

DOM

A - Auditorium 003

B - Room 004

C - Room 006

10:45 - 11:00	Urbanization in Mainland China: A Christian Response to Recent Trends —Michael Barbalas	Certainty of Faith and Probabilistic Science —Jerome D. Thayer	Bottom-Up or Top-Down? —Robert F. DeHaan
11:05 - 11:20	Shared Obstacles to Development: Third World Los Angeles and Third World Planet Earth —Stanley Moore	Theistic Science: A Response to Johnson and Moreland —James N. Behnke	The Theology of Nature in Pictures —Paul Arveson
11:25 - 11:40	Foundations of Community for a Fragmenting World —Bradley G. Breems	New Testament Parallels: Impartiality, Consensus, and Delphi Methodology —Thomas J. Ponders, III	
11:45 - 12:00	The Postmodern City: A Christian Response —Russell Heddendorf	Stimulus Relevance in the Context of 2 Peter 1:5 —Michael J. Kelley	

12:15 - 1:15 PM **Lunch** - Burwash Hall

1:15 - 3:00 PM **Farewell and Depart to Serve!**

1:30 - 6:00 PM **Optional Field trip in Toronto - Limit: 20.** A fascinating trip of ethnic Toronto in the Chinatown area guided and with commentary by Tony Carnes, Vice President and Director of Research, International Research Institute on Values Changes (Cost: subway fares and optional dinner in Chinatown)

**Geology field trip**

*Next year chair Jerry Berkman, Geol, Wheaton College*  
The ASA extends our sincere thanks to

**David O. Moberg**, Program Chair  
and

**Daniel H. Osmond**, Local Arrangements Chair

and their wives, Marlys Moberg and Faith Osmond,  
for their administrative assistance towards this year's Annual Meeting.



**AMERICAN SCIENTIFIC AFFILIATION  
and  
CANADIAN SCIENTIFIC AND CHRISTIAN  
AFFILIATION**

51st Annual Meeting  
July 26 - 29, 1996  
Victoria University in the University of Toronto  
Toronto, Ontario, Canada

**SCIENCE, CHRISTIANITY,  
AND THE  
URBANIZATION OF PLANET EARTH**

*Keynote Speaker*

Dr. Robert Linthicum  
Executive Director  
Partners in Urban Transformation  
Los Angeles, CA

*"Therefore go and make disciples of all nations, baptizing them in the name of the Father and of the Son and of the Holy Spirit, and teaching them to obey everything I have commanded you. And surely I am with you always, to the very end of the age."*

Matt. 28:19-20 NIV

RR-VII founded 1836 - Luther & Wesley on stained glass windows  
 BH - everything related to urban life. The most diverse  
 city in world. Learning to live together & drawing on all  
 their strengths. Networks essential.



**Friday, July 26**

Before meeting Self-guided Metro Toronto Tours

3:00 PM **Registration** begins at Margaret Addison Hall

5:00 - 6:00 PM **Dinner** - Burwash Hall

6:30 - 8:45 PM **Welcomes and Plenary Speaker** - Northrop Frye - Auditorium  
 Session 1  
 Gary Partlow, President CSCA  
 David Wilcox, President ASA  
 Roseann Runte, President, Victoria University  
 Office of the Mayor of Toronto, *Barbara Hall*

Introduction to Program: David O. Moberg, Program Chair  
**Toronto: Demonstration Laboratory of a World Class City**  
 —Tony Carnes, International Research Institute

Introduction of Robert Linthicum —Stanley W. Moore  
**Keynote Address 1 - The 21st Century City: The Shaking  
 Apart of Civilization's Foundation** —Robert C. Linthicum

9:00 PM **Mixer** - renew acquaintances with old friends and make  
 new ones

*Worldclass oppor, city, program.*

**Saturday, July 27**

The **book store** will be in room 008 and **poster presentations** will be in the lobby of the Northrop Frye Building

7:00 - 8:15 AM **Breakfast** - Burwash Hall

8:30 - 9:00 AM **Devotions and Prayer** - Northrop Frye Hall - Auditorium  
 Session 2  
 Speaker: Gary Partlow, President CSCA  
 Music: Larry and Susan Martin

9:10 - 10:30 AM 3. A: Environmental Stewardship chaired by Ray Brand  
 Session 3 3. B: The Future of the Scientific Enterprise chaired by Eric Moore  
 3. C: Ethical and Moral Issues chaired by Robert VanderVennen

	A - Auditorium <sup>MST</sup> 003	B - Room 004	C - Room 006 <i>Dom</i>
9:10 - 9:25	Stewardship: Why Perspectives Matter —Thaddeus J. Trenn	The PEW Evangelical Scholars Program: Its Vision, Impact, and Future —Harold Heie	Scientists as Moral Entrepreneurs and the Challenge of Self-Esteem —Kathleen M. Gow
9:30 - 9:45	Greed, Need or Creed? Land Ethics in the Rural-Urban Fringe of Edmonton —Harry Spaling	Networking Christian Biologists —Gerald D. Hess	The Subject as Data-Producer vs. the Participant as Colleague: The Ethics and Practice of Human Experimentation with "Voluntary" Students: A Christian Approach —John I. Bechtold
9:50 - 10:05	Reclaiming Urban Brownfields: Technology and Policy —Jack C. Swearingen	Extraterrestrial Hopes for Planet Earth —Joseph L. Spradley	Changing Concepts of Sexuality as Population Becomes More Urbanized: Psychology, Biology, and Culture —John M. Vayhinger
10:10 - 10:25	How Much Wilderness is Enough? —Joseph Sheldon	CyberASA: ASA on the World Wide Web —Terry Gray	Creation Science and the Caring for Creation in Korea —Seung-Hun Yang

10:30 - 10:45 AM **Coffee and Fellowship** - Northrop Frye - Lobby

10:45 - 12:00 PM Session 4 4. A: Biblical Foundations for Scientific Research Methods chaired by Sara Miles

4. B: Conservation and Health chaired by Norman MacLeod  
4. C: Religion and Community chaired by Robert Mann

*ROM* A - Auditorium 003 B - Room 004 C - Room 006 *MST*

10:45 - 11:00	The Great Commission and Research —David O. Moberg	Rivers of Plastic and the River of Life —Charles Chaffey	Urbanization, Christianity and Contributions to Social Capital: Can Committed Christians Be IN the City, but Not OF the City? —Donald C. Posterski
11:05 - 11:20	Relationships in Research: Seeking Insights Through Parables —Dan Doorn and Maria Pacino	The Science of Water and the Water of the Bible: A Jakiean Analysis —Ted M. Beverley	Naturalism and the Anthropology of Religion —Paul K. Wason
11:25 - 11:40	Reflections on Research from the Wisdom Literature —Peter L. Liu	The Human Condition: Health Status of the Urban Culture —Stephen B. Ruble	Asceticism as Cultural Critique —David J. Wood
11:45 - 12:00	Research Methods and Proverbs 1-9 —Donald Ratcliff	The Prostitution of Christianity and Science by the New Age Movement in a Significant Segment of the Practice of Medicine —John F. H. Stewart	

12:15 - 1:15 PM **Lunch** - Burwash Hall

1:30 - 2:45 PM Session 5 **Keynote Address 2** - Northrop Frye - Auditorium  
**The City As God Proposes and Humanity Disposes: A Biblical Perspective** —Robert C. Linthicum

2:50 - 3:10 PM **Coffee and Fellowship** - Lobby

3:15 - 4:30 PM Session 6 6. A: Canadian Religion and Society chaired by Charles Chaffey  
6. B: Theory: Chaos and Other Issues chaired by David Wilcox  
6. C: Origins and the Flood chaired by Gary Partlow

A - Auditorium 003 B - Room 004 C - Room 006 *DEYM* *MST*

3:15 - 3:30	Who are These Canadians Some Would Call Evangelicals? An Overview of Evangelicalism in Canada —Andrew S. Grenville	From Chaos to Chaos: Foundations for Mathematical Thinking —Jan de Koning	The Riddle of Life's Beginning on the Planet Earth —John M. Vayhinger
3:35 - 3:50	Quebec Separatism's Threat to the Canadian Union: Causes, Consequences, Cures —Ted M. Beverley	Biblical Faith, Chaos Theory, Social Science and Post-Modernism —Walter C. Hobbs	The Flood and Modern Science: A Literary Examination of Gen 1-9 —Shiv Chopra <i>MST</i>
3:55 - 4:10	Defining the Limits of Multiculturalism in Urban Canada —Daniel Osmond	The Similarity of Theory Testing in the Historical and "Hard" Sciences —Keith B. Miller <i>wife in caesarian surgery</i>	Geological Evidences for the Biblical Worldwide Flood About 4,500 Years Ago —H. Donald Daae
4:15 - 4:30		The Concept of Human Nature in Science and Theology —Jitse M. van der Meer	The Origin of Species, Part II —Carl Resler

4:45 - 5:45 PM Session 7 **ASA Business meeting** - Northrop Frye - Auditorium  
(Special report from Ken Dormer on AISRED)  
**CSCA Business Meeting** - Room 004

6:30 - 8:45 PM Session 8 **Banquet** - Burwash Hall  
"Down to Earth" Christian drama by Nicholas and Joy Hunter  
"Lifted Voices" of Waterloo, Ontario

9:00 - 10:00 PM Session 9 **Future Issues and Planning for Christian Influence: ASA Commission Meetings.** Registrants are invited to attend the commission of their choice and to join the discussion of topics related to the future relationships between Christianity, science, and science-related professions.

- A. Affiliation of Christian Biologists — Jerry Hess
- B. Affiliation of Christian Geologists — Ken VanDellen
- C. Bioethics — Jim Peterson
- D. Communications *→ MST* — Don DeGraaf
- E. Creation — Bob Newman
- F. Global Resources and Environment — Joe Sheldon
- G. History of Science — Sara Miles
- H. Industrial — Ken Olson
- I. Philosophy and Theology — Chris Stewart

- J. Physical Sciences
- K. Science Education
- L. Social Sciences

*DOM005*

- Bernie Piersma
- To meet next year
- Russ Heddendorf

**Sunday, July 28**

7:00 - 8:15 AM **Breakfast** - Burwash Hall

8:30 - 9:50 AM 10. A: Bible Study and Theology chaired by *Don McNally*  
 Session 10 10. B: Christianity and Science chaired by Joe Sheldon

*Jim Buswell*

A - Victoria Univ. Chapel

B - Room 004

*DOM N:44+3*

8:30 - 8:45	The City in the Bible —William B. Monsma	He Holds the Whole World In His Hands —Robert E. VanderVennen
8:50 - 9:05	Kenosis Theology and Science —The Rev. Dr. Graham Cotter	Is "Intelligent Design" Christian? —George L. Murphy
9:10 - 9:25	A Hermeneutical Lesson from Sarah on the Relationship Between the Scriptures and Science —Denis O. Lamoureux	Can Science Be Considered a Religion? —Boguslaw Lipinski
9:30 - 9:45	Hindsight Translation of Gen. 1:1-2:4a —Dallas E. Cain	Responsible Use of Scientific Knowledge —John Setchell

10:00 - 11:30 AM **Worship** - Victoria University Chapel  
 Session 11 Sermon: Renewed Leadership In A Changing World  
 — His Worship Richard D. Christy  
 Mayor of Kitchener, Ontario

11:45 - 12:45 PM **Lunch** - Burwash Hall

1:00 PM Meet in Burwash Hall dining room for **field trip to Yonge Street Mission** (travel only by subway). Arrival and assembly in YSM Auditorium.

*Thru eyes of a 15-yr old.*

1:45 - 5:00 PM **Toronto Field Trip and Urban Workshop: Social Policies at the Edge of the 21st Century.** Yonge Street Mission and its Evergreen Ministry and Community Centre and vicinity.

1:45 PM Welcome and Introduction by Michael Krause, Director Evergreen Division, Yonge Street Mission; Ruth Ewart, RN, Supervisor, Evergreen Health Care; Gerald Vandezande, National Public Affairs Director, Citizens for Public Justice on systemic issues behind poverty and human need.

2:45 - 4:15 PM Walkabouts to observe YSM facilities and nearby streets in small groups (maps and instructions provided).

4:15 - 5:00 PM Reassemble to report and discuss walkabout experiences and observations with each other and the resource people.

5:15 PM Return to Victoria University by subway

5:30 - 6:30 PM **Dinner** - Burwash Hall

6:45 - 9:30 PM **Sunday Evening Seminar** - Victoria University Chapel

Session 13 Moderator: Kathleen M. Gow, President KMG Associates, Toronto  
**Christianity, Politics, and the Crises of Contemporary Society**  
 Speaker: His Worship Richard Christy, Ph.D., Mayor of Kitchener,  
**The Crisis in Faith and the Crisis in Masculinity**

Discussants: Tony Carnes, International Research Institute  
 Robert C. Linthicum, Partners in Urban Transformation

Response by: His Worship Richard Christy

*Audience*

**Monday, July 29**

7:00 - 8:15 AM **Breakfast** - Burwash Hall

8:30 - 9:00 AM **Devotions and Prayer** - Northrop Frye - Auditorium

Session 14 Speaker: Sara Miles *2 sons Mt. 23* *Both disobeyed, but not equally guilty. Forces upon of what we do*  
 Music: Larry and Susan Martin *favor God's will, not just because it's repeated small decisions daily to obey can be hard: how neighbor as yourself.*

9:10 - 10:25 AM **Keynote Address 3** - Northrop Frye - Auditorium *Build as others up, not tear down.*  
 Session 15 **How Christians Can Make a Difference in the Emerging City**  
 —Robert C. Linthicum *avoid quarantining Rom 14:14 2 Tim 2:14*

10:30 - 10:45 AM **Coffee and Fellowship** - Northrop Frye - Lobby

10:45 - 12:05 PM 16. A: Urbanization and Community chaired by Ken Olson  
 Session 16 16. B: The Bible and Research Methods: Philosophical and Technical Aspects chaired by Esther Martin  
 16. C: Potpourri chaired by *Thaddous Trenn*

*Don Munro*

*called to be doers of the word for self, church, USA. in patriarchal society*

*D. S. Moberg*

The Joint Annual Meeting  
of the  
American Scientific Affiliation  
and  
Canadian Scientific and Christian Affiliation

## **ABSTRACTS**

**Science, Christianity,  
and the  
Urbanization of Planet Earth**

Victoria University  
at the  
University of Toronto

July 26 - 29, 1996

## The Theology of Nature in Pictures

Paul Arveson  
Research Physicist  
6902 Breezewood Terrace  
Bethesda, MD 20852

The author will describe several illustrations he has developed as teaching aids in developing a Reformed Theology of Nature. The illustrations include variations on the theme of the two books of God (nature and scripture), the various ways in which these two books are related, and a series of diagrams describing developments in the history of science.

Also, the author will extend his previous contributions regarding dialogical and complementary views of doctrines, and offer a hypertext-based software program that can be used to clarify doctrinal relationship.

It is hoped that these illustrations will help to answer the need for ASA teaching materials for young people and older people with right-brain dominance.

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Urbanization in Mainland China, "a spiritual civilization"  
A Christian Response to Recent Trends *-rel. occasion*  
Michael Barbalas, Ph.D. *There are world problems - investment capital.*  
OMF International *22% pop'n + 7% land*  
250 Tanglewood Lane, Unit J-3 *Pop'n flow*  
King of Prussia, PA 19406 *Toxic pollution*

*1955 Chemistry tech. in China, more firsthand...  
Rapid growth from 1949.  
Many challenges forward.  
40/50 least developed cities in world are in China.  
7-1-97 Hong Kong becomes part of China - more interaction?*

China, the world's most populous nation, is experiencing an unprecedented move of people into the existing and new urban environments. In the last fifteen years the percentage of population in urban settings has risen from 20% to 33%. During the same time period China's government has moved from a socialist, centrally-planned economic system to a hybrid system incorporating market forces. The government is also facing fiscal constraints in maintaining large investment flows to infrastructure projects while also providing appropriate levels of social services. This paper explores the

*Crucial re: belief in a separation of a Xn.*

urbanization trends and their interaction with other forces and suggests how North American Christian professionals can make a positive contribution to China's peoples and development in the process of ongoing urbanization.

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The Subject as Data-Producer vs. the Participant as Colleague:  
The Ethics and Practice of Human Experimentation  
with "Voluntary Students: a Christian Approach

John I. Bechtold, Ph.D.  
Messiah College  
Department of Behavioral Science  
Grantham, PA 17027

This paper discusses the nature of human experimentation with introduction to psychology students better known as the "human subjects pool." Ethically, experimenters in psychology are required to involve only voluntary participants in their research, however, as is discussed, in practice, this is not strictly observed. General accepted practice is to require participation as part of course requirements yet the educational value of this as it is currently conducted is brought to question. It is argued from both ethical and theological grounds that current experimental practices regarding the treatment of the "subject pool" should be changed to better respect and honor the participant in the experiment. A historical overview of the use of humans in research, a report of current practices and attitudes of researchers and participants, and suggestions for improving and altering the experimental situation are included in the paper. Suggestions for improving focus on the debriefing process emphasizing the experimental learning nature of the experimental situation. Hence, a new paradigm for understanding the experimental environment is offered in which the participant is seen more as a colleague in the research endeavor than as a "data-producer". Emphasis for change is not so much on what we do, but on how we as Christians involved in research with humans conduct ourselves in a more ethical and Christian manner than what is now commonly practiced.

*Nuremberg Code as source of freedom to decline partic. in research,  
But choose 5-10p. paper v. 3hrs as research S as coercion!  
They're used as if rats, data. APA now says they're not Ss  
but participants. But attitude remains the same.  
Instead the " should be colleagues,  
& make it a learning experience in the debriefing.*

Theistic Science: A Response to Johnson and Moreland

James N. Behnke, Ph.D.  
Asbury College  
Department of Chemistry and Physics  
Wilmore, KY 40390

Traditionally, Christianity has held that God created the universe and continues to be involved in it. However, modern science seems to require the presupposition of God's non-involvement in the system under study. Phillip Johnson and J. P. Moreland have written eloquently about this naturalism in modern science and their desire to return to a more theistic science. Modern science is criticized for excluding the possibility of God's active participation in the world as being a possibly legitimate explanation for an observed phenomenon. Moreland calls for the development of a science that recognizes the possibility of direct involvement by God and routinely utilizes it as a governing principle.

Can a scientist who affirms God's continual involvement in the universe also affirm the use of our current naturalistic scientific paradigm? Does use of this paradigm in science overly entangle a scientists in a metaphysical naturalism that is inconsistent with "any meaningful form of theism?" Two typical scenarios from organic chemistry are examined in light of Johnson's and Moreland's concerns: the NMR spectrum of a simple organic compound and the relative reactivities a series of compounds in a typical organic chemical reaction. My evaluation leads me to believe that it is not necessary to invoke God's involvement to adequately describe organic chemistry. Our current naturalistic paradigm is not inappropriate.

However, I feel that a naturalistic paradigm is at least suspect, and perhaps even erroneous in other sciences; i.e. the human sciences. It is imprudent to make general statements about the role of the supernatural in "science;" it is different for different sciences.

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The Science of Water  
and the  
Water of the Bible: A Jakiean Analysis

Ted M. Beverley

131 Kingswood Road  
Toronto, Ontario  
ME4 3N4

Using Stanley L. Jaki's view of the relationship of Bible and science (as found in his book on the history of the interpretation of Genesis One: *Genesis One Through the Ages*) I look at what modern atmospheric science has to say about water and then look at what the Old Testament has to say about water.

Some questions which need to be faced are: Is the view of the Old Testament concerning water reconcilable to modern atmospheric science? If not can they be compared analogically and declared truthful only at some points but not at others? Does this mean on some points the Bible wins the truth issue while on other points science wins? Or is the Bible's view of water so hopelessly false— an outdated science—that we should quietly close the closet door and walk quickly away? If so, how is the claim scripture is true, to be handled? Perhaps there is a link between the two views whereby one can say "It is literal," and still say the science of water is true but not the Old Testament view of water.

By way of contrast, I will also touch on St. Augustine's dilemma concerning how to interpret the firmament on which, as Jaki puts it, "Augustine's mental agonies came to a head".

Finally I shall draw out some conclusions which hopefully will steer us true to our goal: an integrated view of reality without getting shipwrecked by science or Bible.

WARNING/REASSURANCE: not flood geology presentation

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Quebec Separatism's Threat to the Canadian Union:  
Causes, Consequences, Cures

Ted M. Beverley  
131 Kingswood Road  
Toronto, Ontario  
M4E 3N4

Canada, since the 1960's, faces a growing threat from a political doctrine of separatism that has, in the last ten years, reached a turning of the door out of which the nation shall either continue or fail to exist.

Since the threat is due to separatism in the province (i.e., state) of Quebec one must ask where it came from, why it exists and how can it be cured.

Some terms and names are defined here to help you:

*Separatism*: the belief the nation can be divided into two nations because needs of the French ethnic people are unmet.

*Distinct Society*: special status in the constitution is required to protect French language and culture from English society.

*Anglophobia*: William Johnson in *A Canadian Myth*: "A literary tradition (starting ) in ... 1840's ... portray(s) and English-speaking Canadian—and sometimes .. the Canadian state—as ... existential threat,... evil influences, ... corrupter, ... destroyer, and ... cause of all that [is] wrong with French Canadian society."

*Sovereignty-Association*: Quebec can, simultaneously, be an independent country and continue to enjoy many of the same benefits it now has as part of Canada through an association with Canada.

*Parti Quebecois*: PQ, formed in 1968 by Levesque. A provincial political party in Quebec holding the views of separatism, sovereignty-association and distinct society.

*Bloc Quebecois*: BQ a federal party totally based in Quebec and copies views of PQ.

*Rene Levesque*: Premier (Governor) of Quebec 1979-1985.

*Lucien Bouchard*: Founder and leader of BQ, resigned. Now Premier of Quebec.

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## A Study of Foundations of Community for a Fragmenting World

Bradley G. Breems, Ph.D.  
Department of Sociology  
Trinity Christian College  
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Palos Heights, IL 60463

The only answer to the fundamental question of unity is in the gospel of Jesus Christ, in which the barriers of hostility are broken down and people no longer search endlessly in the past to justify their existence today. Living as we do in the atomized world of American individualism or class, nationally or ethnically inspired hatred, only infrequently do we come face-to-face with real community (Bellal et al 1989).

My contention is that ethnic groups are a paradigm for communal grouping. They are residues of the kinds of communities which preceded the development of the nation-state with its political and economic bases and their generalizing, totalizing and homogenizing effects. As such, they can also serve as the basis for enduring and deep resentment and hostility. In either case, proposing bases for unity and peace presume an analysis of the bases of community.

A question with which I wrestle in this paper is the definition of community and what will bring it about in ways that do not, simultaneously, precipitate exclusion and hostility. George Hillery (1955) found ninety-four different uses of the term (Lyon 1989, 5).

Aligned with the plethora of visions of community are a variety of theoretical approaches by which to study it.: 1) Toennies' distinction between Gemeinschaft and Gesellschaft, augmented by Durkheim, Weber, Sorokin, Cooley, MacIver, Wirth and Redfield; 2) Robert E. Parks and the Chicago School's ecological approach, which Burgess refined; 3) functionalism's systems theory approach; 4) conflict theory's lament at the lack of a place and control for the urban proletariat, extended by Manuel Castell's assertion of the dialectical contradiction between production and consumption.

Historically, the world we inherit is a product of modernity, with its emphasis on science, technology, productivity and economic calculation. Socially, the moves from rural and place-based community to urban and

occupation or status-based society occurred at the behest of modern ideas. Postmodernism flows from the modern world and carries with it the bases for society and its critique. With the collapse of major ideologies, a host of decentered, but intensely held convictions are struggling for local ascendancy. What Lincoln Collier refers to as the "rise of selfishness" seems pervasive (Collier 1991). At the macro-level, this translates partially into what Huntington refers to as clashes between irreconcilable cultures and between the "West and the Rest" (Huntington 1993: 48). At the local level, it may mean what Cornel West calls the "collapse of spiritual communities" in the face of "appeals to special interests" (West 1993: 5, 6, ).

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### Hindsight Translation of Genesis 1:1 - 2:4a

Dallas E. Cain  
18 Edmel Road  
East Glenville Church, Scotia  
Scotia, NY 12302

►The time is right for a first-ever update to the science in our English translations of Genesis One.

The problems are localized in the four stages pertaining to our environment—light, sky, land-seas, and sun-moon-stars. There is no call at all for change to any words in the Hebrew text.

►An updated translation is tendered as an illustration of the point.

Changes are all drawn from respectable literature on Genesis One.

Changes are all within the latitude of the Hebrew text.

►The science may be updated independently of the six days.

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### Rivers of Plastic and the River of Life

Charles E. Chaffey, Ph.D.  
Chemical Engineering and Applied Chemistry  
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The material prosperity of our cities is brought into them by a steady flow of matter—food, fuel and all kinds of goods. Today we are

approaching the limit to this flow that results from the laws of conservation of mass and of energy. Plastics are a form of matter which not only enriches urban life but also imposes limitations on its quality. Polymerization of simple chemicals into molecules of high molar mass that can be fabricated into plastics is a key innovation of the 20th century. Modern communities have become dependent on plastics, yet their use also must have bounds. Keeping this restriction in mind one may ask: in what ways are plastics a blessing for which we can be thankful, and in what ways do they bring evils which Christians should try to lessen? This question can be considered using the seven classes into which plastics are grouped for purposes of recycling: 1. polyethylene terephthalate, 2. high-density polyethylene, 3. polyvinyl chloride, 4. low-density polyethylene, 5. polypropylene, 6. polystyrene, and 7. others. Each of these has particular advantages for making sanitary containers, or disposable tableware to eliminate the labor of washing, or hygienic and sterile hospital supplies, or inexpensive molded articles, as well as new materials that are stiffer, stronger, tougher and lighter than steel. However, dangers and problems arise too, from the chemical operations by which the plastics are first made, then in fabrication, next in use, and finally in the disposal of waste. The monomers—the small molecules from which polymers are built—are commonly flammable, toxic, and environmentally unfriendly. Fabrication usually involves high temperature and pressure, and requires capital-intensive machinery but little labor; it rarely gives opportunities for creative craftsmanship. The principal problems in use are fire hazards, and deterioration giving off unhealthful vapors or leading to unexpected failure. Plastics eventually make up a significant part of a city's waste stream, which is handled by re-use, by recycling, by recovery of energy through incineration, and by retention in landfills. Ultimately, the flow of plastics into our cities depends on drawing down non-renewable petroleum resources and is thus not sustainable. We are challenged to use our intelligence to add much more value to each unit of mass. Then all our descendants can enjoy a high quality of life with a much smaller flow rate of matter into their cities, one having respect for the conservation laws and consistent with the rates at which God cycles the elements through the environment. In the heavenly City, new Jerusalem, these laws of conservation of mass and energy will have passed away. It has no need of an external supply of matter, for from the throne of God flows the river of the water of life; nor need of external energy, for His glory is the source of light.

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The Flood and Modern Science:  
A Literary Examination of Genesis 1-9

Shiv Chopra\*  
World Health Organization  
6157 Rideau Valley Drive  
Ontario, K4M 1B3

In a recently published book, *FOUR, FIVE*, I suggested that the knowledge that the Bible provided about human origin is what Darwin portrayed as the embryological proof of evolution.

Science informs that each and every zygote, regardless of its parental species, must wait exactly six days before it can implant in the mother's womb. Further, the embryos that ensue from these zygotes are composed of an "ark"-shaped structure, *blastocoele*, which itself is composed of three distinct layers of embryonic cells. Within these cells are located a pair each of the dominant ("male") and recessive ("female") genes, to transport in the embryonic offspring the whole of its ancestral memory from all the prior centuries and all the prior species of evolution.

Exploring in this manner, not only could I find a scientifically verifiable meaning for every single event in Genesis 1-9 but also for each phase, number and word within. To such literal allusions as "seven clean", "two unclean" animals, and all the various descriptions of "the flood", especially the rain that lasted "forty days and nights" and the total duration of "Noah's life" that "In all, lasted nine hundred and fifty years," a meaning was found that, in fact, could relate to all the various embryological events and durations for the ever unfolding phenomenon of human genesis.

\*The author, born and raised in India, is a practicing Hindu.

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Renewal Leadership In A Changing World

His Worship Richard D. Christy  
Mayor, City of Kitchener  
Kitchener, Ontario

Richard Foster wrote in *Celebration of Discipline* that "the desperate need today is not for a greater number of intelligent people, or gifted people, but for deep people". In this post-modern era that promises so much in the way of technology and renewed economic and political organizations, I must ask if I am willing to be a "deeper" person. Am I willing to see life with clearer vision, a softer heart and a willingness to listen. Am I willing to look beyond the outward definitions of this changing world, and to ask how God might rework my life to be a deeper person. Am I prepared to expect the "exceptional" and the "extraordinary". George Bernard Shaw wrote "you see things; and ask why? but I dream things that never were: and I say why not?" In a world of complexity, challenge, anger pain and demands beyond the human capacity, each of us must be individuals who at the right time—God's time; in the right way— God's —way; with the right attitude—God's attitude; and with a balance of weakness and strength, allow God to use us to do the unexpected in an exceptional way.

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#### Kenosis Theology and Science

The Reverend Dr. Graham Cotter  
 Anglican Church of Canada (retired)  
 R. R. 2, Warkworth, Ontario, Canada K0K 3K0

*I come in the little things,  
 saith the Lord,  
 my starry wings  
 I do forsake,  
 love's highway of humility to take:  
 meekly I fit my stature to your need.  
 In beggar's part  
 about your gates I shall not cease to plead--  
 as man, to speak with man--  
 till by such art  
 I shall achieve my immemorial plan,  
 pass the low lintel of the human heart.*

Evelyn Underhill *Immanence*

1. Kenotic theology as sometimes understood, has been seen as the self-emptying of Christ (Philippians 2: 5-11) in a lessening of the divine in

the Son. We reject that interpretation, and understand God's being and nature as self-emptying.

2. All Christian knowledge of God must be compatible with what is revealed by the words and acts and person of Jesus Christ.

3. It is of God's innermost nature to initiate and undergo change, to suffer and to surrender power in the loving acts of creation, becoming one of us, saving us.

4. To create, is to let-be into existence; letting-be is the same as loving. The self-giving of love is a suffering, or passion, for love is precarious, vulnerable, and infinite. Such self-giving is the nature of both divine and human creativity.

5. Personhood, relationship and transcendence are aspects of human life reflected in and from the self-emptying reality of God as Trinity.

6. Kenotic theology has special and appropriate messages for the Church and for the Christian practice of prayer.

7. Kenosis and the new science. There are serious and compelling parallels between the kenotic understanding of God, and the understanding of reality provided by some new movements in science.

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#### Geological Evidences For The Biblical Worldwide Flood About 4500 Years Ago

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One of the great mysteries of the Bible is the Flood of Noah. Was it worldwide in extent as the Bible implies, was it localized to the region of the Middle East as some believers contend, or was it a legendary story?

The purpose of this paper is to show the reality of the biblical flood. The modern science of geology suggest very significant scientific evidences to verify that the Flood of Noah occurred about 4500 years ago, that it was a short-lived catastrophic event as determined by Post-Pleistocene and Pre-Recent sedimentary deposits, and that it was worldwide in extent.

Geology and the other earth sciences have revealed that every continent was populated by man and pre-historic animals prior to about 4500 years ago, with the possible exception of Antarctica. This point in history is referred to by geologists as the time of the Great Extinctions, when all land based animal life was destroyed suddenly, just as the Bible describes.

This paper confirms that the records of the earth sciences and the Bible are complementary and compatible. It will help to clarify many of the mysteries surrounding the flood of Noah and will give credibility to the biblical account of this historical event.

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#### Bottom-Up or Top-Down?

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There are two logical possibilities of how species and large groups of animals came into being and changed systematically over geologic time. The first is from the *bottom up*, that is, from multitudes of varieties and species to fewer, higher, more general animal forms. The second is from the *top down*, from a few higher, general forms, to innumerable lower, particular species.

The bottom-up perspective is rooted in Darwin's *Origin of Species*, and has been maintained without exception by all Darwinians, including Simpson, Mary, Eldredge, and Thomson; and in Martin's *Dictionary of Life Sciences*, and Reese's *Encyclopedia of Philosophy*. But is it confirmed by objective evidence? This presentation will review and evaluate data and arguments purporting to confirm the bottom up framework.

The top-down concept will be examined in the light of studies of the Cambrian explosion and subsequent trends in the fossil record, including reports of well-fossilized marine invertebrates, Trilobites, amphibians, reptiles, mammals, birds, and species.

A new theoretical framework, based on principles of development, called *macro-development*, will be proposed to account for the data from the Cambrian explosion and the fossil record. Sequential and morphological patters of individual development will be shown to be *isomorphic*, that is similar, to phyletic trends in the fossil record. Profiles of changes in phyletic lineages match up well with principles of development.

Implications of the new developmental framework for Darwinian theory will be briefly discussed.

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#### From Chaos to Chaos Foundations for Mathematical Thinking

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God created the earth and its inhabitants using chaos, Gen 1 and 1. Scientists research phenomena in this creation. Mathematics is dealing with numbers and shapes. Most scholars need numbers and shapes to describe what they study in their own speciality. Until recently most mathematicians sought the foundation of their subject in formal, logical statements. Vollenhoven believed that "All of life is religion" and wanted to prove it by writing his Th.D. thesis on the foundations of mathematics in 1918. Influenced by Poincare and Brouwer, who rejected two-valued logic, he chose as basis a modified from of Intuitionism. In 1932 he wrote a little book: *The Necessity of a Christian Logic*. Other scholars turned away from Formalism and Logicism. Several mathematicians and others looked at results in sciences trying to describe them. May Christians use them? Some mathematicians base their thinking on decidedly un-Christian thinking. The talk will use examples from some of the following areas: Fuzzy thinking, Multi-valued logic, Fractals, Catastrophe-theory, Chaos theory.

*ad law of thermodynamics has had a life of its own, is misguided.  
↳ 7 catastrophes*

Relationships in Research:  
Seeking Insights Through Parables

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One essential ethical consideration for Christian researchers working in social science research is valuing parallels between biblical principles on relationships and all aspects of researcher-informant interactions. A further critical consideration of Christian researchers, engaged especially in qualitative approaches and in fields like education, is the range and extent of efforts taken in building relationships between themselves and the persons involved in their studies.

Based on (a) current qualitative research perspectives as found in Cochran-Smith & Lytle, 1993; Taylor, 1993; Shockley, Michalove & Allen, 1995; and Hubbard & Power, 1993; (b) the designs and results of their own varied qualitative studies with pre-service teachers and elementary children; and (c) critical questioning of biblical implications of valuing relationships as found in the writings of Nouwen, 1989; Peterson, 1985; Coles, 1990; the authors will argue for including informants more profoundly in the research process steps of **Framing the Inquiry Questions** and **Gathering and Analyzing Data**. Implications from "parable" insights emerging from their own recent studies with informants will include the need for researchers to **honor informants more fully as co-inquirers** who equally seek to better know themselves as members of any given learning, working, living community.

The presentation of the paper will open with a review of the concept of "building relationships" in qualitative research and a belief description of the authors' current contexts of trying to better understanding research relationships: Working with culturally diverse groups of pre-service teachers and elementary grade children. The opening will highlight a number of special concerns: Honoring the needed roles of the informants; relating to informants as persons, versus human subjects; raising the degree of intimacy between researchers and

participants; valuing self-honesty and reciprocity; sharing the complexities of question asking with informants; and seeking insights about cross-cultural dimensions of the relationships. When researchers are explicit about these special concerns in their apriori assumptions, they can well account for objectivity; and when they triangulate multiple sources of data information with informants, they can well account for validity and reliability.

The first focus on relationships will deal with the process of **Framing the Inquiry Questions**. The authors will frame this focus with the psalmist prayer: "Search me, Oh God, and know my heart." They will share examples of parable insights about informants assisting the researchers in (a) framing their initial research questions and sub-questions, and (b) developing and revising various planned observations, questionnaire or survey instruments. Interactions with informants provided strong parable insights into the need and process of supporting their own search for knowing and constructing meaning.

The next focus on relationships will deal with the process of **Gathering and Analyzing Data**. The authors will frame this focus with Paul's prayerful hope that "...your love for one another may abound in wisdom and understanding," and Isaiah's promise that God will lead "by ways they have not known, along unfamiliar paths, and..turn darkness into light." They will share examples about informants assisting the researchers in (a) identifying further types of information worth collecting, (b) reviewing taxonomies of emerging categories, and (c) sharing perspectives on the significance of categories.

The authors will close with sharing a set of implications, seeing ways we can be consistent in reconciling how we work as Christian scholars in research with teachers and children. They will advocate taking a stronger stand on viewing co-researcher relationships with informants. Their belief is that Christian researchers take joy in supporting a mutual journey of coming to know how we all are "fearfully and wonderfully made."

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Scientists as Moral Entrepreneurs  
and the Challenge of Self-Esteem

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We live amid the disintegrating myth of the inevitability of material progress in North America, and growing disenchantment with the "experts" who are seen to have mismanaged our social, scientific, moral and political institutions. We are in retreat to Self at the Centre. For example, in the Moral Values Education movement and the Politically Correct movement respectively, we witness the persistent hope and expectation that a person will best encounter 'self' and derive confidence from the subjective "freedoms" of individual utilitarianism or in the "objective" solidarity of a collective "cause". In fact, grasping onto and building self-esteem has become the virtual sine qua non of the post-modern enterprise. *Play the system - flow to survive. Self as center.*

In the field of education building self-esteem in students has become a first principle and an over-riding objective. State and provincial school boards demand that self-esteem curricula, texts and course materials be a consuming focus. In this there is confusion of well-intentioned sentiment with strategies which often serve to exacerbate the very problems they seek to address. For most self-esteem curricula are rooted in little or no foundational engagement with the nature of self or the nature of esteem and therefore make little organic connection between self-esteem and questions of meaning or sense of purpose in life.

In response, this paper posits the construct of moral vision which incorporates both cognitive and affective components, yet at the same time avoids indoctrination. It examines the critical difference between a moral ideal and moral vision and systematically outlines how these two translate into very different "teaching" methodologies. This construct, which draws upon the learning of mathematics as an illustration, posits fundamental questions regarding the scientist's orientation to 'self' and to 'esteem'. For the responsible Christian in the biological, physical or social sciences the implications of this model are compelling as we seek to clarify and live out our challenge.

*Beatitudes - apply to personal connection. Are these moral ideals or spir. vision? ---*  
*concept*  
*extrinsic*  
*removed from reality*  
*taught*  
*experience*  
*involved, immerse*  
*can't be dismissed as both cognitive*  
*caught*  
*Radical trust in JC is bridge from ideal to vision;*  
*it means walking the way, not just think & feel.*

Urbanization, Christianity and Contributions to Social Capital:  
Can Committed Christians Be In the City, But Not Of The City?

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There has been a notable decline in social capital over the past 20 to 30 years, particularly as measured by participation in volunteer organizations. In this paper we test three hypotheses: i) Participation in volunteer organizations declines as community size increases; ii) A commitment to Christianity is linked to greater participation in volunteer organizations; iii) A commitment to Christianity overrides the effects of urbanization.

### Methods

A survey of 1500 adult Canadians was conducted in February 1996. Questions were asked regarding religiosity and involvement with volunteer organizations. Respondents were categorized by the size of community in which they lived: i) Metropolises; ii) Mid-sized cities/suburbs (99,999 to 100,000), and iii) Small communities.

### Results

Those who live in metropolises were less likely to be involved in a volunteer organization (40% involved) than those who lived in mid-sized (49%) or smaller communities (52%). There were clear differences based on church attendance: 76% of weekly attenders were involved in volunteer organizations, monthly 61%, occasional 45%, once a year 29%, never 35%. Regression analysis of a model including measures of church attendance, size of community (with small communities as the reference), age, income and education showed that metropolitan living had a negative effect on involvement, independent of the effects of the other variables, including church attendance. Living in a mid-sized city showed no such effect.

## Conclusions

Living in a metropolis is linked to lower levels of contribution to social capital, while church attendance has the opposite effect. However, urbanization has a negative effect independent of church attendance, suggesting that Christians too are influenced by metropolitan living. This has important implications for mobilizing urban ministries.

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Who are these Canadians some would call Evangelicals?:  
An Overview of Evangelicalism in Canada

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*This paper is dedicated to the memory of my partner in Christian research, George Rawlyk (1935-1995), who had originally been slated to address this topic at the 1996 ASA-CSCA meeting.*

Evangelicals are defined by their conversionism, activism, biblicism and crucicentricism, but their outlooks are shaped by the soil from which they have grown. This descriptive paper draws on the results of recent surveys with over 12,000 Canadians, including more than 1800 Evangelicals, and compares and contrasts Evangelicals with other Canadians.

Canadian Evangelicals are a spiritually rooted and relatively numerous minority in Canada. But their social strength is sapped by a diffusion of efforts, caused by a characteristically Canadian lack of identity. The 9% of Canadians who are Protestant Evangelicals and the additional 6% who are Catho-evangelicals are prayerful, have a intense personal relationship with God and have experienced the divine. While most feel close to the church they attend, no more than a handful can name an important Canadian Evangelical leader and contact with Evangelical para-church groups is uncommon. They are more likely to be concerned about the poor and involved in voluntary and political organizations. However, the fact that there is no common front means their efforts are diffused and attract little notice in Canadian society.

Unlike their now mobilized and galvanized American cousins, Canadian

Evangelicals are not political conservatives, being more likely to support the Liberals than the Reform or Conservative parties. On issues of morality, Evangelicals are set apart from other Canadians by their conservative attitudes towards sexuality and reproduction. But their stands on support for AIDs sufferers, multiculturalism and immigration reveal that their thoughts are stamped with the pattern of accommodating tolerance that is characteristic of Canadians.

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The PEW Evangelical Scholars Program:  
Its Vision, Impact and Future

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The PEW Evangelical Scholars Program was begun in 1990 with two goals: to support first-order scholarship written from Christian perspectives, and to encourage and assist scholars from historically evangelical communities as they seek to contribute to contemporary academic discussions. In six years the program has awarded grants ranging from \$15,000 to \$100,000 to 73 scholars, in order to support their individual projects in the humanities, social sciences, and theological disciplines.

This talk will share the history and experiences of the Program as one model of how Christian scholars and their scholarship can make a strategic impact in contemporary society. It will assess the impact of the Program and will discuss problems the Program has encountered. It will also explore additional strategies for helping Christian scholarship impact intellectual culture, with a special view to possible avenues for encouraging Christian scholarship in the sciences.

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## The Postmodern City: A Christian Response

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The city has always had a spiritual significance. But socially, its significance has been changing. The postmodern city produces quantitative and qualitative challenges which are a reflection of our increasingly global and technological world. Attempts by Christians or non-Christians to deal with those challenges with social remedies are limited. For that reason, there is a need for the church to provide a transcendent presence in the postmodern city, first, by remaining in it and then by ministering to it.

### Networking Christian Biologists

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The idea of a Christian biologists' group had been discussed for many years but it took on new urgency when such a group met on an ad hoc basis at Whitworth College in the mid- 1980's. In an effort to prevent yet another group from pulling away from the American Scientific Affiliation, the idea of a group operating under the ASA umbrella arose and from this the Affiliation of Christian Biologists (ACB). A key goal of this group has been to develop and sustain networking among Christians who are working as professional biologists while at the same time affirming and working to accomplish the goals of the ASA.

Biology, unlike geology and chemistry, has a large number of professional organizations to which members can belong. Networking thus becomes very important as a means for providing encouragement, information about job opportunities and awareness of late-breaking developments in the biological sciences. The ACB hopes to develop a "home page" on the World Wide Web as one means of getting our message out to others. Recent activity such as the AAAS sponsored "Discussions in Science and Religion" group suggests that the time is

ripe for doing this.

Other work awaits the time and talent of ACB members. For example, there is a growing need for the preparation of materials to be used by Christians who want to relate their Christian faith to the issues and developments that arising from biomedical research. This work should be pursued in cooperation with the larger ASA membership. Although environmentally related concerns are already being focused by several groups of Christians apart from the ASA and ACB, those whose focus is oriented toward cellular/molecular biology and biomedical research and teaching need to join forces in the Affiliation of Christian Biologists.

### Biblical Faith, Chaos Theory, Social Science and Post-Modernism

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Complexity theory, known more popularly as "chaos theory," is considered by many observers to constitute the third paradigm shift in western science in this century, following hard on the heels of relativity and quantum mechanics. Its application in social science research, moreover, has been arguably more extensive and certainly more rapid than that of either of its predecessors.

*Godly chaos: Gen 1 & 2 the cosmos - Job 38.  
The unknowability of the cosmos*

This paper will focus initially on formal organizations such as school and government agencies, in order to narrow the discussion of chaos theory and social science research to manageable proportions. The task will be merely to illustrate the utility of chaos theory - an artifact of the mathematical sciences - in attempt by social scientists to describe the ultimately to explain human behavior in complex social systems.

*Reality of the fall disrupts all re; pristine human nature, holiness & variety aren't exclusive.*

The primary objective of the paper, however, is to consider the issues that arise where biblical faith and chaos theory intersect, especially as both are brought to bear on human behavior. For most of Christendom's history, the term "chaos" has suggested lawlessness, the antithesis of godliness. Substituting the term "complexity" for chaos has served to soften somewhat the pejorative impact of the latter. Yet, on one hand the point becomes increasingly clear that order and "chaos" are intimately intertwined in the created universe and, on the other hand,

*Evaluates soc sci reports on chaos theory.  
What seem unrelated & messy - orderly often seen from another perspective - beautiful like natural meadow, woods, etc.  
Teenager's room... beauty.*



a close read of Scripture in the wake of the development of complexity theory now reveals clear hints of godly "chaos."

Is the difficulty merely apparent, not actual? Is its resolution to be found in semantics, in simply substituting acceptable words such as complexity for tainted terms such as chaos? Perhaps. But perhaps not, or at least not completely. Chaos theory (or complexity theory – whichever one prefers will suffice for the present purpose) is also bound up with the current post-modern recognition of the failures of rationalism. Chaos theory walks side by side, if not hand in glove, with the view that human engagement in rational thought ineluctably shapes one's "construction of reality."

To some Christians, post-modernism's attack on "absolute Truth" had its origins in hell and is being coordinated by the Enemy. Is that view valid? If yes, to what extent (if any) is "complexity theory" an accessory to the crime? If no, how are we to reconcile these new understandings of relativism and disorder with traditional understandings of the nature of God and the created universe?

*14-15 centuries has resisted science. Now post-modernism!  
The more we see of chaos, the more post-mod's supported.*

The thesis of the paper is [a] that chaos was part of the created order "in the beginning" and did not derive from the Fall, [b] that chaos theory holds promise (though at this writing it has yet to perform) in explaining the complexities of human behavior, [c] that post-modernism's critique of modernism calls the Christian to ponder whether his/her commitment is too little to biblical Truth and perhaps too much to Rationalism's "objectivity," and [d] that taking chaos theory seriously as a potentially useful device will aid the Christian in sorting out the fundamental issues in these related debates, namely; (i) the proper role of concepts of order and chaos in biblical theology and cosmology, and (ii) the strengths and weaknesses of the post-modern critique.

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#### Stimulus Relevance in the Context of 2 Peter 1:5

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Sociological evidences shows the content of science is tied to norms and values. The present paper suggests the associative-conditioning phenomena called stimulus relevance supports this perspective. That knowledge is bound to values is also suggested in 2 Peter 1:5 (NIV) with the assertion that goodness needs to precede knowledge.

Out of the British Associationists came the empirical study of associative learning, which gained credibility following Pavlov's work. During the last 30 years, the associative phenomena called stimulus relevance has emerged as a new caveat to the Pavlovian algorithm for how knowledge is acquired. The prototypical study with laboratory rats showed certain stimuli, such as smells and tastes, do not readily form such Pavlovian connections with shock; however the same taste cues form potent associative links with a single unpleasant gustatory experience, but such acquired taste aversions for the rat are difficult to condition to auditory or visual cues. Similar interactions between cue and consequences can be found with other non-human species, with instrumental conditioning, with inhibitory as well as excitatory reflexes, and with human Pavlovian conditioning.

In these hundreds of studies, the conclusion is that type of motivational event involved strongly dictates what type of information the nervous system will look for in learning how to predict the occurrence of the motivational event.

If the laboratory findings on stimulus relevance are universal, then they must also apply to the motives of the empiricists themselves. The implication is that the values and goals of the scientist are a significant component of what empirical evidence is found. Now consider, the fact that most, if not nearly all psychology students are taught that scientific propositions are fundamentally different from values: that the first are testable while the second are not. Typically correlated with this is the related assertion of logical or analytical positivism (see B. Russell, *Religion and Science*) that issues of value have no place in science. These are the core assumptions upon which most scientific psychology has proceeded during this century. Upon these assumptions, the Bible is then excluded in the equation for knowledge acquisition. However, the principle of stimulus relevance leads to a different path, where values are central to what is to be found by empiricism. Given this, then it may be important to "... make every effort to add to your faith goodness; and to goodness, knowledge; ...." (2 Peter 1:5 NIV). It seems important that

goodness must come BEFORE knowledge, otherwise (as shown by stimulus relevance) the knowledge is limited by non-goodness.

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A Hermeneutical Lesson from Sarah  
on the  
Relationship Between the Scriptures and Science

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It is often heard within Christian circles that "the Bible does not teach science." However, with science currently enjoying the status of an epistemic value in modern society, the Christian experiences the tension of relating the revelations offered by the Word of God and the scientific community. That is, many Christians tacitly accept that in revealing His will through the Scriptures God has done so in a manner that is scientifically congruent as understood in its modern sense. In particular, this tension is manifested in the numerous controversies seen in this century regarding the first chapters of the Bible and the scientific view of the origin of the universe and life. Evidence of this is found in its most extreme form in Young Earth Creationism. To a lesser extent it is also seen in the concordist formulations of Progressive Creationism.

A hermeneutical lesson from Sarah steps away from the volatile issue of origins to examine reproductive science as it is presented regarding her reproductive problem in both the Old and New Testaments. In the former, Sarah's childless condition was understood within the Ancient Near Eastern intellectual context of her time. More specifically, human reproduction was appreciated with agrarian metaphors as seen in the Preformation Theory. That is, since Abraham was capable of "laying down seed," which to the ANE mindset contained a miniature but complete human, Sarah's womb was deemed "barren" because she remained childless. By the time the Book of Hebrews was written reproductive science in the ANE had changed dramatically. In Hebrews 11:11, Sarah is claimed to have gained the power to 'katabole spermatos.' That is, this writer employed the technical term for a seminal emission and reflected the Double Seed Theory which asserts that 'seeds' from both parents are involved in conception. It is

interesting to note how modern commentators have dealt with this purportedly 'problematic' New Testament verse.

The hermeneutical lesson from Sarah is this. God by His grace and through His Holy Spirit inspired the writers of His Word within their hermeneutical horizon. That is, the intellectual content and epistemological context of the writers was not suspended during the process of theopneusticity. In Sarah's case, the science or cosmology of the day, specifically the reproductive science, was incorporated into the Scriptures, and even was dramatically modified between the Testaments. Extrapolating this lesson to the origins debate makes it possible that the early chapters of Genesis feature an ANE cosmology/science, like the Preformation Theory, and that this cosmology/science is open to revision by the advance of scientific scholarship. Such an approach orientates the emphasis of Holy Text to its theology rather than its cosmology/science. That is, the thrust of the early chapters of Genesis is its revelation of the ontological realities of the universe's creatureliness, humanity's bearing of the image of God and humanity's sinful nature; and that these pivotal revelatory tenets are transported by the vehicle of an ANE cosmology/science. Approaching God's Word with this hermeneutical method fully appreciates G.E. Ladd's aphorism, "The Bible is God's Word in men's words."

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Can Science Be Considered a Religion?  
*Rel = a code of belief or philosophy.*  
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It is a truism that science and technology influences not only practically every aspect of our lives but determines the future of our civilization as well. Extrapolating from the present time, the future world will be chiefly technological with very little or no room left for spiritual aspects. Although it seems to be an inevitable trend, it is difficult to reconcile it with the origins of modern science which has its roots in the Judeo-Christian tradition. People who gave the greatest momentum to science, eg. Copernicus, were clergymen whose aim was to demonstrate the omnipotence of God. Medicine was first practiced by monks in churches and monasteries. Yet, today science is viewed as the only source of truth  
*May be } need to be up for God. Marxist society was first in history  
paradox. } to be based on science.*  
25

*It remained a dogma that can't fully be tested that it can explain all things. Modern science came from reb. - a reaction of theologians to search for magic (alchemy) that was anti-Ju. It came via use of math. & numbers. Also incontestable. Controversy lies in numbers (betw. sci & rel.). Research numbers (today's 4 bil yrs, etc) no conflict*

*Thoughts of Ideas Compete. which prevail in the morphogenic field leads to Reality.*

*a photocollection about a wave-proved by numbers.*

having nothing to do with God, thus putting religion aside as a marginal aspect of life. Of course, nobody can deny the tremendous advancements of modern science in the area of technology and medicine. Does it mean that science is the only objective way of learning about our reality? The seemingly inevitable technological future of this civilization can be challenged if we view science as a religion which is based on a set of dogmas not different from those of other major world religions. Albert Einstein said in his *Ideas and Opinions* that the aspirations of science towards truth and understanding spring from the sphere of religion. The difference between the religion and science is that the latter does work without help from God. We do not need supernatural intervention to build a bridge. Yet, in the area of medicine, which is not purely materialistic, prayer was recently documented to work where science and technology failed. In conclusion, I submit that a struggle between science and religion could take different course if science is considered a religion, and consequently Christian apologists would not have to explain Bible in terms of science.

*a holistic model: all within the spiritual* → *magical Petros* ← *material*

Reflections on Research From The Wisdom Literature

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The wisdom literature (Job, Proverbs and Ecclesiastes) offers guidance for conducting research. The created world is the general context in which it is set and this provides a common ground to examine research methods in light of biblical revelation. Biblical scholars have noted that the place of wisdom literature in the canon is unique in its emphasis on creation. Indeed, the spirit of empirical research permeates the whole body of wisdom literature. A reading of the wisdom literature provides modern scientists with an enlarged vision to discern the contexts and the limitations of scientific research. As one reflects on Proverbs 22:28, Ecclesiastes 1: 9-11 and Job 38-41, one is led to ponder over the importance of including history as part of the research process, the validity of the idea of progress, and the reduced vision of modern scientists. The reflection also takes the insights of Jacques Ellul and Thomas Kuhn into consideration.

The Great Commission and Research  
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Many Christians fail to recognize that Jesus' Great Commission (Matt. 28:19-20) includes teaching believers to obey everything he commanded. Christian scientists then are led to believe that only "saving souls," church work, and missionary service are in the call to "full-time Christian service." Research is deprecated, fearing it replaces the Bible as a guide to faith and conduct.

Scientific research, however, has a solid biblical base. It helps us learn how to apply biblical teachings on stewardship, loving the Lord and our neighbor as we love ourselves, doing good to all, filling our minds with praiseworthy things, and living as children of light. It is useful for evaluating Christian ministries and institutions. It gives us tools and techniques for revealing, studying, and resisting the wiles of the Evil One who comes as an "angel of light." It helps us to avoid every form of evil. It hinders us from calling what is evil "good" or what is good "evil" in our increasingly complex and urbanized world.

Research is not only needed to help obey our Lord's teachings and to improve the work of Christian agencies and ministries. It also is a tool for evangelism. As a prominent language of the scientific, scholarly, and political world, well designed and carefully conducted research on issues pertinent to the Christian faith and life attracts a favorable hearing, in contrast to worldly animosity toward "naked" appeals to the Bible and religious traditions. Doing good research is a Christian calling.

The City In The Bible  
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The biblical teaching about the city can provide guidance for us today.

The city as a center of opposition to God or as a center of good appears from the first city, built by Cain, to the New Jerusalem in Revelation 22. From this biblical material emerge lessons for our approach to cited today.

Shared Obstacles to Development: Third World Los Angeles  
and Third World Planet Earth

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Scholars interested in international development conferences attend development conference. Scholars interested in urban problems attend panels and conferences addressing urban problems--usually those of the United States. Specialization leads to isolation; cross-fertilization rarely occurs between these disciplines. Thesis: most developmental problems are ubiquitous. Obstacles to development in the City of Los Angeles may be contextual and situational to some extent, but they share many, if not most, of the characteristics of obstacles facing much of the third world. Many shared obstacles involve human resources or lack thereof. Attitudes that might encourage development are often lacking: strong ego, identity with and loyalty to the nation. basic optimism toward life and the future, participation in society and politics, sense of political efficacy, etc. A comprehensive model for development will be proposed.

Is "Intelligent Design" Christian? ~ a hyperbolic question

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Renewed attention has been given recently to the question of whether or not an understanding of terrestrial life requires the idea of "intelligent design", and therefore acceptance of a "Designer". Design may be thought to replace or accompany evolution by natural selection. Many discussions of intelligent design have focussed on philosophical and scientific issues. This paper argues that there should be more

*Theanthropos - the divine person (not just anthropos) = Man*

concern about distinctively Christian theology.

What do Christian ideas of creation, salvation, and eschatology tell us about design? This discussion suggests answers along the following lines.

1) God has a design for the universe. It is Jesus Christ, God Incarnate, crucified } *God's purpose*  
and risen.

2) The created universe must be compatible with divine incarnation. This may require the evolution of intelligent life, but we do not know how restrictive that requirement is.

3) Divine design must be first discerned from God's self-revelation to which Scripture witnesses, not from scientific study of the world.

4) Scientific knowledge, when viewed in the light of the cross, can contribute to our understanding of God's plan.

*The functional integrity of creation*

5) If God co-operates with natural processes, we will not expect to see anything in the structure or behavior of living things which cannot be explained "though God were not given".

6) If we believe God to work through natural selection, structures which are less than perfect for the performance of their functions need be no embarrassment. *No surprise from God's working thru natural processes. Lack of intrinsic superiority is consistent w/ how God works in history - Deut. 7. 4pt Rom 9*

Defining the Limits of Multiculturalism in Urban Canada

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Canada has always been multicultural (M) in terms of British/French and other European nationalities and, until about 30 years ago, the country was probably well over 95% Caucasian and nominally Christian. Although there was unmistakable identification with British heritage, there was no lack of Canadian patriotism, appreciation of national identity and social cohesion. Canada's impressive sacrificial

contribution to both World Wars further consolidated its sense of nationhood. Out national spirit soared to new heights during the centennial celebration of "Expo 67" and optimistic voices unabashedly claimed the 21st century for a peaceful, prosperous Canada.

At about the same time, Canada adopted its new Maple Leaf flag and introduced new, proactive policies of Official Bilingualism and Multiculturalism. French immersion lessons swept the country because bilingualism was to become a key to good governmental careers. Translation services became a growth industry. Goods on market shelves had to have bilingual labels and governmental services had to be available in French wherever possible. On top of it all, Canada took on the staffing task of admitting and settling on unprecedented number of "visible minorities" and encouraging them to preserve and promote their culture and language in our new "cultural mosaic". Everyone would soon be able to demand governmental services in any "heritage language" and Canada would be well on its way to becoming the happiest, most exotic Tower of Babel on earth, with a national debt to match. It was like an irresistible tide.

Thirty years later, French separatism is stronger than ever. Canada's Parliament now has a Quebec-based separatist Party forming the Official Opposition. Its founding leader, Lucien Bouchard, has declared brazenly that "Canada is not a real country". A Federal Minister has described Canada as a country without a culture. Former Quebec Premier Jacques Parizeau bitterly blamed "the others" in Quebec for the failed separation vote in October 1995, highlighted the cultural divisions in that province. These "others" include anglophones in Quebec, but also "visible minorities" who now form up to 25% of most major urban populations. There are disturbing signs of growing ethnic divisions and difficulties arising in education, culture, ghettos, religious issues, affirmative action, crime, etc. At a time when serious economic challenges call for high morale and common purpose, Canada is stuck on 'biculturalism' and hung up on illusions of national 'unity through diversity'.

Any realistic model of M must surely propose a strong, cohesive majority culture which allows only limited numbers of minorities to flourish in its midst. If no limits are set, the door is open for any minority to grow unchecked towards majority status, locally or nationally, thereby negating the original concept. The time it takes for

one, or more, minorities to challenge the original dominant culture depends on (a) emigration pressures in the sending countries; (b) opportunities for economic betterment in Canada; and (c) pressures for family reunification in Canada. On all counts, continued high entry levels of "visible minorities" from developing nations are clearly favoured. The persuasive political power of ethnic 'swing vote' ridings coupled with our collective confusion about what constitutes healthy self-preservation, common sense, compassion, and "racism", compounds the issue. Christians in science should think and act clearly and biblically about the practical meaning and values of nationhood, citizenship, social stability and Christian stewardship.

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"New Testament Parallels: Impartiality, Consensus, and Delphi Methodology"

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The Delphi survey method clearly parallels two elements of New Testament scripture: *impartiality* and *consensus-building*. Both are normative for faith-based communities, and both are germane to the Delphi method. This paper does not emphasize research findings, but rather focuses on the methodology itself, submitting a striking correspondence between the Delphi survey method and selected biblical principles.

*First*, Delphi methodology fosters impartiality by generating a forum in which there is "no difference between Jew and Greek, slave and free, male and female" (Gal. 3:28). Respondents remain anonymous to each other, and opinion strands or falls on its own merits, being able to garner neither sanction or censure via status or personality. Every input is considered equally, paralleling the notion that in Christ all commonly becoming children of God (Gal.3:29), all are one (Gal. 3:28; Jn. 17), and social status becomes meaningless (Col. 3:11-15; Philip 2: 1-4; Jas. 2).

*Second*, the Delphi is a consensus-building tool which encourages

merging of opinions and a dynamic heuristic device which informs respondents with regard to perspectives and opinions. Early Christians were implored to demonstrate harmony and unity (J 17:23, I Peter 3:8), and sometimes to give consideration to opposing perspectives held by fellow-believers. The latter most is evidenced by Paul's argument concerning food offered to idols (I Cor. 8), whereby his own decision not to partake was determined solely by consciences of others who would be offended. Delphi methodology elicits patterns of agreement, as well as patterns of dissent, both of which should inform a congregation's decision-making process.

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### The Origin of Species, Part II

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Looking at the physical evidence, it appears that Darwin was right when he popularized the idea that species came from other species. Modern evolutionists (Neo-Darwinists) lack credibility, however, when they assert that life began by spontaneous generation, and that genetic mutations are the raw material for evolution. Now there is a new theory that fits the physical evidence much better: The DeHaan theory of Macro-Development which was introduced at the 50th annual ASA meeting (Robert F. DeHaan, 1995).

The theory of Macro-Development states that just as heart and liver in the same organism have a common ancestry by consequence of genetic code, so also do cat and dog have a common ancestry by consequence of genetic code. It helps to imagine the entire biosphere as a super-organism which began as a single seed, planted by God on the earth, and that contained the DNA necessary to produce all life, ancient and modern.

What is remarkable about this theory is that it fits the available physical evidence so well, i.e. the fossil record and the current biosphere. Consider for example dogs or pigeons, both of which are polymorphic. Since the time was relatively short for the multiple forms to be produced, as they were bred by humans, the genotypes must have been essentially formed before they were expressed phenotypically.

Other examples will be cited.

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Research Methods and Proverbs 1-9

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Principles described in the opening chapters of Proverbs often coincide with principles of conducting research in the natural and social sciences. The first nine chapters of Proverbs are considered in detail, emphasizing those ideas most relevant for research. These are then compared, side by side, with corresponding methods of research. The author will emphasize that, while the Bible and the scientific methods do not always say exactly the same things, the underlying principles of the scientific method often converge with principles articulated in the scriptures.

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### The Human Condition: Health Status of the Urban Culture

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With the urbanization of our planet, many good things have occurred. These include economic prosperity, advances in technology and research, and improvements in productivity. However, many woes have resulted, too. One of the biggest issues of the twenty-first century will be the status of health care in the United States. Why? Because while many people are living longer, they are not always living healthier. As many hang onto the last thread of life, huge medical bills accumulate. Of the many problems facing our society, one that has yet to be successfully addressed is a disease known as sarcopenia. Literally, this is a wasting of flesh that occurs as we age, but it also encompasses the functional decline of many bodily functions as a result of a poor lifestyle, primarily inactivity. This disease is associated with several major illnesses that decrease the quality and length of life. Among these are

cardiovascular disease, hypertension, osteoporosis, decreased muscular strength, decreased endurance, cancer, diabetes, decreased aerobic capacity and decreased brain function. Research has shown a direct link between our lifestyle and these illnesses. Furthermore, the evidence suggests that over the past half century, the increase in these illnesses is directly linked to the urbanization of our planet. In countries where the lifestyles of those living in Western civilization is not dominant, illness rates from these diseases are much lower. Is it important for Christians to take preventative measures to avoid sarcopenia and, if so, what are some of these preventative measures? The Christian's body is the temple of the holy Spirit. Therefore, it is appropriate to consider ways in which this temple can be maintained in such a way as to permit it to perform service acceptable to God. In this presentation, some of these maintenance and enhancement interventions will be considered.

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#### Responsible Use of Scientific Knowledge

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It is widely appreciated that the existence of humanity on planet Earth has reached a critical stage. We have the ability to secure unprecedented material prosperity and physical comfort; we also have the ability to produce human suffering and environmental catastrophe on a scale previously unimaginable. These developments have resulted in large measure from the emergence of science in the last four centuries. Many therefore view science as the culprit of the piece; we would be better off, they say, had we not opened Pandora's box and unleashed this dangerous knowledge on an unsuspecting world.

Christianity comes in for a share of criticism in this context. The Biblical mandate to "be fruitful and multiply, and replenish the earth and subdue it" is seen as encouraging arrogant exploitation of the earth's resources, and wars instigated by "Christian" nations are seen as major despoilers of people and nature.

This view of science and Christianity, however, is based on a distortion of the facts and a faulty comprehension of the nature of the universe

and the human race. A theology which properly interprets the data of scripture informs a science which properly interprets the data of nature that humans have responsibility to their Maker to be faithful stewards of His creation. This responsibility extends from the smallest detail of family life to the greatest matters of international organization.

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#### How Much Wilderness Is Enough? Perspectives from Conservation Biology and Christianity

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The preservation of global biodiversity is a growing concern and the focus of the discipline known as Conservation Biology. Current estimates indicate that at least hundreds and probably thousands of species are going extinct annually. This raises an important question. How much terrestrial landscape must be preserved to protect global biodiversity? Recommendations from the scientific community range from 10% to more than 50%. As stewards we might well ask the reverse question – How much land does the steward have the right to take for himself and how much must be left to preserve the fruitfulness of creation? A growing number of scholars, some secular, are suggesting that the answer to this question will not come from science and technology alone. Conservation biology through its study of Gap analysis, biological hot spots, and minimum viable populations is informing us where and how much of the landscape we should protect, but the motivation and paradigm (values) shift necessary to adopt a globally sustainable life style will primarily be a religious contribution. Key Biblical themes are identified which relate to global stewardship including the goodness of creation; God's joy in Creation, human responsibility toward creation, the Fruitfulness Principle, the Sabbath Principle, and judgment for disobedience. The Judeo-Christian Stewardship Environmental Ethic is presented as an exquisite match for the ethical requirements of Conservation Biology. It is suggested that the scientific and religious community join hands in a combined effort to prevent further degradation of Creation.

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Greed, Need or Creed? Land Ethics in the Rural-Urban Fringe of  
Edmonton

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What is the land ethic that underlies conversion of prime farmland to urban-related development? This paper proposes a general framework to characterize and classify land ethics in the urban fringe and applies this framework to rural-urban land conversion in Edmonton, Canada. The framework distinguishes three ethical perspectives on land in the urban periphery. An econocentric ethic based on a utilitarian view that acknowledges the market as the most effective mechanism for maximizing social utility and for determining ownership, distribution and use of land. A biocentric view implies that land has intrinsic worth independent of the value that humans place on it. This worth is usually defined by some biophysical characteristic of the land resource. The theocentric land ethic adopts a stewardship perspective and is derived from biblical teachings of the land, and its ownership and use. The Edmonton case examines rural-urban land conversion in light of a massive annexation of prime farmland to the city (1982) for eventual urban development. The focus is on two local farm organizations that have intervened in the land planning process from a theocentric land ethic to preserve an area of prime farmland within the city's boundaries. This study argues for a theocentric land ethic as an alternative to the prevailing econocentric perspective and the emerging biocentric view on land. The case study demonstrates how Christians are actively participating in local public policy to promote a biblical model of land stewardship in an urbanizing world.

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Extraterrestrial Hopes for Planet Earth

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Some scientific visionaries have suggested that the best hope for solving

such intractable problems on earth as overpopulation, pollution, warfare, and perhaps even mortality itself, is through help obtained by communicating with extraterrestrial civilizations. The search for extraterrestrial intelligence (SETI) began nearly 40 years ago with high hopes. These hopes are based on four claims: (1) Among several hundred billion stars in our galaxy, as many as a hundred million might have planets capable of supporting life. (2) As many as a million advanced civilizations might exist at the present time from among those that have evolved on these planets over the ten-billion year lifetime of our galaxy. (3) Some of these advanced civilizations might have developed techniques that have enabled them to survive for many millennia longer than our two-century old technological but faltering civilization. (4) If radio communications can be established with such advanced civilizations, they might reveal the secrets of their success for the benefit of planet earth. Although large amounts of money and scientific effort have been expended in pursuit of these ideas, analysis shows how extremely improbable they are. In fact, these probabilities are so small that the existence of intelligent life on even one planet in our entire galaxy is truly amazing, leading to a new appreciation for the miracle of life on planet earth.

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The Prostitution of Christianity and Science  
by the New Age Movement  
in a Significant Segment of the Practice of Medicine

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In the field of medical practice today, the concept of the Holistic Medicine is becoming very popular. For at least a significant number of those who so style themselves, their idea of Holistic Medicine is the practice of medicine from a different point of view.

This concept has at its basis the New Age approach to life and its practice. (A very brief outline of its basic tenets).

This view looks upon science as its enemy. According to one author, "it is not a turn away from statistics and physics, it is a turn to an alternative metaphysics;" namely, the New Age metaphysics. He claims the best imagery with which to describe holistic medicine is that of a



carnival, (to be expanded)

Dangers are obvious (one or two examples)

Conclusion: no matter how dedicated a practitioner of holistic medicine or his or her patients may be, they still call 911 when they have a severe pain in the mid anterior chest!

Based on *The Metaphysics of Holism* by Neil J. Elgee, M.D. in fall issue of *The Pharo* of the Alpha Omega Alpha Medical Society, 525 Middlefield Road, Suite 130, Menlo Park, CA 94025-7692

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### Reclaiming Urban Brownfields: Technology and Policy

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Devaluation of the family and welfare dependency are often cited as primary causes of urban social decay and economic decline. However, the inverse sequence —disinvestment in our urban cores—is equally indictable. Economic and social flight—admitted by market forces and facilitated by public policy—have left urban environmental legacies called “brownfields” together with their associated social and political consequences. Adjunct to the urban are exurban damages: disappearance of “greenfields” (agricultural land, habitats) and increased energy use—especially for transportation. However, partisan debate on the causes of urban decay and the legitimate role of government intervention in—or even influence of—the marketplace can be transcended by a cooperative approach involving financial, regulatory, technical, and business sectors. New technologies and new policies are under development which can provide the basis for returning brownfields to economic productivity; several examples will be provided.

Value-laden decisions about public policy directions for the Christian community must be based upon scriptural principles ahead of market forces. For example, the effects of factory closings upon human communities and upon the environment do not appear in economic models. Hence, economic determinism - wherein human intellectual

capital and natural resources are viewed as *fungible* assets - fails to provide a biblical foundation for decision making. When judgements must be made about economic benefit vs. social costs, a helpful process for revealing value differences is provided by the “Safe Minimum Standard” (SMS)<sup>1</sup>. Through the use of SMS analysis, differing views on which decisions can be left to the market, and which have social consequences too great to be left to the market, can be displayed for debate. The procedure will be illustrated by application to urban social-environmental problems.

1. Pierre Crosson and Michael Toman, “Economics and Sustainable Development,” in *The Greening of Industrial Ecosystems*, pp. 90-97. Washington, D.C., National Academy Press, 1994.

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### Certainty of Faith and Probabilistic Science

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A person whose nurture and training come from either the "faith" tradition (fideist) or the "science" tradition (empiricist) must be able to understand and sympathize with the assumption and mind set of people from the other tradition for meaningful dialogue and coexistence. Fideists are stereotypically viewed as fanatics in their behavior and rigid in their beliefs while they view themselves as being confident and assured. Empiricists are stereotyped as being skeptics and amoral while they feel they are critical and tolerant.

A model is proposed which will help fideists understand the uncertainty of empiricists and allow empiricists to understand the confidence and assurance of fideists. The model provides a framework within which the scientific mind set can be used by fideists to enhance understanding of their own beliefs and be a helpful guide to practice without compromising their values.

To use the model as estimate of the degree of assurance is estimated for elements in a person's belief structure. For both fideists and empiricists,

assurance will be stronger for some beliefs than others with most beliefs being held with less than 100% confidence.

The proposed model includes seven categories of assurance and their relationship to a person's verbal statements of assurance (varying from "It is true!" to "It is false!"), the mental attitude a person takes in relation to a belief (confidence or doubt), the person's action tendency (acting positively, acting negatively, or taking no action), and the person's listening tendency (eagerly listens, willing to listen and will not listen).

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### Stewardship: Why Perspectives Matter

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The theme for this year "Science, Christianity and the Urbanization of Planet Earth" challenged me to explore whether there could be something about a Christian perspective that might make a difference about the way we deal with planet earth. Upon reflection, there seems indeed to be a point of differentiation; one that while appropriately Christian may not be restricted to denominational frameworks. It seems to me that the bottom line is whether we construe the planet earth as a gift or a given—as a part of the bounty from a benevolent Creator or as merely just another part of the happenstance "given" resulting from blind chance.

I would like to explore some of the implications of the two alternative world views (creation vs. meaningless chance) on the issue of stewardship. Then I would like to develop this beyond merely a way of apprehending the situation to a way of living, along what might be termed the Assisi model. This presentation is neither another discussion of the creation vs. non-creation "debate" nor an environmental impact study. It seeks simply to clarify how our attitude and perspective concerning the planet earth (as a gift or a given) impinges upon our sense of stewardship; and this not only conceptually but also as a formative attitude.

While I will not attempt to adjudicate the merits of alternative ecological positions vis-a-vis theological considerations (apologetical, sacramental, eschatological), the sort of "putting faith into practice" implicit in the discussion bears an unmistakable heuristic dynamic which, if implemented, yields a corrective message of hope. Yet it is not the purpose of this paper to seek or provide tests or measurements for cure and improvement. It can be granted that change of any type requires time and patience. Here I wish only to explore how perspectives affect in principle the sort of stewardship we manifest and manage.

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### The Concept of Human Nature in Science and Theology

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I explore some implications of the fact that the interaction between religion and science is constituted by persons who stand in relation to God and nature. I distinguish between irreducible ways of human functioning each of which contributes a dimension to a person's relation with God and nature. These include logical, trusting, emotional and imaginative dimensions. The interaction between religion and science can now be seen as the interaction between some of these dimensions such as trust and reason. The conceptual dimension of the relation consists in conceptual beliefs about God and about the world. Theology and science are systematic and deepened attempts at conceptualizing truth about God and the world. Interaction between religion and science can now be seen as the interaction between some of these dimensions such as trust and reason. The conceptual dimensions of the relation consists in conceptual beliefs about God and about the world. Theology and science are systematic and deepened attempts at conceptualizing truth about God and the world. Interaction between religion and science then is between (a) belief in God (faith) and beliefs about God (theology), (b) belief in God (faith) and beliefs about the world (science), and (c) beliefs about God (theology) and beliefs about the world (science).

These distinctions suggest how beliefs about God and nature might affect each other's content, namely via the creation of semantic and logical relations. This includes a proposal for a "mechanism" for the

creation of semantic relations between any two different fields of knowledge including religion and science.

He Holds the Whole World in His Hands

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Christians in science have unthinkingly accepted the secular picture of the world presented by empirical "objective" science. Science knows what causes rain to fall and grass to grow, and in our working clothes we scientists haven't thought about what the Bible tells us about these causes. *We abstract what we're thinking in sci from its context; & we're not good at reintegrating. Sci knows - where comes regularity from?*

If the Bible and science both give causes for the same event, both must be correct at the same time. We have separated them so far apart that the one kind of cause has fallen off the table. *Sci. law is our description of God's regular way of doing things. But we've made law into a thing. Meaning is outside the event.*

One result is that conservative Christians disbelieve "secular science." Another is that God's work of creation is set in opposition to the regular events that scientists study. But science and the Christian faith really need to be integrated. *don't see God in everyday events. seek miracles because we*

A new paradigm of understanding is outlined which relates God and science in a more intimate way. This can tend to defuse "scientific creationism" and puts God back in place as the sustainer of the world.

"The Riddle of Life's Beginning On The Planet Earth"

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1. An unsolved mystery in evolution is how the chemistry of the earth fostered (created) life.

2. Three major theories have been advanced.

- a. Out of the primeval "soup" of the ocean, the requisite chemicals necessary for "life", in the presence of volcanoes and lightning strikes, originated.
- b. Life in the elementary form was carried to the earth from outer space, known as the OZMA project, if there is another planet capable of fostering life.
- c. The poetic (not inconsistent with scientific explanation, but not experimental) of Genesis 1: 20 - 21

3. Let science describe the process as Scripture describes the fact

Changing Concepts of Sexuality as Population Becomes More Urbanized: Psychology, biology and culture

*pleasure  
power  
hostility  
etc more emphasis  
than reproduction  
humiliate subject peoples*

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I. The purposes of sexual behavior:

- 1. Description of male and female, feminine and masculine
- 2. Reproduction of the species, pregnancy and child-rearing
- 3. Intimacy and pleasure, fun and frolic. Use and disuse.

II. Secular, cultural and Christian descriptions and parameters of sexuality.

- 1. Rural and primitive uses of sexuality.
- 2. Urbanization modification of natural sexuality.

III. Christian rules for sexual use in the frame of scientific knowledge.

- 1. Reproduction and families
- 2. Paraphilias (sexual abnormality) and Sexually transmitted diseases, as affected by changing cultural population distribution.
- 3. Nature, ethics, and Christian

*Falsified data re sex by Margaret Mead (gave her what she wanted) & Kinsey  
Mead & Buss } sexual contacts  
" & R. Benedict }  
Kinsey, Sex & Fraud by Judith Reisman et al.  
Lack of comy, authority, &  
25% K's prison pop were sex offenders - what was in Indiana.*

Creation Science  
and the  
Caring for Creation in Korea

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Since the early 1970's when the rapid industrialization accelerated the deterioration of environment in Korea, some Korean Christians have concerned about caring for creation. As a result, several Christian organizations such as Korea Christian Ethics Movement, Citizens Council of Economic Justice, Ecclesiastical Institute for Environmental Studies and YMCA have started to lead environmental movements by setting up environmental divisions. But the Korean Association for Creation Research (KACR), an association of creation scientists in Korea, consistently kept silent. *2000 members (100 are Ph.D's)*

*Organ. to 27 members, 45 responded*

Since its very inception in 1981, the Association participated in several activities; revising high school science textbooks, raising money for a creation science exhibition center, running a publishing company, funding several projects to prove scientific validity of biblical descriptions and even hosting two international conferences. But strange enough, the Association is totally indifferent to environmental issues that are apparently related to God's creation. Why is it? Surveying the theological positions of leading Korean creation scientists, this paper attempts to trace the origin of their indifference to environmental problems.

Above all, the creation science in Korea has been apparently supported by some "otherworldly theologies: like premillennialism in eschatology, dispensationalism in God's revelation and fundamentalism in the biblical hermeneutics. For example, Dr. Kim Young Gil, founding president of the Association, became a Christian by Hal Lindsay's best selling book, *The Late Great Planet Earth.*

Most of Korean creation scientists came from the conservative denominations which, though changing their attitudes toward environment recently, prohibited the discussion of Christian stewardship for environment in creationism forum: Conservation

denominations include some of the Presbyterians (Hapdong, Taeshin, etc) the Holiness Churches, the Baptists including the Southern Baptists and the Bible Baptists, the Full Gospel Churches and even the Seventh-day Adventists. So far, the Christian implications of environmental care have been actively discussed within a few denominations like the Methodists, some of the Presbyterians (Kijang), the Anglican and the Catholic churches.

In addition to the conservativeness and other worldliness of the Korean Church and its theology, the Korean creation scientists have poor communication with the theologians and Christian academics who can provide the diverse environmental implications of creationism. They have been included from the creation science forum, because, from the beginning, the Association has limited its membership to scientists and engineers with degrees of MS or higher.