

- 2:00 PM **Stanley Rice** – "Ironic Triumph: A Christian Theme that Pervades the Natural World"
- 2:30 PM **George Jennings** – "Between Biblical Trees of Life: Anthropology, Cultural Ecology and Missiology in the Middle East Today"
- 3:00 PM **David O. Moberg** – "Tensions Between Christianity and the Social Sciences"
- 3:30 PM **Thomas Hoshiko** – "Ethical Issues in Science and Public Policy"

Session B, Chair: Stanley Lindquist

- 1:30 PM **Stanley E. Lindquist** – "The Scientists Responsibility to Share His Faith Worldwide as Tentmakers or in Support of Missions—Theory and a Case Study"
- 2:00 PM **Barbara Hoshiko** – "Meeting the Challenge of Biotechnology: Teaching Spiritual Aspects of Nursing Care at a State University"
- 2:30 PM **Enrico Cantore** – "Sapiential Attitude Toward Observable Reality: For a Humanizing Cooperation Between Christians and Scientists"
- 3:00 PM **Gerhard Nickel** – "Correlation of the Great Deluge of Noah's Time with the Great Ice Age (Kansan-Mindel)"
- 3:30 PM **Harold J. Northup** – "Pathways to Good Will Between Hostile Nations"
- 4:00 PM **William B. Monsma** – "The Genesis Mandate"

THURSDAY, AUGUST 6

- 9:00 AM **Post-Meeting Geology/Ecology Field Trip** (Approximate time of return – 3:00 PM) **Leaders: Richard Beidleman and William Fischer**

ASA extends hearty thanks to Program Chair, Ray Brand and Local Arrangements Chair, Eldon Hitchcock and to all those who have lent their support to this year's Annual Meeting.



Information about the American Scientific Affiliation can be obtained at the literature table at the meeting, or by writing the National Office at:

American Scientific Affiliation
PO Box 668
Ipswich, Massachusetts 01938



1987 Theme:

Global Resources & The Environment

42nd Annual Meeting
of the

**American
Scientific
Affiliation**

August 2-6, 1987

Colorado College
Colorado Springs,
Colorado

**OFFICIAL
PROGRAM**

OFFICIAL PROGRAM

42nd Annual Meeting of the ASA
 Theme: Global Resources & the Environment
 August 2-6, 1987
 Colorado College, Colorado Springs, CO

SUNDAY, AUGUST 2

- 2:00-5:00 PM Registration
 5:15-6:15 PM Dinner
 6:30-7:30 PM Panel on Science and Religion (First Presbyterian Church of Colorado Springs) Panelists: J. Frank Cassell; Robert Herrmann; Charles Hummel; David Moberg
- 8:00 PM Opening Plenary Session I,
 Chair: Robert Herrmann;
 Welcome—Gresham Riley, President, Colorado College
 Opening prayer—J. Frank Cassell
 The Environment: Scope & Prospectus
- 8:20 PM Annual Lecturer, Dr. Vernon J. Ehlers—
 "Applied Earthkeeping I: Purpose and Principles"
- 9:30 PM Mixer and Refreshments

MONDAY, AUGUST 3

- 7:00-8:00 AM Breakfast
 8:10-8:25 AM Group Devotions—George Murphy
 Plenary Session II, Chair: Edwin Olson
 Resources at Home & Abroad
- 8:30 AM Annual Lecturer, V. Ehlers—"Applied Earthkeeping II: Problems and Politics"
- 9:30 AM Global Resources: Martin Price—
 "God's Abundant Resources for the Fight Against World Hunger"
- 10:00 AM Break
 10:30 AM Economics and the Environment:
 Howard Claassen—"Star Wars: Morality and Economic Issues"
- 11:00 AM Education and the Environment:
 William Cobern—"Perspectives on Education for Global Resources and the Environment"
- 11:30 AM Thomas Dent—"Centro de Estudios Experimentales en Artesania Rural—A Case Study in Ciapas, Mexico"

- Noon-1:00 PM Lunch
 1:00 PM NORAD Tour bus leaving (returning by 4:45 PM)
- 5:15-6:15 PM Dinner (Chuckwagon Pavillion, Garden of the Gods)
- 7:30-8:30 PM Discussion Groups
 A—Citizen Diplomacy in the Soviet Union (slides)—H. Northup
 B—Scientists Helping Missionaries—S. Lindquist
 C—Open
- 8:30-10:00 PM Responses and Reactions to Teaching Science in a Climate of Controversy, Speakers: W. Hearn, P. Nelson, D. Price, J. Wiester

TUESDAY, AUGUST 4

- 7:00-8:00 AM Breakfast
 8:10-8:25 AM Group Devotions—Howard VanTill
 Plenary Session III,
 Chair: Howard VanTill;
 Future Prospects: Christian Responses
- 8:30 AM Annual Lecturer, V. Ehlers—"Applied Earthkeeping III: Problems and Promise"
- 9:30 AM Environmental Problems: Joseph K. Sheldon—"Twenty Years After 'The Historical Roots of Our Ecological Crisis'—How Has the Church Responded?"
- 10:00 AM Break
 10:30 AM The Environment and Theology and Philosophy: Fred Van Dyke—"Planetary Ecology: The Christian Worldview and Recent Literature"
- 11:00 AM Jack C. Swearingen—"Applying Biblical Principles of Justice and Equity to Contemporary Environmental Conflicts"
- 11:30 AM James L. Rogers and George Stoms—"Cognitive Styles and Environmental Abuses"
- Noon-1:00 PM Lunch

Contributed Paper Session A, Chair: Ann Hunt

- 1:30 PM Laurence C. Walker—"Nations at Risk in Timber Resource Marketing, or El Presidente says, 'Don't Buy Our Logs'"

- 2:00 PM Phillip Eichman—"Michael Faraday: Man of God—Man of Science"
- 2:30 PM Break
 2:45 PM Panel of Global Resources and Environment Commission—Open Forum
- 3:45 PM Presidential Address—Edwin Olson
 4:15 PM Annual Business Meeting
 5:15-6:15 PM Dinner
 7:00-8:00 PM Discussion Groups
 A—Scientific Evidence & Religious Claims—S. Kanagy II
 B—(open for topic and leader)
 C—(open for topic and leader)
- 8:00-9:30 PM Book Review Session: Origin Science—Speakers: N. Geisler, author; H. VanTill; D. Wilcox

WEDNESDAY, AUGUST 5

- 7:00-8:00 AM Breakfast
 8:10-8:25 AM Group Devotions—Walt Hearn

Contributed Paper Session B, Chair: Charles Hummel

- 8:30 AM J. W. Haas, Jr.—"Relativity and Christian Thought: The Early Response"
- 9:00 AM Davis A. Young—"The Contemporary Relevance of Augustine's View of Creation"
- 9:30 AM Craig J. Hazen—"The Origin of the Concept of Science in American Metaphysical Religious Movements"
- 10:00 AM Break
 10:30 AM Sherman P. Kanagy, II—"The Place of Pseudoscience and Religion in the Planetarium: The Case of the Christmas Star"
- 11:00 AM Donald C. Boardman—"What is Meant by the 'Image of God in Man?'"
- 11:30 AM George L. Murphy—"Parallel Worlds, Quantum Theory, and Divine Sovereignty"
- Noon-1:00 PM Lunch
 1:30-4:30 PM Concurrent Sessions A and B

Session A, Chair: Jim Neidhardt

- 1:30 PM Lee Wyatt and W. Jim Neidhardt—"Judeo-Christian Theology and Natural Science: Similarities"

AMERICAN SCIENTIFIC AFFILIATION 42ND ANNUAL MEETING
COLORADO SPRINGS, CO

ABSTRACTS

(listed alphabetically by author)

* * * * *

WHAT IS MEANT BY THE IMAGE OF GOD IN MAN?

Donald C. Boardman, San Diego, California

In considering the physical nature of man the significance of Genesis 2:7 is sometimes overlooked. This paper suggests some things to consider when studying this verse. It attempts to look at man in his totality. It also considers what difference there is in a person's thinking if he has a dichotomous or a trichotomous viewpoint of man. It also attempts to point out whether one considers the first chapter of Genesis as stressing the creation or the Creator affects his understanding of Genesis 2:7.

* * * * *

SAPIENTIAL ATTITUDE TOWARD OBSERVABLE REALITY: FOR A HUMANIZING
COOPERATION BETWEEN CHRISTIANS AND SCIENTISTS

Enrico Cantore, New York, New York

The need for cooperation between Christians and scientists to help people actualize their dignity according to the plan of God is increasing daily--as evidenced, for instance, by the escalating biotechnological manipulation of the human being and the influence of scientific reductionism on education. The key to this cooperation seems to be what can be called, in biblical terms, the sapiential attitude toward observable reality--namely, a stance made up of realistic experiential openness, attentive reflection and respectful response vis-a-vis all existing beings in some way perceivable through the senses.

The present paper will give a summary introduction to this attitude by: first, outlining its biblical structure which climaxes in the recognition of and dedication to Christ our Wisdom (cf. 1 Cor 1. 24. 30; etc...); second, sketching the fundamental role played by this attitude in both the Christian faith and science; with special reference to the origination of science by Christianity and the advantages brought by science to the Christian view of the cosmos; and third, indicating some principles this attitude suggests for meeting the contemporary challenges to human dignity.

Suggested background reading:

Gerhard von Rad. Wisdom in Israel (translation of German original published in 1970)

E. Cantore. "The Christic Origination of Science" JASA 37 (1985). pp. 211-222.

* * * * *

THE MORALITY OF STAR WARS, REALITY OR FANTASY

Howard H. Claassen, Physics, Wheaton College, Wheaton, Illinois

Since Pres. Reagan announced the Strategic Defense Initiative in March, 1983, many strong opinions about the proposed program have appeared in various publications. On one extreme, the Religious Coalition for a Moral Defense Policy, representing 35 conservative religious leaders and organizations, was formed for the purpose of supporting SDI or Star Wars. On the other extreme, there are thousands of scientists in the U.S., England, and West Germany that have signed statements pledging not to work on SDI projects because they consider it immoral to take money for work that cannot be successful and that will increase, rather than decrease, the probability of nuclear war.

The present US and USSR policies that base security on the threat of massive retaliation in the event of an attack does not seem to fit Christian morality. How much better, it would seem at first thought, to support a defensive scheme that aims only to destroy attacking missiles and to avoid the killing of millions of people in both countries involved. Before deciding, however, to support the Star Wars system one must seriously consider a number of troubling questions.

1. Is the Star Wars system being proposed not because it can reasonably be expected to protect the citizens, but primarily to keep the defense companies prosperous? 2. Is the Star Wars plan essentially defensive, or is it a new offensive system in disguise? 3. Would proceeding with Star Wars lead at some time to lessening security because the USSR might decide on a first-strike attack before the defenses were in place? 4. Will the costs of a true defensive system be so extreme that the economic system of our country will fail? 5. Will Star Wars deployment lead to a false sense of security and a lessening determination to avoid war?

* * * * *

PERSPECTIVES ON EDUCATION FOR GLOBAL RESOURCE AND ENVIRONMENT AWARENESS

William Cobern, Austin College, Sherman, Texas

I. Introduction

Mission awareness among Christians as a basis for global resources and environment awareness

II. The Issue of Values

Key words: benefit, share, conserve, restore as a Biblical basis for resource and environmental management

III. Curriculum Inclusions for Global Education

Essential areas: the geographical distribution of earth resources and pollution

Comparative access to and utilization of resources

Relationship between wealth and available resources

Factors necessary for economic development

Factors that complicate development, e.g., war & government policy

Policy study techniques

IV. Comments on Existing Curricula in Global Education

V. Possible Objections to Global Education Initiatives

Perceived advocacy of "one-world" government, relativism, socialism, pacificism and capitulationism, occultism

* * * * *

CENTRO DE ESTUDIOS EXPERIMENTALES EN ARTESIANIA RURAL
A CASE STUDY IN CHIAPAS, MEXICO

Thomas C. Dent, Gordon College, Wenham, Massachusetts

The objectives of this center are to teach skills which will result in:

- A better man
- A better home
- A better work (quality)
- A better ranch

This is accomplished by systematic and informal education at the center as well as through an expanding "extension program" through which staff members carry the instruction to villages in field workshop programs.

The teaching ranges across the entire spectrum of agriculture, construction, mechanics, conservation etc. The clients are to be native villagers, teachers and/or students from schools and a variety of other types.

All is offered in a genuine spirit of Christian love and this results in a number of ways to share the gospel.

* * * * *

MAN OF GOD--MAN OF SCIENCE

Phillip Eichman, Harding University, Searcy, Arkansas

Michael Faraday was a man of both tremendous religious faith and great scientific achievement. He was a member of a small religious group who sought to practice simple New Testament Christianity. Some historians have found such a combination of faith and science to be paradoxical, and have sought to show his faith as separate and distinct from his scientific research. A careful study of his life, however, indicates that such was not the case. The central, guiding principle of his life was his faith in God as the Creator. For Faraday the universe was the handiwork of God and he himself was but a humble servant seeking to understand the workings of the creation.

Faraday did not as some have claimed, "compartmentalize" his science and his religious beliefs. Rather, his scientific work was an extension of his theology, which included a deeply held view of the biblical account of creation.

Thus, Michael Faraday is a key figure in the history of the interaction of science and the Christian faith. The study of his life can lead us to a greater understanding of science and Christianity in our lives today.

* * * * *

RELATIVITY AND CHRISTIAN THOUGHT:
THE EARLY RESPONSE

J. W. Haas, Jr., Gordon College, Wenham, Massachusetts

Although the Copernican and Darwinian 'revolutions' have played an enduring role in discussions of science and Christianity, the 20th century overthrow of Newtonian space-time mechanics has received relatively little evangelical attention. However, the last decade has seen a growing interest in applying the thought of Albert Einstein to theology and to various science-Christianity concerns. In evaluating the current appeal of Einstein, it is instructive to consider the response of various segments of Christendom to 'relativity' in the period immediately following the announcement that his work had been confirmed by the eclipse of 1919. Although the initial reaction was at times trivial, condescending or obscure, the basic ideas developed in these early evaluations find a continuing thread in today's considerations in spite of change in theological climate and attitudes toward the relation between science and Christian faith that have taken place over the intervening six decades.

* * * * *

THE ORIGIN OF THE CONCEPT OF SCIENCE
IN AMERICAN METAPHYSICAL RELIGIOUS MOVEMENTS

Craig J. Hazen, Department of Religious Studies,
University of California, Santa Barbara, California

The appropriation of the term "science" by metaphysical religious movements such as Christian Science, Religious Science, and Divine Science in the late 19th and early 20th centuries is one of the more curious events in the history of the American science-religion controversy. The unique use of the term and the resulting synthesis of religion and science can be traced back to the amateur scientist and mental healer Phineas P. Quimby who was an enthusiastic participant in the Baconian spirit of the day. His scientific religious practice was subsequently passed on to Mary Baker Eddy and others who adapted the idea for their own needs and carried it on to the present day.

* * * * *

MEETING THE CHALLENGE OF BIOTECHNOLOGY:
TEACHING THE SPIRITUAL ASPECTS OF NURSING CARE AT A STATE UNIVERSITY

Barbara R. Hoshiko, R.N., Ph.D.,
Kent State University School of Nursing, Kent, Ohio

The historical roots of the profession of nursing lie in the church. Florence Nightingale saw nursing as spiritual vocation. Although many philosophies of nursing include some reference to the spiritual dimension of the patients for whom nurses care, the spiritual aspect of nursing has been routinely ignored in nursing curricula and practicing nurses usually feel incompetent to address the spiritual needs of their patients. Nurses are growing increasingly aware that, in the face of the growing impact of biotechnology in nursing, they must actively defend their view of patients as whole persons and that the spiritual dimension should not be overlooked. This paper describes the development and first year implementation of a graduate level seminar, The Spiritual Aspects of Nursing. It reviews some of the context out of which the course grew, including the critical role of Nurses Christian Fellowship. It describes the process of implementation and points to future revisions.

* * * * *

ETHICAL ISSUES IN SCIENCE AND PUBLIC POLICY

Thomas Hoshiko, Department of Physiology and Biophysics,
Case Western Reserve University, Cleveland, Ohio

The resurgence of evangelical Christian thought has not had significant effects on public policy decisions in science and technology, despite their

ethical implications. Expressions of opinion in the science news press such as Nature and Science magazines concerning science policy and legislative activities affecting science show little evidence of a Christian perspective. It is as if a Christian viewpoint is irrelevant or inadmissible. By Christian perspective I mean the understanding (a) that man is a created being, made in the image of God, (b) that man is under divine orders as specified in the Scriptures, (c) that man suffered a fall from grace in the Garden of Eden but has been offered redemption through Christ's atonement on the Cross, and (d) that a final resolution is awaited in the impending return of the Savior. Meanwhile, it behooves us, as scientists who profess Christ, to take seriously our understanding that all of creation is subject to the Creator. Therefore the task before us is to struggle with the reformulation of science and science policy in the light of our Christian perspective. That reformulation should make explicit the religious motives implicit behind "secular" scientific thought and the assumed autonomy of science as a human activity.

* * * * *

BETWEEN BIBLICAL TREES OF LIFE:
ANTHROPOLOGY, CULTURAL ECOLOGY AND MISSIOLOGY IN THE MIDDLE EAST TODAY

George Jennings, Middle East Missions Research, Le Mars, Iowa

This paper examines resources and environment as a study of cultural ecology in the contemporary Middle East. To an evangelical Christian anthropologist and missiologist, I hold it essential that we understand environmental and resources for two dominant reasons: (1) the evangelical Christian scholar cannot ignore the commitment to bear witness of Jesus Christ directly or indirectly through whatever skills one may have into "all the earth"; and (2) this testimony of Christ's unique redemptive message must be seasoned with understanding of basic human problems for satisfactory living circumstances in order to expedite spiritual communication by bona fide physical and material aids for the disadvantaged peoples, in this study, the Middle Eastern peoples.

In this cultural ecological effort, within an anthropological and missiological framework, we select fundamental, Middle Eastern resources such as location, climate, landforms, soils, plant life, water supply, and minerals (including petroleum) as these are used or misused in agriculture, industry, exportation, urbanization, transportation, and developmental programs by national, intranational, and international and agencies with policies of exploitation, as well as colonialism or imperialism.

With historical and ecological data about the Middle East, we note glaring faults of environmental mismanagement for a major region that, today, even major nations of the world finds it necessary to have a "middle Eastern policy." To Western evangelical Christian scholars, the dynamics of resource use, the persistent hostilities and terrorism, and the resurgence of Islamic fundamentalism makes attention imperative. A dialogue by anthropologists, cultural ecologists, and missiologists can supplement economic and technological approaches toward a brighter scenario of development and Christian mission from the industrial West to Middle Eastern peoples and problems.

* * * * *

PLACE OF PSEUDOSCIENCE AND RELIGION IN THE PLANETARIUM:
THE CASE OF THE CHRISTMAS STAR

Dr. Sherman P. Kanagy, II, Purdue University North Central

Is a program on the Christmas Star appropriate for showing at publically or governmentally supported planetariums in the United States? This paper will examine some of the pros and cons of the issue of whether such programs can have "redeeming astronomical value," given their frequent quasi-religious nature and their at times apparent support of pseudoscience. Many of the arguments involved are similar to those encountered when one examines the controversy over the place of "scientific creationism" in the public schools. In fact, to some extent the present interest in these issues is symptomatic of a polarization of opinion concerning the place of religion in public education, in politics, and in pluralistic society in general.

One illustrative aspect of the whole program is that many theologically conservatives insist that a carefully study of the text of Matthew clearly indicates that he intended the Star to be a supernatural phenomenon such as the Shekinah Glory. Also, conservatives tend to be literalists in their approach to biblical interpretation. If the planetarium director allows a favorable presentation of such a view, one has the planetarium promoting supernatural explanations of events and a particular stance on hermeneutical questions. Also, if one presents only the conservative viewpoint, one is again in the position of giving preferential status to a particular religious perspective.

A survey of responses to such situations in the planetarium community is given, with discussion of implications.

* * * * *

THE SCIENTISTS' RESPONSIBILITY TO SHARE HIS FAITH WORLD WIDE AS TENTMAKERS
or
SUPPORT OF MISSIONS--THEORY AND A CASE STUDY

S. E. Lindquist, Fresno, California

As a Christian, a scientist shares the responsibility of other Christians to follow Christ's injunction to "Go to all the World and teach . . ." What does this imply to each one of us? How does each person take such responsibility for serving God intimately and practically?

Each science has a possibility to present a unique contribution to the Christian endeavor world-wide. Each can present the truths in varied ways. For example, the biologist can help introduce the fish that will feed the population. The agronomist can help produce the animals and crops less susceptible to diseases. Each of these can open the door to a better understanding of God and His provision through each of us.

An example of how the sciences of Psychology, Anthropology, Linguistics, and Sociology has been used to create a program and pattern for the assessment, preparation, restoration, and research for the missionary endeavor will be briefly presented. (If time and facilities are possible, a 15 minute videotape will be shown.)

Such a program has been developed in concert with the above mentioned disciplines in a unique way, with a course of problem solving providing a sensitive and inquiring approach to interacting with Nationals of any country. This method gives an illustration of ways in which these disciplines can be applied to achieve a global direction for the sharing of the Good News of the Gospel. Other disciplines can be applied in new and creative other ways. Time for discussion of this is needed.

* * * * *

TENSIONS BETWEEN CHRISTIANITY AND THE SOCIAL SCIENCES

David O. Moberg, Professor of Sociology, Marquette University

Evangelical and fundamentalist Christians historically have been aloof from academic sociology, anthropology, and other social sciences. Theories, perspectives, concepts, values, and activities in both academia and religion have contributed to tensions in and between the professional orientations of both camps. Some of these are very basic, but others can be resolved by in-depth analyses of the respective values and appropriate research, as well as by improved dialogue and education. The points at which adaptation of traditional "Christian" positions becomes compromise of the Christian faith, an entering wedge for agnosticism and atheism, or an improved basis for effective Christian service and witness are not always easy to discern. Selected aspects of this topic are explored in this paper.

* * * * *

THE GENESIS MANDATE

William B. Monsma, The MacLaurin Institute, Minneapolis, Minnesota

Was God's creation perfect? Everything God made was good, but creation was not complete. The remainder of the task would involve humanity. As God had tamed the deep, so Adam was to tame the animals. But serpent he did not tame. The task of bringing the serpent and the rest of the earth under control remained for Jesus--and those who follow him.

* * * * *

PARALLEL WORLDS, QUANTUM THEORY, AND DIVINE SOVEREIGNTY

George L. Murphy, St. Mark Lutheran Church, Tallmadge, Ohio

Einstein's objection to quantum theory was in religious language: "God does not play dice with the universe". (Most physicists today would disagree.) There have been many comments about the religious significance of complementarity, uncertainty, the observer-observed relationship, and other aspects of quantum theory. This paper provides some ideas for discussion of Christian theology and quantum theory from a different standpoint, that of "parallel worlds" concepts.

The parallel worlds idea is well known in science fiction. The use of similar ideas in quantum theory is less well known, though familiar to theoretical physicists. Feynman's formulation of quantum dynamics relates the probability of an event to a "sum over histories", taking into account all the ways by which the event might come about. This involves a generalization of the action principle of classical physics. In Everett's "many worlds" formulation of quantum theory, one pictures a split or branching of the universe as taking place whenever a measurement is made. This solves some difficulties of quantum theory, but at the expense of introducing a reality with an infinite number of universes.

This paper is made up of four main parts.

- 1) Brief descriptions and critiques of the Feynman and Everett formulations
- 2) Discussion of relationships between these two approaches
- 3) Comparison of these formulations with naive parallel world concepts
- 4) Consideration of the implications of multiple world concepts for our understanding of the relationship between God and the universe

* * * * *

FOURTEEN REASONS WHY I BELIEVE THAT THE GREAT ICE AGE (KANSAN-MINDEL)
IS IDENTICAL WITH THE GREAT DELUGE OF NOAH'S TIME

Gerhard Nickel, Newton, Kansas

For over 15 years I have been looking for a position on the geological columns of earth that would match the criteria which is directly stated in the account of the Deluge of Noah's time. Two things have spurred me on in this rather

laborious task--the striking and frightening word by the Apostle Peter about "scoffers in the last times" saying there was no such thing, and the astonishing amount of new information that has been assembled in the fields of geology and paleontology in recent years which needs to be reexamined and reinterpreted by qualified scientists to verify a correlation. What I will present will still be admittedly highly theoretical, and some will consider at least a part of it a heresy, but only by experimental thought has a difficult problem ever been solved. The presentation will be based on the best biblical interpretation and factual scientific evidences available.

Among the items to be discussed are: 1. It seems more logical to look downward from the top of the geological column for a more recently documented event for a match as we need. The insistence on accounting for every event from the very bottom up is a frustrating fallacy. 2. We can assume that the Great Deluge was the last great catastrophe which caused the death of numerous land animals and the possible extinction of many species, and which shows earthwide effects. 3. The Great Ice Age (Kansan-Mindel) meets most of the obvious requirements on my list of Deluge criteria. 4. The succession of events is far more important than establishing a definite time frame. A reasonable succession of events can be obtained from the rock record. 5. Ice and snow are a form of precipitation fully and logically compatible with the recurrent emphasis of the term "waters" [Heb. dual, mayim]. 6. Interpretation of the Deluge account must also be in harmony with that of the creation account, and with the character of the Creator.

* * * * *

PATHWAYS TO GOOD WILL BETWEEN HOSTILE COUNTRIES

Harold J. Northup, Whittaker Corporation, Pawcatuck, Connecticut

Hostile relations between nations, particularly those with nuclear weapons, pose a serious threat to the global environment, civilization and all life. Revolutionary Marxism, militant Islam, democratic liberalism, and parochial religion all threaten world stability because of their tunnel vision.

The greatest threat to world peace today is the hostility between the USA and the USSR. The Soviet Union is a formidable rival, unscrupulous, ruthless, and despotic. Its tragic history and harsh climate in the north are key factors in the unacceptable behavior of its top leaders.

Establishment of good relations with the USSR should be a top priority for our government. Our false bipolar view of the world should be eliminated and our absolutist conception of history and sense of destiny should not be carried into peacemaking. Negotiations should be pluralistic and pragmatic. Frequent social visits between top political and military leaders of the two countries, such as Nixon's visits to China, would be helpful. Artistic, scientific, cultural, and citizen diplomacy exchanges would further increase the good will, along with the pairing of additional US and Soviet cities.

Each American citizen with a spirit of good will is a potential pathway to peace to a hostile country. The Christian ideals of forgiveness and love for an enemy have a far different effect than a stated feeling that the adversary is "an evil empire". The influence for good of single individuals has often been worldwide. Newspapers, churches and other organizations, and government leaders may be used for sharing creative ideas. Many other "pathways" to good will toward the USSR and other hostile countries are given. ASA members are well qualified to promote international good will effectively.

An extensive bibliography is included for distribution.

* * * * *

"IRONIC TRIUMPH": A CHRISTIAN THEME THAT PERVADES THE NATURAL WORLD

Stanley Rice, Urbana, Illinois

"Ironic triumph" is a theme found throughout scripture. Victory arises out of apparently hopeless situations, and is the reward of humble people rather than of the great and powerful. It is repeatedly illustrated in the history of Israel. And of course it is supremely illustrated by Jesus Himself, the Servant who died but was resurrected. God seems to prefer, even for Himself, a triumphant recovery from suffering more than the absence of challenges. It is for this reason that Jacob received the name Israel, and Jesus called Himself the Lamb.

The selfish process of natural selection makes it difficult to see God expressing Himself in the world He created. But I suggest that the theme of "ironic triumph" permeates the world of nature, and this is where we can find the imprint of God's character on the natural world. This theme recurred often in the history of life on earth. For instance, it was oxygen, which was poisonous to most life forms when it first appeared, that made possible the highly efficient use of energy, and thus the existence of higher life forms. A poison became a promoter of life. I will document a number of other examples. In this way, the "evolution story" can be interpreted from a Christian viewpoint, by creationists who think it is fiction or by Christian evolutionists who believe it. Many non-evolutionary processes, such as succession, illustrate this theme as well.

The theme of ironic triumph pervades Nature, and is not incidental to it. And this, I believe, is the strongest evidence that God is the author of both Books: His Word and His Works.

* * * * *

COGNITIVE STYLES AND ENVIRONMENTAL ABUSES

James L. Rogers, Ph.D. and George Stoms, Department of Psychology,
Wheaton College, Wheaton, Illinois

It is generally recognized that the current misappropriation and outright abuse of global environmental resources comes as a function of many unfortunate and short-sighted decisions. Yet this knowledge fails to prevent the same choices from being repeated. Why is this? Personal selfishness, capitalistic greed, and classical conditioning have all been used to explain these paradoxical decisions, but with limited success. This paper will propose that when making a decision, all mammals (including humans) are driven by an innate biological propensity to assess the alternatives in probabilistic terms and to select the action associated with the highest likelihood of a desirable outcome, sometimes contrary to reason.

Examples from the experimental literature which support this conclusion will be referenced. These would include a clever variation of Pavlov's famous classical conditioning sequence in which the authors conclude that the dogs' learning can be best explained in terms of probability processing, and a human predicament entitled "The Tragedy of the Commons" in which cattlemen choose to overpopulate a grazing area for personal profit at the expense of the community.

In an effort to determine just how probabilities are computed and assigned to decision alternatives, this author will survey a set of "rules of thumb" called heuristics. The consideration will be given to research by the social scientists Robert Cialdini and Ellen Langer which suggests that automatic behavior patterns may be elicited from all mammals by single "trigger features" in the environment.

Finally, a Christian understanding of this decision-making mechanism will be offered. Perhaps this is a scar from the fall, or an adaptive capacity to survive in a fallen world. In the end, an enlightened understanding of our own innate mechanics may help us to choose responsibly and avoid being manipulated by our fallen environment and fellow man.

* * * * *

TWENTY YEARS AFTER "THE HISTORICAL ROOTS OF OUR ECOLOGICAL CRISIS"--
HOW HAS THE CHURCH RESPONDED?

Joseph K. Sheldon, Department of Biology, Eastern College,
St. Davids, Pennsylvania

Twenty years ago Lynn White accused the Judeo-Christian tradition of responsibility for the techno/ecological crisis that characterizes our planet. The charge was immediately accepted by many in the scientific community and is now commonly encountered in introductory texts of ecology and environmental

science. Response from the Christian Community was also rapid, but mixed. It is the purpose of this paper to examine the nature of the historical response of Christians to White's charge in light of the general period of environmental awakening that characterized the late 1960's and 1970's.

The study indicates that we should be encouraged by the nature and scope of Christian involvement with environmental issues. Although relatively few papers were published prior to 1970, there has been a veritable explosion since. Many of the papers in the Early 1970's were a direct response to White's charge. At the same time, however, issue oriented papers began to appear as well as serious theological works. Today we are witnessing the maturation of a new theology--the Theology of Nature. A marked evolution is evident in the depth, scope, and issues being addressed. The Lord is mobilizing his forces to begin the task of Creation restoration. The next step is to involve the Christian army.

* * * * *

APPLYING BIBLICAL PRINCIPLES OF JUSTICE AND EQUITY TO CONTEMPORARY ENVIRONMENTAL CONFLICTS

J. C. Swearingen, Livermore, California

If Biblical teachings on justice and equity are applicable to contemporary environmental conflicts, then they must be applicable to issues which manifest themselves as risk- or cost-benefit inequities and the "not in my back yard" ethic. In this ethical conflict some segments of the populace enjoy the benefits of a technological advance while others assume the burden of risks, penalties, or environmental costs. Obedience for every believer must go beyond verbal witnessing; it must include seeking to create communities of faith, hope, love, and just relationships as illustrations of God's coming kingdom.

Because the connections between environmental and social costs which derive from technical advances are often unclear to those without scientific backgrounds, the Christian with scientific training has a special social responsibility. The technical Christian is called to analyse and understand the concepts and tradeoffs associated with technical society; to speak, teach, and work toward social justice and equity on environmental issues; and to be an instrument of justice (and therefore, redemption) in God's hand. Inequitable distributions of benefits and costs, or "not in my back yard" positions are not options for the Christian community. Illustrations of these conflicts will be developed from issues reported in local newspapers.

* * * * *

PLANETARY ECOLOGY: THE CHRISTIAN WORLD VIEW AND RECENT LITERATURE

Fred Van Dyke, Fort Wayne, Indiana

Economic and demographic problems in developing countries are ultimately linked to environmental courses. Biblical, patristic, and medieval traditions show a well integrated understanding of humanity's role in and care of

creation, but reformation Christianity and modern evangelicalism have been deficient in this respect. Though the modern missionary movement has been deeply concerned with the human condition in the developing world, it is only now showing some understanding of the linkage between human need and environmental stewardship. No contemporary Christian writers addressed environmental issues from a theological perspective prior to the 1967 publication of Lynn White Jr.'s essay, "The Historical Roots of Our Ecologic Crisis", which fixed blame for the environmental crisis on the Christian view of nature. The number of citations on theological perspectives on ecology increased after 1967 until peaking in 1979, but has declined since. Though Christians have shown diminishing interest in ecologic issues, environmental problems have increased in seriousness and scope. Christian scholars and educators need to make environmental concerns and their theological implications major educational and policy issues in the next decade as an appropriate act of Christian witness and commitment.

* * * * *

NATIONS AT RISK IN TIMBER RESOURCE MARKETING
or
EL PRESIDENTE SAYS, "DON'T BUY OUR LOGS"

Laurence C. Walker, Nacogdoches, Texas

The six most populous countries, four of which are underdeveloped, significantly affect each other in production and consumption of wood. China, an importer from North America and other Asian nations, continues to suffer from the reign of the Gang of Four who left its forests and forestry schools in shambles. The PRC government pursues help from U.S. forestry schools to reestablish an understanding of forestry. India's bountiful timberlands, exploited during its colonial period, no longer produce wood for world markets. Russia's Siberia, clothed in vast acreages of small-size conifers, inadequately provides for that nation's construction timber needs. In Brazil, the German-engineered, U.S.-financed, and Japanese-erected mill attracted world attention, not for its imaginative innovation, but for its exploitive effect upon the Amazon Basin. There, tree plantations, farms, and ranches were to replace the rain forest in order to sustain a growing population of destitute people. Indonesia and the United States have a special relationship because of U.S. corporate ownerships in, and withdrawals from that 3000-mile-long archipeligo of 13,667 islands. The U.S. consumed, until recently, much of indonesia's tropical hardwoods.

The use of forest resources for the good or ill of people and the effect of that use upon per capita incomes are noted. Presidential decrees, instead of providing employment for peasants, hurt them.

Underdeveloped nations need to sell finished products, not logs. That they may sell neither is a dilemma to be recognized by Christians concerned about both people and natural resources.

* * * * *

JUDEO-CHRISTIAN THEOLOGY AND NATURAL SCIENCE: SIMILARITIES

Lee Wyatt, Louisville Presbyterian Seminary, Louisville, Kentucky
W. Jim Neidhardt, Physics Department,
New Jersey Institute of Technology, Newark, New Jersey

Theology and natural science ask very different questions and use different procedures with respect to the common Universe being explored. Nevertheless, both human activities are grounded epistemologically in "faith seeking understanding;" it is therefore, not surprising that congruencies in conceptual structure have developed, for common epistemological problems have challenged the theologian and natural scientist and they both explore reality and reality encounters them. Some basic analogies between the two disciplines are discussed with emphasis on the differences within the similarities for each analogy; that is after all what analogy is all about, the similarity across the difference. Accordingly these analogical differences may help one to conceptually grasp the real similarities. The following analogies are discussed with respect to the two disciplines:

- A. The primary standard used in theology and natural science.
- B. The role of intuitive instinct in theology and natural science.
- C. Discovery as encounter in theology and natural science - three related aspects.
- D. Scientific Method in theology and natural science.
- E. The ground of theology and natural science - embodiment.
- F. The epistemological realism of theology and quantum physics.

* * * * *

THE CONTEMPORARY RELEVANCE OF AUGUSTINE'S VIEW OF CREATION

Davis A. Young, Department of Geology, Geography and Environmental
Studies, Calvin College, Grand Rapids, Michigan

The recent translation of Augustine's The Literal Meaning of Genesis into English permits greater accessibility to his detailed and mature views on the first three chapters of Genesis. This work takes us far beyond the tantalizing glimpses about creations in The City of God and The Confessions. Augustine's ideas about the days of Genesis, the problem of death before the fall, and the effects of the curse are particularly significant because they

were developed apart from the influences of paleontology or historical geology. It is therefore remarkable that he explicitly denied the temporal character of the days of creation, saw no theological problem in admitting death in the animal realm prior to Adam's fall, and rejected the notion that the fall introduced radical physical changes into the world. Augustine's reading of the text puts the lie to the claim that it is the spirit of compromise with modern science that leads to rejection of the ideas that the days of creation were 24 hours long and that the fall introduced fundamental structural changes, including death, into the world.

Augustine did, however, dialog at length with the science of his own day. Hence this work affords insight into his general views of the relationship between biblical interpretation and extra-biblical knowledge. Augustine explicitly commented on the complex character of Genesis 1 and displayed remarkable willingness to alter biblical interpretation in the light of new knowledge. Modern Christian scholars might do well to be more ready to follow Augustine's lead in a willingness to rethink cherished views in light of new knowledge.