaton College, "Some Major Challenges of Contemporary Philosophy to the Christian Faith."

**WEDNESDAY, AUGUST 25**

- 7:30-8:30 Breakfast
- 8:30-9:00 Devotions
- Morning Session:** Chairman, Kurt Weiss, University of Oklahoma Medical Center
- 9:00-11:00 Panel of Attendants, "Report on the Oxford Conference on Science and Christian Faith."
- 11:00-12:00 Purnell Benson, President, Consumer and Personnel Studies, Inc., "Theory Formulation and Validation in the Social Sciences."
- 12:30-1:30 Lunch
- Afternoon Session:** Chairman, Gary Collins, Bethel College
- 2:00-3:15 David Moberg, Bethel College, "Science and The Spiritual Dimension of Man."
- 3:15-4:30 Harold Wiebe, Seattle Pacific College, "What Can Be Learned from the Evolutionist Who Takes a Hard Look at His Own Theory?"
- 4:30-5:45 Thomas Manetsch, U. C. L. A., "A New Approach to Studying Some Social Processes: Modeling the Processes of Attitude Propagation."
- Dinner (Banquet):** 6:30-7:45. Speaker: Thomas H. Leith, York University, "The Philosophy of Science and the Christian Faith."
- Evening Public Lecture:** Chairman, David Moberg, Bethel College
- 8:00-10:00 John Alexander, General Director, Inter-Varsity Christian Fellowship, "Christian Witness in a Secular University."

**THURSDAY, AUGUST 26**

- Morning**
- 9:00-10:15 Panel: THE CHRISTIAN PROFESSOR IN THE CLASSROOM  
 Chairman: Donald DeGraff, Ph.D., Department of Physics, University of Michigan
1. Presuppositions in teaching
  2. Attitude toward subject matter and research
  3. Take-off points for discussing Christianity
  4. Approach to students and availability
- 10:45-12:00 Tapes by DeGraff — Discussion
- Afternoon**
- 1:00-4:00 Free Time and Recreation
- 4:00-5:30 Small Group Discussion: RELATING SUBJECT MATTER TO CHRISTIANITY  
 Divided according to field to work out implications of the morning session.
- Evening**
- 8:00-9:00 Public Session: THE GOSPEL AND THE MODERN MIND  
 Arthur Holmes, Ph.D., Wheaton College

**FRIDAY, AUGUST 27**

- Morning**
- 9:00-10:15 STUDENT TRENDS ON THE CAMPUS: FERMENT, PROBLEMS AND OPPORTUNITIES  
 Paul Ribbe, Ph.D., Department of Geology, University of California at Los Angeles
- 10:45-12:00 Panel: REACHING FACULTY PEERS
- Afternoon**
- 1:00-4:00 Free Time and Recreation
- 4:00-5:30 Panel: FACULTY MEMBER: HOME AND CHURCH
- Evening**
- 8:00-9:30 Public Session: GOD'S WORD TO OUR WORLD  
 Arthur Holmes, Ph.D., Wheaton College

## ABSTRACTS

### THEORY FORMULATION AND VALIDATION IN THE SOCIAL SCIENCES

Purnell H. Benson

Successful theories of human behavior and human motivation, such as marginal utility analysis in economics, arise out of introspective observation of what goes on within the psychic world of human beings. Individual and social behavior only become intelligible in terms of concepts and principles of inner experience. When we know what men want and what they believe, we can account for their actions.

The validity of knowledge in the social sciences is tested, first, by whether other scientific minds reach the same concepts and principles from their psychic study. The knowledge is tested, secondly, by whether behavior which takes place does or does not conform with theory.

The psychic source of theory in the social sciences contradicts the empty approach of behaviorism, which would treat a human being as if he were a bundle of physical material and had no psychic existence. The bankruptcy of behaviorism is evident in its failure to produce any important knowledge about human motivation and human behavior.

By holding open the door to man's psychic world as a field for discovery of laws of psychic existence, the way is left open for study of the manifestations of Jesus Christ in the lives of human beings. Jesus Christ is God, but where He enters human life, the work of His Spirit can be observed, just as human motives and other objects in the psychic world can be studied and verified. Vastly more we take on faith from the Bible, yet science is one humble instrument whereby some important things can be learned about spiritual living and salvation.

### SCIENCE AND THE SPIRITUAL DIMENSION OF MAN

David O. Moberg, Professor of Sociology and Chairman, Dept. of Social Sciences, Bethel College, St. Paul, Minnesota

If God is, if He reveals Himself to man, and if man has a spiritual side to his personality, it seems reasonable to believe that there are objective scientifically-observable evidences of these spiritual phenomena. The development of five core dimensions of religiosity in the sociology of religion is an improvement on previous analyses, but it still appears to omit the supernatural or transcendental man-God relationship. There are numerous problems of research presuppositions and techniques when one attempts to observe the transcendental aspects of religion scientifically. Yet even if it is so far above and beyond objective experience that it cannot be studied directly, its correlates and effects may be a proper subject for scientific analysis.

### WANTED — A CHRISTIAN THEORY OF PERSONALITY

Gary Collins, Bethel College

1. **Introduction:** A brief survey of existing personality theories leading to the two following questions.
2. **Are Theories of Personality Necessary?** Although most psychologists would probably answer in the affirmative, there is some disagreement here. A brief review of the debate over this issue would lead to my affirmative answer and the posing of the next question.
3. **Is a Christian Theory of Personality Necessary?** Here again I would attempt to present both sides of the issue and for a number of reasons (including those given in the above paragraph), I would suggest this question should be answered "yes."
4. **Requirements for a Christian Theory of Personality.** This would probably be the longest part of the paper and would include a presentation and elaboration on the requirements which I believe to be essential for a Christian personality theory. These include:
  - a. A clear and explicit language (which non-Christians could understand).
  - b. An explanation and description of human behavior. This should be consistent with the Biblical view of man and should recognize the findings of contemporary psychological research in such areas as perception, learning, emotion, and thinking. It would also be necessary for the

theorist(s) to decide on basic underlying assumptions.  
c. Some ability to make predictions about human behavior.

### WHAT CAN BE LEARNED FROM THE EVOLUTIONIST WHO TAKES A HARD LOOK AT HIS OWN THEORY

Harold T. Wiebe, Ph.D., Head of Zoology Department, Dean of the Graduate School, Seattle Pacific College

It is recognized as an accepted fact that proponents of the theory of organic evolution will submit information and arguments in support of their position. The thrust of this paper is to explore the thinking of scientists of reputation to find if they allow for another face to this "coin." Where they take a hard look at their own theory, the quest is to see whether they recognize deficiencies in it sufficient to give cause for both secular and Biblically oriented scholars to maintain a position of suspended support for its comprehensive acceptability.

Individuals to be considered are such as:

Clark, Astin H.—U. S. National Museum

Hyman, Libbie H.—American Museum of Natural History

Oparin, A. I.—Biochemical Institute, U.S.S.R. Academy of Science

Romer, Alfred S.—Harvard University, Museum of Comparative Zoology

### THE SCIENTIST'S CONFRONTATION WITH REASON AND FAITH

A Kurt Weiss, Dept. of Physiology, University of Oklahoma

On numerous occasions in daily life, logical reasoning is called for and the individual who excels in it often succeeds best. In creative scientific pursuits abstract logical reasoning in interpretive ability are two essential qualifications. Although a certain element of trust (as in one's collaborators) is also involved, the possessor of a mind trained to reason intelligently and experienced in doing so will in all likelihood accomplish most.

In the spiritual realm the same situation does not prevail. The Scriptures enjoin that "with the heart man believeth unto righteousness". Thus, in the salvation experience the intellectual abilities are relegated to a lower rank of order, because it is not with the mind primarily that saving grace in the Lord Jesus is found; in this realm the heartfelt belief is man's partial contribution to which God adds the blessings of grace and more faith. In mustering belief our attitude is not that with which success in other endeavors of life is usually brought about; rather we are to become "as little children", full of faith in our Father. For some individuals this is a difficult accomplishment, but it is an essential one in the spiritual realm. God assists by giving grace.

The scientist who is also a Christian will use his intellectual gifts in his daily life. He will also have faith in God's promises and ability, and God will give the increase.

### THE SCIENTIFIC ATTITUDE OF TEILHARD DE CHARDIN

Robert J. O'Connell, S.J.

1. Teilhard's project, its starting point and intention: The Teilhardian corpus has a unity and is held together by a profound intention, i.e.

a) to communicate to his fellow Christians what is valid in the "religion of the earth" as he found the unbeliever of his early years professing it, — thus the value of matter, research, progress, in short all the values of 'this world'. Thus the **Divine Milieu**, etc.

b) to communicate to scientists and those taken up with this world the religious dimension implicit in their valuing this world and its activities as they do. Thus the **Phenomenon of Man**.

c) to impart some guidelines for the **Future of Man**, to keep the spirit of optimism and progress alive, and working in the most fruitful channels.

2. Teilhard's rethinking of biology in line with the second of three phases in his effort: the gradual elaboration of a method which he calls hyper-physics. I shall try to sketch what this implies for him, how it impinges on the world of life that the biologist studies on the world of matter studied by the physicist, and what immediate difficulties it has seemed to raise in the eyes of critics. It would be at this point that I would hope questions and discussion would start, for there is plenty of material for both.