
Searching for Absolute Values and Unity in the Sciences:

*Science for the Benefit of
Humanity*



Washington Hilton and Towers
Washington, D.C.
November 24-29, 1997

Twenty-first International Conference on the Unity of the Sciences

Welcome

As we stand on the threshold of the third millennium, it is time to take measure of what has been accomplished in this, the twentieth century. What immediately comes to mind is social turmoil worldwide. The last hundred years are unprecedented in their upheaval and change. I doubt that there has ever been a more chaotic time in history, and we do not know what the future will bring. Indeed, humanity is passing through a transition — a dangerous passage — as Ambassador George Kennan has pointed out.

Whenever the past ceases to be the great and reliable reference book of human problems — whenever, above all, the experience of the father becomes irrelevant to the trials and searchings of the son — there the foundations of man's inner health and stability begin to crumble, insecurity and panic begin to take over, conduct becomes erratic and aggressive. These, unfortunately, are the marks of an era of rapid technological or social change.

What brought all this about? There is no doubt that the responsibility ultimately rests with science. The lofty vision of Francis Bacon was finally universally accepted as a motto for the modern world: "The true and lawful goal of the sciences is none other than this: that human life be endowed with new discoveries and powers."

Did science achieve its goal in the last century? Yes and no. Science has brought about miracles. People live longer and lead more comfortable lives than ever before. We have traveled to the moon and are exploring the surface of Mars. We believe we have finally found the ultimate constituents of matter. We have managed to decipher the genetic code and have established instantaneous electronic communications all over the globe. Medical science has eradicated diseases plaguing humans since the dawn of civilization. We have created worldwide transportation by air, making it possible for people to travel in a safe and convenient way, thus allowing for international conferences, like ICUS, to be arranged. We are beginning to enjoy the wonders of information technology and are about to enter the age of genetic engineering.

But, alas, we have also witnessed the most monstrous misuse of our "mastering of nature." In this century millions of people have been killed by means of modern science. Science produced poisonous gas and

dangerous bacteria to be used in warfare and the atomic bombs which were dropped on the people of Hiroshima and Nagasaki. In the name of science, women have been subjected to sterilization and men to harmful drugs and ionizing radiation. Pollution of the earth's atmosphere, waters, and fertile soils, and the prospect of dwindling natural resources, scare many. Natural beauty has been spoiled by mindless exploitation. An unknown number of species have become extinct because of human activities.

The central plate of Goyas' *Caprichos* etching carries an inscription which reads, "El sueño de la razón produce monstruos." The dream of reason produces monsters. But the Spanish word *sueño* has a double meaning: dream and sleep: "When reason sleeps, monsters are produced." Or as René Dubois put it: "Imagination deserted by reason creates monstrosities. United with reason, imagination gives birth to great marvels and true art."

Will scientific knowledge be, as Bacon suggested, "for the benefit of life?" Are we, the "masters of nature," behaving like benevolent gardeners or like mad sorcerers?

This crucial question is intimately connected with the theme of the twenty-first ICUS: *Science for the Benefit of Humanity*, a theme chosen by the Founder himself. When we in our six committees try to understand how scientific knowledge is currently used and can be made useful rather than harmful, I suggest that we keep the ironic words of Heraclitus in mind: "Plentiful knowledge does not teach common sense. If so, it would have taught it to Hesiodos and Pythagoras and to Xenofanes and Hekataois as well."

I wish all the participants to this conference welcome. I feel confident that it will be a success due to your hard work as paper writers and discussants. As usual, the small but efficient ICUS staff has made excellent preparations, for which we are all grateful.

Last, but not least, we thank our generous sponsors, the Reverend and Mrs. Sun Myung Moon for their unfailing support, now extending over twenty-five years. Let us also remember their home country and pray that the peace and unity of which they have dreamt for so long will finally come to the Korean people.



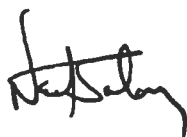
Tor Ragnar Gerholm
Conference Chair
ICUS XXI (1997)

Table of Contents

For the twenty-first ICUS we come the capital of the United States of America, Washington, D.C., at a time when her power and influence is unchallenged throughout the world. America has many proud achievements, but also some very deep problems. We hope this conference will afford you the opportunity to reflect on America's greatness as well as to understand some of her difficulties.

During our time together you will be exposed to several ICUS-related projects, such as the Professors World Peace Academy, Paragon House Publishers, the *World & I* Magazine, the World University Federation and the Federation of Peninsula Nations for World Peace. Both through plenaries and some free time on the second full day of the conference, we hope you will take the opportunity to learn more about these projects as well as the other committees convening during this conference.

Our staff wishes to make your stay as pleasant as possible. The Registration Desk is located on the concourse level and will serve as our headquarters. Your comments and suggestions for improving the conference, as always, are welcome.



Neil Salonen
President
International Cultural Foundation

Chairmanship and Plenary Speakers	2
Schedule	4
Committee 1	6
Committee 2	10
Committee 3	14
Committee 4	18
Committee 5	21
Committee 6	24
WCSF Committee	28
Statement of Purpose	32
A Short History of ICUS	34
Founder's Page	36
International Cultural Foundation	37
Related Activities	38
Conference Staff	41
ICUS Publications	42
Floor Plans of Hotel	49



The Symbol of ICUS

The symbol of ICUS employs at its center the symbol of ICF, which portrays the give and take relationship and interdependence among all phenomena, symbolized by two circular arrows. The forms of a man and a woman, also symbolizing the unity of "Heaven and Earth" or the spiritual and material cultures, revolve around a common center, or standard of value. The extended arms represent the tips of writing pens since writing is the medium of cultural expression and interaction.

Chairmanship and Plenary Speakers



Conference Chair
Tor Ragnar Gerholm
Professor of Physics Emeritus
University of Stockholm
Stockholm, Sweden



Conference Vice Chair
Richard L. Rubenstein
President
University of Bridgeport
Bridgeport, Connecticut USA



Conference Vice Chair
Norge W. Jerome
Associate Dean for Minority
Affairs
Professor Emeritus of
Preventive Medicine
School of Medicine
University of Kansas
Kansas City, Kansas USA



Plenary Speaker
Alvin M. Weinberg
Distinguished Fellow
Oak Ridge Associated
Universities
Oak Ridge, Tennessee USA
Scientific Millenarianism



Plenary Speaker
William Kilpatrick
Professor of Education
Boston College
Boston, Massachusetts USA
Character and Values



Plenary Speaker
Neil A. Salonen
President, International Cultural Foundation
Chairman of the Board of Trustees
University of Bridgeport USA
Bridgeport, Connecticut USA
*The Role of Universities in the Education of
World Citizens*
Sponsored by the World University
Federation

List of Committees

Committee 1: The Information Revolution, Higher Education, and Research

Marcelo Alonso, Organizing Chair
Principal Research Scientist, Retired
Florida Institute of Technology
Melbourne, Florida USA

Committee 2: Symmetry in its Various Aspects: Search for Order in the Universe

Yuval Ne'eman, Honorary Chair
Wolfson Distinguished Professor of
Theoretical Physics
Tel Aviv University
Tel Aviv, Israel

Bulent Atalay, Organizing Chair
Department of Physics
Mary Washington College
Fredericksburg, Virginia USA

Committee 3: Human Universals and the Biological Foundations of Art

Frederick Turner, Honorary Chair
Founding Professor of Arts and Humanities
University of Texas at Dallas
Richardson, Texas USA

Brett Cooke, Organizing Chair
Associate Professor of Russian
Texas A&M University
College Station, Texas USA

Committee 4: Treatment of Non-linear Systems in Physics and Economics

Eugene Velikhov, Organizing Chair
Vice President
Russian Academy of Sciences
Moscow, Russia

Committee 5: Wholeness Through the Pathways of Wisdom

W. Andrew Achenbaum, Organizing Chair
Professor of History and Deputy Director
Institute of Gerontology
University of Michigan
Ann Arbor, Michigan USA

Committee 6: Life, Death and Eternal Hope

Carl Becker, Honorary Chair
Professor of Comparative Thought
Faculty of Integrated Human Sciences
Kyoto University
Kyoto, Japan

Paul Badham, Organizing Chair
Department of Theology and Religious Studies
University of Wales
Lampeter, Dyfed, Wales

World Culture and Sports Festival Committee (sponsored by ICUS, PWPA, and IRFWP)

Constructing Theories for a Coming Age of Global Family

Sung-Bae Jin, Honorary Chair
President
Unification Thought Institute
Seoul, Korea

Ronald Burr, Organizing Chair
Professor of Philosophy
Southern Mississippi University
Hattiesburg, Mississippi USA

Schedule

Sunday, November 23

All Day Arrivals

Monday, November 24

All Day Arrivals

10:00 A.M. Registration Opens
Concourse

7:00 P.M. Welcoming Reception
Ballroom East

Tuesday, November 25

7:00 A.M. Breakfast

Jefferson and Lincoln Rooms

9:00 A.M. Opening Plenary Session
ICUS and PWPA
ICUS Chairman's Welcome
PWPA Chairman's Welcome
Founder's Address
Ballroom Center

10:00 A.M. Refreshment Break
Display Area, Concourse Level

11:00 A.M. Plenary Session
Unity of the Sciences Theme
"Scientific Millenarianism"
Alvin M. Weinberg
Ballroom West

12:30 P.M. Luncheon
Jefferson and Lincoln Rooms

2:00 P.M. Committee Session I
Thoroughbred, Hemisphere,
Military, Monroe East, Monroe
West, Lincoln East, Lincoln West

4:00 P.M. Refreshment Break
Display Area, Concourse Level

4:30 P.M. Committee Session II
See Session I for Rooms

6:30 P.M. Dinner
Ballroom Center

8:00 P.M. Joint ICUS/PWPA Plenary
Science and Values Theme
"Character and Values"
William Kilpatrick
Ballroom East

Wednesday, November 26

7:00 A.M. Breakfast

Ballroom Center

8:30 A.M. Committee Session III-A
(Committees 1-3)
Thoroughbred, Hemisphere,
Military

10:30 A.M. Refreshment Break
Display Area, Concourse Level

11:00 A.M. Committee Session IV-A
(Committees 1-3)
Thoroughbred, Hemisphere,
Military

1:00 P.M. Luncheon
Ballroom Center

2:00 P.M. Committee Session III-B
(Committees 4-6 and WCSF)
Monroe East, Monroe West,
Lincoln East, Lincoln West

4:00 P.M. Refreshment Break
Display Area, Concourse Level

4:30 P.M. Committee Session IV-B
(Committees 4-6 and WCSF)
Monroe East, Monroe West,
Lincoln East, Lincoln West

6:30 P.M. Dinner
Ballroom Center

8:00 P.M. Joint ICUS/PWPA Plenary
World University Federation
Neil A. Salonen
Ballroom East

Schedule

Thursday, November 27

- 7:00 A.M.** **Breakfast**
Ballroom Center
- 8:30 A.M.** **Committee Session V**
*Thoroughbred, Hemisphere,
Military, Monroe East, Monroe
West, Lincoln East, Lincoln West*
- 10:30 A.M.** **Refreshment Break**
Display Area, Concourse Level
- 11:00 A.M.** **Session VI**
*Thoroughbred, Hemisphere,
Military, Monroe East, Monroe
West, Lincoln East, Lincoln West*
- 1:00 P.M.** **Luncheon**
Ballroom Center
- 2:30 P.M.** **Committee Summary Session**
*Thoroughbred, Hemisphere,
Military, Monroe East, Monroe
West, Lincoln East, Lincoln West*
- 4:00 P.M.** **Refreshment Break**
Display Area, Concourse Level
- 4:30 P.M.** **Closing Plenary Session**
Ballroom West
- 6:30 P.M.** **Dinner**
Ballroom Center
- 8:00 P.M.** **Joint ICUS/PWPA Plenary**
*Federation of Peninsula
Nations for World Peace
International Cooperation and
Peace in the 21st Century*

Friday, November 28

- 7:00 A.M.** **Breakfast**
Ballroom Center
- 8:30 A.M.** **Sightseeing and Lunch**
- 6:00 P.M.** **Dinner**
Ballroom Center

Saturday, November 29

- 7:00 A.M.** **Breakfast**
Ballroom Center
- 8:30 A.M.** **Buses depart**
Hotel Lobby
- 10:30 A.M.** **International Blessing**
Ceremony and Entertainment
RFK Stadium
- 1:00 P.M.** **Luncheon**
RFK Stadium
- 7:00 P.M.** **Dinner**
Ballroom Center

Sunday, November 30

- 7:00 A.M.** **Breakfast**
Ballroom Center
- All Day** **Departures**

The Information Revolution, Higher Education, and Research

Information technologies (infotec) refer to the electronic means for the generation, storage, transmission and dissemination of knowledge, which have been traditional roles of institutes of higher education and research centers. Infotec is not only changing the way those institutions function and perform their roles, but also is modifying the economics of higher education and research and the modality for institutional and personal relations.

The specific purpose of this committee is to explore how information technologies are affecting higher education and research institutions, both institutionally and operationally, in carrying out their functions, recognizing the challenges posed by the increase in population (enrollment), the increase in complexity of the educational and research fields, the emergence of new professional and social requirements, and the increased cost of education and research. One consequence appears to be the need for closer cooperation and complementarity among those institutions, thereby facilitating relations between specialists in different fields, for which infotec has shown to be an important instrument. An interesting question is whether, as a result of infotec, an interdisciplinary and unified form of knowledge is emerging. Another aspect worth consideration is whether infotec can help promote an awareness and concern about values and responsibilities in higher education. Each of these concerns bear a direct relation with the proposed World University Federation. Accordingly, the work of the committee will be organized around three main topics:

1. The impact of information technologies on higher education and research.
2. Information technologies and inter-institutional collaboration.
3. A vision for the future: A global network for education and research.

It is expected that the conclusions and recommendations reached during the discussions will serve as guidelines for the proposed World University Federation, which will be formally established at the time of the ICUS/ PWPA conference. A more detailed analysis of the topics follows:

1. The impact of information technologies on higher education and research.

It is proposed that the technical aspects of infotec, as they refer to methodologies and procedures in higher

education and research, be examined. In particular the impact of some technologies already in use, such as simulation, modeling and interactive systems, as well as the potential of more advanced technologies, such as intelligent systems, neural networks, molecular, optical and quantum computing, etc., will be discussed. How infotec is affecting relations between students, teachers and researchers may also be considered.

2. Information technologies and inter-institutional collaboration.

How infotec facilitates interdisciplinary research, intra- and inter-institutional relations, complementarity, cooperation, institutional networking and tele-education will be discussed, using case studies whenever convenient. Two interesting aspects to be considered are "virtual" universities (which may involve several "real" universities and are more than the traditional distance learning programs) and "virtual" laboratories (which complement, and even replace in some cases, "real" laboratories).

3. A vision for the future: A global network for education and research.

Although infotec is modifying how higher education is delivered and research is carried out, it is also posing some serious challenges that must be addressed. Will it be possible for higher education and research institutions in the world to use infotec in a meaningful and effective way? Will they be able to afford the required resources? Will many institutions be left behind? Will infotec contribute to a more unified approach to science and to knowledge in general? In a world that is increasingly complex, technological, and globalized, higher education institutions have the great responsibility of preparing students in a more comprehensive way, for which new mechanisms of institutional collaboration are essential. Will infotec contribute effectively to this collaboration? Will infotec assist higher education institutions to inculcate the students with the proper values and sense of responsibility needed for performing properly in their professional lives? Can the answers to these issues be found by establishing a global interactive network for education and research? Would this global network contribute to a better understanding among the different peoples of the world, an essential prerequisite for world peace?

Committee 1-Thoroughbred Room



**Organizing Chair,
Marcelo Alonso**
Principal Research Scientist, Retired
Florida Institute of Technology
Melbourne, Florida USA

Session I: Information Technologies and Higher Education

Tuesday, November 25, 2:00 - 4:00 pm

1. The University in the Twenty-first Century



Richard L. Rubenstein
President
University of Bridgeport
Bridgeport, Connecticut USA

2. Information Technology, Higher Education, and Research



Marcelo Alonso
Principal Research Scientist, Retired
Florida Institute of Technology
Melbourne, Florida USA

3. Information Technologies and the United Kingdom Higher Education System

Alistair Chalmers
Chairman
Advisory Committee on Networking
Joint Information Services Council
UK Universities
East Sussex, England

4. The Impact of Information Technologies on Eastern European Universities



Tamas Kozma
Director
Hungarian Institute for Education
Research
Budapest, Hungary

Session II: Information Technologies and Inter-institutional Collaboration

Tuesday, November 25, 4:30 - 6:30 pm

1. Information Technology and Inter-institutional Collaboration: The Case of the National Autonomous University of Mexico

Victor Guerra
Academic Services Coordinator
National Autonomous University of
Mexico (UNAM)
Mexico City, Mexico

Presented by: **Mariano Bauer**
Institute of Physics
National Autonomous University of
Mexico (UNAM)

2. Information Technologies and Inter-institutional Collaboration: The Case of the University of the West Indies



Christine Marrett
Head and Senior Project Officer
Distance Education Centre
University of West Indies
Kingston, Jamaica

Committee 1-Thoroughbred Room

3. Modern Telecommunication Technology and Higher Education in Russia

Alexey Platonov
Director
Russian Institute for Public Networks
Moscow, Russia

4. Infomedicine: The New Paradigm



Jose F. Patiño
Executive Director
Pan American Federation of
Associations of Medical Schools
Bogota, Colombia

Session III-A: Information Technologies and Research

Wednesday, November 26, 8:30 - 10:30 am

1. Future Developments in Microelectronics and Their Implications for Computing



Richard Turton
Computer Officer
University of Newcastle Upon
Tyne
New Castle Upon Tyne
England

2. Prospects for Intelligent Systems



Edward Finn
Department of Physics
Georgetown University
Washington, D.C. USA

3. Computer Simulations and the Science of False Reality

Itamar Procaccia
Dean of Chemistry
Weizmann Institute of Science
Rehovoth, Israel

4. From Mimicking to Surpassing Nature: The Case for Lattice Computation

Manuel G. Velarde
Pluridisciplinary Institute
University of Madrid
Madrid, Spain

Session IV-A: Information Technologies and Tele-Education

Wednesday, November 26 11:00 - 1:00 pm

1. The Academy in a Wired World



Tom Abeles
The Center @ Hamline
Graduate School
Hamline University
Minneapolis, Minnesota USA

2. The Experience of The Open University: Pointers Towards a Global Network for Education and Research



Gary Alexander
Senior Lecturer in Telematics
Director, Electronic Media in
Education Research Group
The Open University
Milton Keynes, England

Committee 1-Thoroughbred Room

3. Information Technologies for Innovation in the Andean Community: Experience and Potential



Carlos Aguirre
President
The National Academy of Sciences
La Paz, Bolivia

4. Science Education in the Open University: A New Challenge for Developing Countries



M. Shamsher Ali
Department of Physics
Dhaka University
Dhaka, Bangladesh

Session IV-A, Continuation
Wednesday, November 26, 2:00 - 4:00 pm

General Discussion of all Previously Presented Papers and Possible Presentation of Additional Papers

Session V: Panel Discussion
Thursday, November 27, 8:30 - 10:30 am

1. Tele-Education: Alternative or Necessity?

Jacques Dubois (Moderator)
Project Director
PBS "Going the Distance" Program
Melbourne, Florida USA

2. Social and Ethical Aspects of Information Technologies and Higher Education

Kenneth Gray (Moderator)
School of Business & Industry
Florida A&M University
Tallahassee, Florida USA

Session VI: Toward a Global Interactive University Network
Thursday, November 27, 11:00 - 1:00 pm

Marcelo Alonso (Moderator)
Florida Institute of Technology, Retired
Melbourne, Florida USA

Summary Session
Thursday, November 27, 2:30-4:00 pm

Closing Plenary Session
Thursday, November 27, 4:30 pm, Ballroom West

General Discussants

Syed Abidi
School of Library and
Information Sciences
Makerere University
Kampala, Uganda

Victor Amaya
University Tecnologica
San Salvador,
El Salvador

Roman Dengler
Educational University
Karlsruhe, Germany

Victor Latorre
Ricardo Palma Univ.
Lima, Peru

Michael Giampaoli
Office of Distance Education
University of Bridgeport
Bridgeport, Connecticut USA

Jose A. Guimaraes
Dept. of Economics
Catholic University
Salvador, Brazil

Akira Hasegawa
Dept. of Electronics and
Information Systems
Osaka University
Osaka, Japan

Gerardo Martinez
Institute of Physics
University of Rio
Grande do Sul
Porto Alegre, Brazil

Efraim Otero
FEPAFEM
Bogota, Columbia

Charles Sheffield
Author
Washington, D.C. USA

Gerard Radnitzky
Emeritus Professor
University of Trier
Trier, Germany

Luis Romo
Research Director
Polytechnic School
Sangolqui, Ecuador

Se Won Yoon
President
Sun Moon University
Chung-nam, Korea

Symmetry in its Various Aspects: Search for Order in the Universe

St. Aquinas once observed, "The senses delight in things duly proportionate." He could have said, "Humans delight in things duly symmetric." Smooth spheres, multifaceted gemstones, snow-flakes, or flowers possessing a variety of symmetries have inspired legions of artists, architects and musicians, and in less savory ways, numerologists and cultists. Similarly, lack of symmetry can be readily identified as a source of anxiety. When Galileo reported observations of mountains on the moon, he was derided by clerics for his faulty vision. And a hundred years later the Alps in Switzerland were still regarded by Europeans with some disdain, as aberrations on an otherwise smooth sphere.

The great mathematical physicist Hermann Weyl gave a definition of symmetry: "A thing that is symmetrical," he said, "...if there is something that you can do to it, so that after you have finished doing it, it still looks the same as it did before you did it." As simple minded as it sounds, this definition is general enough that it describes symmetrical shapes where the operations of translation, rotation and reflection leave the object indistinguishable. And it also describes symmetry in physical laws, where symmetry with respect to translation, rotation, time (or change, parity, etc.) leaves the mathematical form of the law unchanged. In this context, there are higher connotations of conservation of linear momentum in the case of translation, conservation of angular momentum in the case of rotation, conservation of energy in the case of time, etc.

In nature we observe symmetric shapes at the microscopic level both in animate and inanimate objects. At the microscopic level beyond the capabilities of our natural senses, and at the supramicroscopic, some of the same shapes, symmetries, and regularities prevail. The cross-section of the micro tubules in the heliozoan, magnified one-hundred thousand times, displays in the same spiral shape as do the horns of the ram, and multiplied another hundred billion billion times, that of the structure of a spiral galaxy. At one extreme the observing apparatus may be an electron microscope, and at the other, and optical or radio telescope.

With crystals, electron diffraction technology reveals certain symmetries which also manifest themselves at the microscopic level. Crystallographers identify possible Bravais or space lattice types in two dimensions, and fourteen types, in three dimensions. All of the two dimensional and some of the three are found in Man's artistic creations, in his art and architecture. A

millennium before crystallography became a science, Moorish artists - Sunni Moslems, forbidden to produce likenesses of humans - were instead creating magical calligraphy and geometric designs displaying intuitive understanding of the space lattices. This is nowhere more dramatically illustrated than in the stone carvings at the Alhambra Palace in Granada, and in the tiles of the Blue Mosque in Istanbul.

Just as symmetry can produce a sense of harmony, balance and proportion, *too much symmetry* in certain contexts, such as in an endless line of row houses, can have negative emotional impact. And conversely, just as asymmetry can produce a sense of discord and lack of proportionality, in some instances, such as in the shape of an egg, (in distinction to a smooth sphere), can generate a positive emotional impact - a sense of release and freedom. Thus, released from prejudice of viewing only perfect symmetries as ideal, the Alps can be seen as magnificent. Likewise, the finest examples of visual art and music are anything but endlessly regular. Indeed, the notion of "the monotonous" is one of artistic or social aversion. Subtleties in the laws of nature often involve recognition of asymmetries or broken symmetries. Physical reality melds elements of symmetry and asymmetry. Total symmetry would require absolute and endless homogeneity. Total asymmetry would mean complete chaos, or total absence of order.

In sciences there exists a stratification. Physics, as the most fundamental of sciences, underlies chemistry. Above chemistry come the life sciences, and beyond them, the social sciences. Underlying it all, however, is mathematics - not itself a science but a vehicle providing the logic and the language of the sciences. The nutrients of mathematics move upward through the sciences, in a process akin to osmosis. This paradigm is perhaps useful in explaining why physicists often use the mathematics developed by mathematicians a generation earlier, why chemists adopt the techniques of physicists, again developed somewhat earlier, and so on. The organization of papers will reflect the aspects of symmetry and asymmetry as they pertain to the sciences ascending roughly from the most fundamental to the most complex.

Some of the topics addressed will be "What are symmetry and asymmetry in general, and what do they mean in particular at the various levels?" Symmetry as a unifying concept. Symmetry in seeking order. One significant issue in this context will be, "Why do the

Committee 2 – Hemisphere Room

a unifying concept. Symmetry in seeking order. One significant issue in this context will be, "Why do the same patterns appear at vastly different scales – such as in the logarithmic spirals at the microscopic scale and again at the supra-microscopic – when undeniable there exists an asymmetry of physical laws with respect to scaling up and down?" The same machine or the same mountain cannot be built at wildly disparate scales. Different forces of nature act differently at different scales. It is not the purpose of this study to simply make an exhaustive inventory of examples of natural and artistic phenomena which demonstrate these same

patterns, but rather to scrutinize the symmetries and patterns at a fundamental level, to analyze the possible forces which might produce similar shapes at wildly disparate scales, to review the notion of aesthetics, and the mathematical underlying aesthetics. By studying the interdynamics of art and science, and to a lesser extent, a modicum of the psychology underlying the human affinity for symmetry. This last message, however, will be regarded as a tacit one, since any serious cogitation's on the psychology of art summons forth a picture of fishing in muddy waters.



Honorary Chair
Yuval Ne'eman
Wolfson Distinguished Professor of
Theoretical Physics
Tel Aviv University
Tel Aviv, Israel



Organizing Chair
Bulent Atalay
Department of Physics
Mary Washington College
Fredericksburg, Virginia USA

Session I: Mathematics

Tuesday, November 25, 2:00 - 4:00 pm

1. Hidden Symmetries in Topology and Hamiltonian Physics



Anatoly Fomenko
Department of Math and Mechanics
Moscow State University
Moscow, Russia

2. Symmetry in Laws of Physics



Yuval Ne'eman
Wolfson Distinguished Professor of
Theoretical Physics
Tel Aviv University
Tel Aviv, Israel

Session II: Physics

Tuesday, November 25, 4:30 - 6:30 pm

1. The Physics of Weak Interactions



Joseph Weber
Senior Research Associate
University of Maryland
College Park, Maryland USA

2. Symmetries in Astrophysics



Peter J.T. Leonard
Science Support Center
NASA/Goddard Space Flight Center
Greenbelt, Maryland USA

Committee 2 – Hemisphere Room

Session III-A: Chemistry

Wednesday, November 26, 8:30 - 10:30 am

1. Symmetry Considerations in Chemistry



Jack Dunitz
Organic Chemistry Laboratory
Swiss Federal Institute of
Technology
Zurich, Switzerland

2. Quasicrystals



Daniel Shechtman
Department of Materials
Engineering
Technion
Haifa, Israel

Session IV-A:

Wednesday, November 26 11:00 - 1:00 pm

1. In the Genome, Symmetry Seems to Code Symmetry



Guido Pincheira
Professor of Genetics
University of Chile
Santiago, Chile

2. Symmetry in Art and Nature: The Two Leonardos



Bulent Atalay
Department of Physics
Mary Washington College
Fredericksburg, Virginia USA

Session V: Social Sciences

Thursday, November 27, 8:30 - 10:30 am

1. Issues of Symmetry and Unity in Musical Performance



Julia Cheek
Professional Musician
Little Rock, Arkansas USA
and



John A. Cheek
Professor of Music
Concordia University
Bronxville, New York USA

2. Aesthetic Pleasure of Beauty and Its Implications for Teaching and Learning



Bryan Wijeratne
Research Associate
University of Cambridge
Cambridge, England

3. Introduction to the Wave Principle of Human Social Behavior



Robert R. Prechter, Jr.
President
Elliot Wave International
Gainesville, Georgia USA

Committee 2 – Hemisphere Room

Session VI

Thursday, November 27, 11:00 - 1:00 pm

1. The Cultural Salience of Symmetry: A Perceptual Perspective



Dorothy Washburn
Lecturer and Author
Liberal Arts Division
Maryland Institute
Baltimore, Maryland USA

2. Symmetry and Social Order: The Tlingit Indians of Southern Alaska



Margaret Holmes Williamson
Department of Anthropology
Mary Washington College
Fredericksburg, Virginia USA

Summary Session

Thursday, November 27, 2:30-4:00 pm

Closing Plenary Session

Thursday, November 27, 4:30 pm Ballroom West

Discussants

Michael Atalay

Research Associate
Massachusetts General Hospital
Brookline, Massachusetts USA

David Fisher

Civil Engineer and Attorney
Vero Beach, Florida USA

Shin Hitotumatu

Visiting Professor of Math and Computer Science
Tokyo Denki University
Saitama, Japan

Lloyd Motz

Professor Emeritus of Astronomy
Columbia University
New York, New York USA

Debbie Sauder

Department of Chemistry
Hood College
Frederick, Maryland USA

John J. Shea, Jr.

Director, Shea Clinic
Memphis, Tennessee USA

Neil Tanner

Department of Nuclear Physics
University of Oxford
Oxford, England

Ali Ustay

Architect/Civil Engineer/Builder
Istanbul, Turkey

Human Universals and the Biological Foundations of Art

We should take seriously the oft-repeated notion that, like science, the arts constitute an international language and serves to unify the world's many diverse cultures. Truly, when one society directs its attention to the creativity of another the result almost invariably is that affinity is promoted, hostility and alienation are reduced. But such international appreciation could only be possible if our aesthetic propensities were founded on the deep-set biological and cultural unity of humankind. One indication of this species-wide identity is the ease with which we can appreciate the art of cultures separated from our own in terms of space, time and cultural development. Indeed, this seems to work best with people not yet introduced to the cosmopolitan civilization of today with its international codes of transmission. Elitist art requires training and acculturation, but traditional narratives and art forms often require little more than translation in order to enjoy almost immediate access to new audiences the world over. Indeed, they do so more readily than other aspects of society, and this is especially true with children. This facility of access exists, although these arts were originally composed for local, adult audiences.

One reason for international transmissibility and reception of traditional arts is that, despite the bewildering variety of aesthetic expression, to a significant extent art tends to concern itself with the same things. The major works of world art bear moral significance suggestive of absolute values – a consideration which accounts for their customary use in pedagogy. Indeed, the classical themes and methods of art generally accord with human universals demonstrated to bear adaptive significance. These include such values as identity, affinity, justice, altruism, duty, social order, conflict resolution and meaning. Despite eons of geographical differentiation, our art, viewed from an ethological perspective, gives indications that we share an ancient and common heritage, that we create and consume aesthetic objects as we do because to do so contributes to our communal

social viability. Furthermore, our art both provides insight into our shared human nature and outlines parameters for our future development. It is a major index to our spontaneously arising spiritual contours and, therefore, is an invaluable guide to policy-making.

Artistic composition is an alternative form of cognition. Our values are significantly shaped, not just preserved and transmitted, by the artistic forms which convey them. It is quite possible that our aesthetic sensibility, which has been shown to have a genetic basis, is intimately intertwined with our cognitive and moral capacities, if only because it is a useful guide to reproductive success of the group. We may posit an actual link between truth, beauty, morality, and biological viability.

Our perspective may seem to be self-evident. It is based on findings of the Biological Foundations of the Arts Committee at ICUS XX. However, in many ways it is opposed by a large portion of contemporary modernist aesthetics. Our plan is to test and, as appropriate, demonstrate this new approach with sufficient evidence.

Our major contribution will be to oppose and possibly overturn opinions presently predominant in the humanities regarding the nature of aesthetics. In addition, our committee will make a substantial, possibly decisive, contribution to the on-going debates on (a) the application of scientific methods to scholarship on the humanities, especially on values, (b) genetic bases for human behavior, (c) the utility of the arts, (d) the long-standing issue of cultural transmission and reception, (e) the existence of human cultural universals. Individual papers will shed more light on the culture of each of the four focus areas, as well as provide material for comparison with unlisted areas. They will provide valuable, sometimes unique, insight on such issues in the arts of international currency as identity, affinity, justice, altruism, conflict-resolution and meaning. Furthermore, this joint effort will demonstrate both how science can influence arts scholarship and, in turn, how humanists can point out under-appreciated avenues for scientists to pursue.

Committee 3 – Military Room



Honorary Chairperson:
Frederick Turner
Founders Professor of Arts and
Humanities
University of Texas at Dallas
Richardson, Texas USA



Organizing Chairperson
Brett Cooke
Associate Professor of Russian
Texas A&M University
College Station, Texas USA

Session I: Native American

Tuesday, November 25, 2:00 - 4:00 pm

Opening Comments by Frederick Turner and Brett Cooke

1. Traditional Arts: Keys to an Understanding of Human Social and Cultural Behavior



Kathryn Coe
Office of Community and
Behavioral Health
Arizona Dept. of Health Services
Phoenix, Arizona USA

2. Disturbances in the Dreamtime: Ethnocentrism, Xenophobia, and the Ethnic 'Others' as Animals in Traditional Oral Narratives



Wayne E. Allen
Executive Director
Treaty Site History Center
Saint Peter, Minnesota USA

Session II: New Guinean

Tuesday, November 25, 4:30 - 6:30 pm

1. Aesthetic Universalism and Analogy



Denis Dutton
School of Fine Arts
University of Canterbury
Christchurch, New Zealand

2. A Naturalistic Aesthetics



Ellen Dissanayake
College of Fine Arts
Ball State University
Muncie, Indiana USA

3. The Sociobiology of Amulet Art

Jan Baptist Bedaux
Art Historian
Utrecht, The Netherlands

Committee 3 – Military Room

Session III-A: Australoid and African
Wednesday, November 26, 8:30 - 10:30 am

1. The Dragon and the Origins of Art

Christopher Knight
Department of Anthropology
University of East London
London, England

2. Gender Ambiguity in Khoisan Ritual/Mythological Contexts: A Paradox for Darwinian Theory



Camilla Power
Department of Anthropology
University College of London
London, England

Session IV-A: Russian
Wednesday, November 26, 11:00 am - 1:00 pm

1. On the Origins of Russian Verbal Art: A Darwinian Perspective on Proverbs



Brett Cooke
Associate Professor of Russian
Texas A&M University
College Station, Texas USA

2. Laughter and Anti-behavior in Russia: Human Universals Versus National Specificity



Alexander Kozintsev
Senior Researcher
Museum of Anthropology and
Ethnography
St. Petersburg, Russia

3. Grammatical Cases and Neuro-cultural Organization of Symbolic Behavior: Executive Dysfunction as a Module in Russian Grammar, Folklore, and Literature



Gary Cox
Director, Russian Studies
Southern Methodist University
Dallas, Texas USA

Session V: Literate Popular Culture
Thursday, November 27, 8:30 - 10:30 am

1. A Mermaid's Tale: The Archetypal and Particular in Hans Christian Andersen's Story



Nancy Easterlin
Department of English
University of New Orleans
New Orleans, Louisiana USA

2. Aesthetic Empathy as a Universal: A Definitional Enquiry and Pilot Study



Brian Hansen
Professor Emeritus of Theatre and
Dance
University of New Mexico
Albuquerque, New Mexico USA

3. Art and Human Universality: The Films of Charlie Chaplin and a Unification Theory of Art



Lloyd Eby
Assistant Senior Editor
The World & I Magazine
Washington, D.C. USA

Committee 3 – Military Room

Session VI: Non-linear Perspectives
Thursday, November 27, 11:00 - 1:00 pm

1. De-trivializing Art: The Case of 'Folk Art'



Koen DePryck
President
Institute of Knowledge Management
Dilbeek, BELGIUM

2. What If the Natural Classicist Won the Culture War?



Alexander Argyros
Professor of Arts and Humanities
University of Texas at Dallas
Richardson, Texas USA

3. Self-Organization, Evolution, and the Caduceus



Frederick Turner
Founders Professor of Arts and
Humanities
University of Texas at Dallas
Richardson, Texas USA

Summary Session

Thursday, November 27, 2:30-4:00 pm

Closing Plenary Session

Thursday, November 27, 4:30 pm Ballroom West

Discussants

Tong-Choon Shin
Professor of English Literature
Sun Moon University
Seoul, Korea

Treatment of Non-linear Systems in Physics and Economics

The modern situation in Russia is characterized by a physical approach towards the analysis of public events that allows an international and interdisciplinary dialogue between scientists, academicians and futurologists, based on the possibility of integrating absolute and universal values.

The physical approach to the analysis of public events has a long history in Russia: we need only mention E. Mah and A. Chizhevski. After a considerable impasse there is now a renewed interest in applying physical methods to the analysis of socio-political processes. In order to understand the new socio-political realities, it is reasonable to compare the elementary principles of natural organization and development in complex physical systems with those observed in human societies – which, after all, are a part of nature. That is why, in spite of the fact that the physical approach toward social reality is necessarily limited, it seems reasonable to examine the problems of social development

and organization from this non-traditional physical approach.

The physical approach to social development can compensate for generic drawbacks of social information formal analysis. For instance, the physical approach to complex, multi-particle systems offers a choice of mathematical methods, causal consequences, and self-organization that are absent in socio-political processes. Observing social development processes from a physical point of view, it appears that their common distinctive feature with physical processes is that both are capable of forming some temporal (transient) stable systems. Comprehension of the social development's physical regularities as well as analysis of current information make it possible to provide both short and long-term forecasts in various parts of social development. The validity of these forecasts depends on the precision with which the object of political, social, or economic investigation is known as well as on the precision with which the goals of these investigations are defined.



Organizing Chair
Eugene P. Velikhov
President
Russian Research Center
Kurchatov Institute
Moscow, Russia

Session I

Tuesday, November 25, 2:00 - 4:00 pm

1. Laboratory Modeling Atmospheric, Oceanic, Plasma and Astrophysical Vortical Structures and Prediction of Giant Interarm Vortices in Spiral Galaxies



Mikhail V. Nezlin
Leading Research Scientist
Institute of Nuclear Fusion
Kurchatov Institute
Moscow, Russia

2. Discovery of New Structures – Giant Anticyclones – in Disks of Spiral Galaxies



Aleksey M. Fridman
Department of Physics of Stellar and
Planetary Systems
Institute of Astronomy
Russian Academy of Sciences
Moscow, Russia

Committee 4 – Monroe East

Session II

Tuesday, November 25, 4:30 - 6:30 pm

1. Self-organization of Two-dimensional Vortices and Stellar Systems



Joel Sommeria
Physics Laboratory
Ecole Normale Supérieure de Lyon
Lyon, France

2. Nonlinear Structures: Soliton Model of Turbulence



Alexander S. Kingsep
Soros' Professor of Physics
Russian Research Center
Kurchatov Institute
Moscow, Russia

Session III-B

Wednesday, November 26, 2:00 - 4:00 pm

1. On the Modeling of Fractal Tree-like Structures in Biology



Jaan Kalda
Senior Investigator
Institute of Cybernetics
Estonian Academy of Sciences
Tallinn, Estonia

2. The System Analysis of Russian Economic Reform: Models, Achievements and Problems



Alexander Petrov
Head, Computer Center
Russian Academy of Sciences
Moscow, Russia

Session IV-B

Wednesday, November 26, 4:30 - 6:30 pm

1. Ineffective General Equilibrium in a Transition Period Economy



Igor Pospelov
Head of Laboratory
Computing Center
Russian Academy of Sciences
Moscow, Russia

2. Integrability Conditions, Aggregation of Consumer Demand and Problems of Generalized Programming



Alexander Shananin
Leading Researcher
Computer Center
Russian Academy of Sciences
Moscow, Russia

Session V

Thursday, November 27, 8:30 - 10:30 am

1. Mechanism of Supernova Explosions: Magneto-rotational Model and Neutrino Emission



Gennadi Bisnovati-Kogan
Main Scientific Researcher
Space Research Institute
Moscow, Russia

Committee 4 – Monroe East

2. Some Fluctuation Regularities of Social Development



Oleg Dobrocheev
Head of Research Group
Russian Research Center
Kurchatov Institute
Moscow, Russia

Session VI

Thursday, November 27, 11:00 - 1:00 pm

1. Problems of Nonlinear Seismology



Aleksei Nikolaev
Joint Institute of Physics of the
Earth
Russian Academy of Sciences
Moscow, Russia

2. Self Organization of Trade Networks in an Economy with Imperfect Infrastructure



Sergei Guriev
Visiting Scholar
Department of Economics
Cambridge, Massachusetts USA

Summary Session

Thursday, November 27, 2:30 - 4:00 pm

1. Discrete Chaotic Physicochemical Reaction Dynamics and its Applications to Natural and Social Sciences

Vladimir Gontar
Director
International Group for Chaos
Studies
Ben-Gurion University of the Negev
Beer Sheva, Israel

Closing Plenary

Thursday, November 27, 4:30 pm, Ballroom West

Discussants:

Norio Akamatsu
Faculty of Technology
Tokushima University
Tokushima, Japan

Yong-Suk Kim
Dean of Natural Sciences
Sun Moon University
Chung-nam, Korea

Alexander Korneev
Professor of Technical Sciences
Russian Medical Engineering Academy of Sciences
Tver, Russia

Mikhail Rabinovitch
Institute of Linear Research
University of California

Wholeness Through the Pathways of Wisdom

As men and women everywhere experience significant gains in average life expectancy, they seek to enrich their added years with more meaning. To the extent that their sense of Self in society alternates between fixed and "floating" worlds, as the Japanese put it, new conceptions of the life course are necessary. "To live, to breathe, and to generate novelty, human beings have to create – by structural means – spaces and time in the calendar or, in the cultural cycles of their most cherished groups which cannot be captured in the classificatory nets of the quotidian, routinized spheres of action," anthropologist Victor Turner declared. "These liminal areas of time and space... are open to the play of thought, feeling and will; in them are generated new models."

Viewing the pathways of late-life development as searches for Wisdom may cause new synthetic models to emerge out of ancient traditions. Contemporary societies are highly age-graded yet, paradoxically, chronological age has become an increasingly irrelevant benchmark for meaning and experience in most domains of human existence. Birth dates are poor predictors of health status, psychological well-being and mental aptitude. Hence, the pleas of the psalmist imploring YHWH to "teach us to order our days rightly, that we may enter the gates of wisdom" (90:12) has renewed appeal in Jewish and Christian faith communities. It also resonates with other major religions (Islam, Buddhism, Confucianism) as well as the teachings of Reverend and Mrs. Moon. Religious beliefs become highly individuated as people age, but they have parallels insofar as men and women express their search for eternal truths through their hearts, minds and deeds. "The pivot round which religious life revolves," observed William James (1902), "is the interest of the individual in his personal destiny."

Indicative of the growing interest in Wisdom across disciplines and cultures is the recent spate of scholarly

and popular books devoted to the topic. Perhaps the best single compendium of various traditions is Bede Griffith's *Universal Wisdom* (Harper Collins, 1994). Classics such as Gerhard von Rad's *Wisdom in Israel* (1970) have been reissued; *The Fundamental Wisdom of the Middle Way*, a masterpiece by Mahayan, Buddhism's major 2nd-century philosopher, has become available in annotated version. Steve Wall has made accessible the treasure-trove of Native-American insights in *Wisdom's Daughter* (Harper Perennial, 1993).

At the same time that religious communities and spiritual leaders are expressing reawakened concern about sacred and secular paths of growing older, there has been an increasing interest in what Walter Bradford Cannon, M.D. characterized as *The Wisdom of the Body* (1929). Physicians, medical sociologists and patients are exploring different ways that complement rather than undermine orthodox medical practices. Larry Dossey, M.D., for instance, has demonstrated the efficacy for prayer in healing, though scientists do not yet know the precise causal path between intercessions and recuperation in the illness process. Well-known authors such as Norman Cousins and William Styron as well as those who share their experiences with chronic disease in what Joyce Carol Oates calls "pathographies" (or illness narratives) stress the importance of their own spiritual reserves and the support of their faith communities in coming to terms with their malady.

Some of the questions this committee hopes to address include: What similarities recur across faith traditions? What salient variations exist within any given community? Do insights about Wisdom suggest models for bridging field such as religion, psychology and medicine? Might such a synthesis lead to the creation of a coherent manner of harnessing the power of faith in the scientific treatment of illness?



Organizing Chairperson
W. Andrew Achenbaum
Professor of History
Deputy Director, Institute of Gerontology
University of Michigan
Ann Arbor, Michigan USA

Committee 5 – Monroe West

Session I, Part 1: Wisdom Across Faith Traditions

Tuesday, November 25, 2:00 - 4:00 pm

1. Eastern Wisdom Traditions and Western Pilgrims



Andrew Achenbaum
Professor of History and Deputy
Director
Institute of Gerontology
University of Michigan
Ann Arbor, Michigan

2. A Lesson the West Can Learn from the East: Conversion or Addversion



Pil-Ro Hwang
Director
Korean Institute of Philosophy and
Religion
Ko Yang City, Korea

Session II

Tuesday, November 25, 4:30 - 6:30 pm

1. How the Unification Church Understands Wisdom



Keisuke Noda
Department of Philosophy
Unification Theological Seminary
Barrytown, New York USA

2. Sufi Wisdom Traditions



Rick Moody
Brookdale Center on Aging
Hunter College
New York, New York

Session III-B, Part 2: Faith, Ethics and Healing

Wednesday, November 26, 2:00 - 4:00 pm

1. Sophia and Spirituality



Lydia Bronte
Research Fellow
The Phelps-Stokes Institute
New York, New York

2. The Idealized Medical Model: Integrating Chinese Medical Philosophies and Ethics into the Current U.S. Health Care System



Ruan Jin Zhao
Clinical Director
The Center for Traditional
Chinese Medicine
Sarasota, Florida USA

Session IV-B

Wednesday, November 26, 4:30 - 6:30 pm

1. Psychology, Religion and Well-being

Lu Nahemow
Department of Family Studies
University of Connecticut
Storrs, Connecticut USA

2. Concerns and Hopes on Global Development for a New Millennium: A Thai Buddhist Perspective



Sulak Sivaraksa
Director
Spirit in Education Movement
Bangkok, Thailand

Committee 5 – Monroe West

Session V, Part 3: Toward a New Synthesis (and Beyond?)

Thursday, November 27, 8:30 - 10:30 am

1. Towards a Wholistic Medical Model



Robert Schmidt
Executive Director and Professor
California Pacific Medical Center
San Francisco, California USA

2. Beyond the Medical Model's Capacity to Promote Wholeness



Sherry Hartman
School of Nursing
University of Southern Mississippi
Hattiesburg, Mississippi USA

3. Healing from a Buddhist Point of View



Akikazu Takada
Department of Physiology
School of Medicine
Hamamatsu University
Hamamatsu, Japan

Session VI

Thursday, November 27, 11:00 - 1:00 pm

1. Intergenerational Relations, Wisdom and Wholeness



Kevin Brabazon
New York University
New York, New York

2. The Chinese Taoist Wisdom of Maintaining Good Health



Wenzhang Zhou
Professor and Deputy Director
Development Research Centre
Haikou, China

Summary Session

Thursday, November 27, 2:30 - 4:00 pm

Closing Plenary Session

Thursday, November 27, 4:30 pm, Ballroom West

Discussants

Abel Whitemore

Division of Health and Human Services
Walden University
Minneapolis, Minnesota USA

Jean-Pierre Willem

President
International Biological Union
Paris, France

Life, Death, and Eternal Hope

Historically all the world religions have seen life in a cosmic perspective where what we do on earth matters at least in part because it shapes our destiny hereafter. Even today 70% of Americans affirm their belief in a life beyond, and yet most academic discussion takes place on the presupposition that death can only be extinction. This becomes a crucial issue in caring for the dying where intensive treatment is predicated on the assumption that death is the ultimate disaster whereas many of the patients believe that their death would be a blessed release into a fuller and richer existence! But the question of life after death is not only an issue at the moment of death, it also affects the way people value life, and the way they see life as having meaning and significance. It is also of crucial significance in the relationship between science and religion in that it vitally concerns ideas about the physical and spiritual nature of human beings.

As far as contemporary scholarship is concerned "near-death experiences" are a major issue, for here there appears to be (in the opinion of some researchers) solid evidence that human beings have a spiritual aspect to their personhood which near the point of death appears momentarily to "come apart" from the body. One feature which appears extremely interesting in such research is its cross-cultural character being equally widely attested in both East and West. Near-death experiences are also significant because they appear to have much in common with religious experiencing and there is some evidence to suggest that such experiences may lie at the heart of what some major religions affirm concerning a future hope.

In the field of parapsychology the founding-fathers of the British Society for Psychical Research allegedly carried out some fascinating post-mortem "experiments" communicating with the living by sending messages to several mediums which only became intelligible when they were brought together. This classic "cross-correspondence" data is some of the most significant *prima facie* evidence for survival. On the other hand such discussions raise fundamental philosophical problems which are exceedingly hard to reconcile with the central positions held today by most philosophers and scientists.

Within the field of world religion Islam is the most totally committed to an unequivocal affirmation of a future hope whereas by contrast Chinese philosophy

has from the beginning adopted a far more this-worldly approach to the meaning of life.

In Hinduism and Buddhism the somewhat different concepts of Reincarnation and Rebirth remain much discussed. In India one interesting modern development is the enthusiastic attempt to provide solid evidence for reincarnation on this earth through seeking verification of apparent memories of former lives. In Buddhism, the foundational doctrines of rebirth and karma are often thought difficult to reconcile with the equally ancient understanding of "no-self". However belief in a future life remains part of the mainstream traditions and is particularly emphasized in the Pure Land sects which hope for re-birth not back into this world but into Buddha's Pure Land. The future hope is also central to Tibetan Buddhism, one of whose scriptures *The Bardo Thodol* (popularly known as *The Tibetan Book of the Dead*) is one of the most quoted but least understood works in the current debate.

Unificationism represents an interesting modern attempt to draw together themes relating to a future hope from both Christian and Eastern traditions and the issues this raises may well generate an enthusiastic discussion. Another issue which it will be useful to discuss is the absence of moral values from contemporary speculations. In the past belief in the judgement of the dead has been a common feature of all religious traditions, whereas today notions of hell or evil karma seem almost completely to have dropped out of the picture and today's empirical investigations and the beliefs associated with them entirely ignore this dimension.

The question of how one sees death is not simply a matter of religious or philosophical speculation, it also affect practical policies in the caring for the terminally ill where it might seem much better if people were helped to see death as an integral and inescapable part of life rather than as a process which must be resisted, no matter what the cost in hospital resources and pain to the dying patient. However, while this may be the view of many healthy people it is striking that there is increasing evidence that life remains immensely precious to many dying people who are often willing to endure much suffering for the possibility of a few more months of existence.

The question of how one views death raises important issue for the Unity of Knowledge theme. If

Committee 6 – Lincoln East

there actually is (in near-death experiences or paranormal phenomena) fairly strong evidence suggestive that the materialistic paradigm is open to serious question, then this has important implications for the way in which most intellectual debate has sought to unify knowledge around this paradigm. Attitudes to death also raises crucial questions relating to Science and Values in that it impacts on our understanding of the value of human life and how we approach ethical issues. It is an important theme in literature and the arts, and is of great



Honorary Chairperson
Carl Becker
Professor of Comparative Thought
Faculty of Integrated Human Sciences
Kyoto University
Kyoto, Japan

importance in health care and education. The theme has a direct bearing on science and religion in that the question of the physical and spiritual nature of human beings is raised by it. It is also important in effecting our global world view. In other words no issue of importance to ICUS is not to a greater or lesser extent affected by the way human persons understand their nature and destiny.



Organizing Chairperson
Paul Badham
Head of Theology and
Religious Studies Department
University of Wales
Lampeter, Wales

Session I

Tuesday, November 25, 2:00 - 4:00 pm

1. Life and Death in Chinese Philosophy



Ouyang Kang
Dean of College of Philosophy
Wuhan University
Wuhan, Hubei, China
Discussant
Brian Bocking
Department of Religious Studies
Bath College
Bath, England

2. Philosophical Doubts About Survival After Death



Gene James
Professor of Philosophy
University of Memphis
Memphis, Tennessee USA
Discussant
Dan Cohn-Sherbok
Rabbi and Professor of Judaism
University of Wales
Lampeter, Wales

Session II

Tuesday, November 25, 4:30 - 6:30 pm

1. Pure Land Faith of the Japanese: The Case of Shinran



Tetsuo Yamaori
International Research Center for
Japanese Studies
Kyoto, Japan
Discussant
Brian Bocking
Department of Religious Studies
Bath College
Bath, England

2. The Japanese View of Life and Death through It's View of the Next World



Akira Masaki
Chukyo Women's University
Kanagawa, Japan
Discussant
Pataraporn Sirikanchana
Department of Philosophy
Thammasat University
Bangkok, Thailand

Committee 6 – Lincoln East

Session III-B

Wednesday, November 26, 2:00 - 4:00 pm

1. The Meaning of Near-death Experiences



Carl Becker
Faculty of Integrated Human
Sciences
Kyoto University
Kyoto, Japan
Discussant
Allan Kellehear
School of Public Health
Latrobe University
Bundoora, Australia

2. The Relevance of Near-death Experiences to Religious Beliefs About a Future Life



Paul Badham
Head of Theology and Religious
Studies Department
University of Wales
Lampeter, Wales
Discussant
Pataraporn Sirikanchana
Department of Philosophy
Thammasat University
Bangkok, Thailand

Session IV-B

Wednesday, November 26, 4:30 - 6:30 pm

1. Reincarnation: How Strong Is the Scientific Evidence?



K.S. Rawat
Reincarnation Research
Foundation
Faridabad, India
Discussant
Adela Amado
Director, Institute of Psychology
and Parapsychology
Valencia, Spain

2. Mediumship and the Phenomenon of Cross-correspondence



Kelly Nicholson
Author, *Body and Soul: The
Transcendence of Materialism*
Salt Lake City, Utah USA
Discussant
Antony Flew
Professor of Philosophy, Emeritus
University of Reading
Reading, England

Session V

Thursday, November 27, 8:30 - 10:30 am

1. Life After Death in Contemporary Islamic Thought



Cafer S. Yaran
Philosophy and Religious Studies
University of Ondokuz Mayis
Samsun, Turkey
Discussant
Zulfiqar Ali Shah
Director, Islamic Center
Jacksonville, Florida USA

2. The After-life, Morality, and the Creation: The Fragmentation of a Religious Tradition



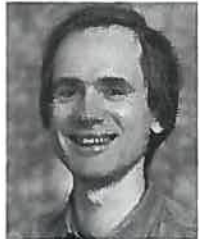
Christie Davies
Department of Sociology
University of Reading
Reading, England
Discussant
Dan Cohn Sherbok
Rabbi and Professor of Judaism
University of Wales
Lampeter, Wales

Committee 6 – Lincoln East

Session VI

Thursday, November 27, 11:00 - 1:00 pm

1. Death and Postmodern Spirituality: A Sociological Analysis



Tony Walter
Department of Sociology
University of Reading
Reading, England

Discussant

Adela Amado

Director, Institute of Psychology
and Parapsychology
Valencia, Spain

2. Caring for the Dying



Michelle Gantois-Chaban
Palliative Medicine Program
Mount Sinai Hospital
Toronto, Canada

Discussant

Allan Kellehear

School of Public Health
Latrobe University
Bundoora, Australia

Session VII

Thursday, November 27, 2:30 - 4:00 pm

1. Unificationist Beliefs about Life after Death



David Hanna

Department of Theology and
Religious Studies
University of Wales
Lampeter, Wales

Discussant

Antony Flew

Professor of Philosophy, Emeritus
University of Reading
Reading, England

Closing Plenary Session

Thursday, November 27, 4:30 pm, Ballroom West

World Culture and Sports Festival Committee
Constructing Theories for a Coming Age of Global Family

In the background of this committee-theme is conflict between practitioners of science and of religion, conflicting theories of biological origin, social problems exacerbated by a prevailing economic system seemingly lacking an element of care, nearly intolerable tensions between personal/social/economic freedom and traditional values, citizens of advanced nations becoming increasingly well off while their counterparts in poorer countries continue to starve in large numbers, increasing ecological strain owing to escalating demand for production, and unending strife within and among the very religious traditions from which values of peaceful coexistence are thought to spring. The charge of the committee is unabashedly theoretical. Author-presenters are asked from various perspectives to envision an age to come in which the ecological circumstance is closer to that of a global family. The authors are asked to reconstruct theories designed to bring us closer to their visions. The two major differences of perspectives which describe participants of this committee are that each topic is to be addressed by a scholar not within the Unification tradition, while the other does write from that tradition. The ideal outcome is fourteen distinguished theoretical papers which describe the conditions for the accomplishment of a more harmonious future, and which presented together will produce conference sessions which exceed their sum in exhibiting future possibilities.

1. Detente for Religion and Science

Since the birth of science there have been various sorts of conflicts among those working exclusively in one or other of the fields of science and religion. Subsequent to a reassessment of the status of any such present conflicts, authors are urged to propose theoretical bases for realigned cooperation or consideration among practitioners of science and religion. There have been various attempts for science to help inform religion with rationality. Is this still, if it has ever been, helpful? What of any similar attempts by religious teachers to inform the practice of science? Is it time for a reevaluation of whether there is any scientific sense of proof for the existence of God? Can scientists and religious teachers find common language for discussions of beginning of life and dignified death? Are there any common theoretical possibilities for scientists and religious practitioners to discuss other ethical issues such as those

associated with genetic engineering, control of dangerous technologies, etc.

2. Theories of Evolution and Creation

The Pope's recent announcement about theories of evolution shows that such theories continue to be of central importance to religion. It is also true that many scientific objections have been raised against evolutionary theory in recent years. Scientists will not abandon the current theory, however, until a better alternative is available. It is essential, therefore, to formulate a new theory of biological origins which, by re-thinking the fundamental concepts of evolutionary theory and creation theory, can be accepted as logical and scientific.

3. Theoretical Heirs of Socialism and Capitalism

Socialist attempts based on Marxism are on the wane. At the same time, their major competitor on the world stage, Capitalism is faced with increasing challenges of: widening gap between rich and poor, proliferation of values some see as a spread of "vulgar culture," difficulty of adaptation to formerly Marxist countries, and others. In a likely age to come of continually expanding global market economy, new social/political theories must be envisioned to accommodate both capitalist need for freedom of creative activities, and socialist concern for equality and care for those less capable to compete. These theories will, given the recent past, foreground economic development. What new theoretical constructions will make possible more comprehensively value-based, free market economics?

4. Re-construction of the Concept of Family and the Value Set Associated With It

The freedom seemingly required for "free-market capitalism," in those countries which have advanced it the most, have been criticized as being associated with irresponsible sex, the spread of AIDS, abuse of drugs and resultant social problems. In former communist countries capitalist economic methods have not been accompanied even by the values espoused by modern theorists of free market economics. The result has been an erosion of any family values imbedded in previous ideologies. What is the best way to re-vision and re-construct family values to curtail or reverse the ethical decline in complex free market economies?

Festival Committee – Lincoln West

5. North-South Issues, including Equalization of Technology

While advanced nations continue to increase their standard of living, upwards of a billion people around the world are still faced with starvation, with more than ten million starving to death each year. What do developing nations want and need from their more prosperous counterparts; what do more developed nations need to be willing to give (with what strings attached), and what are the possibilities of reconciliation of these points for view? In particular, what is possible (perhaps necessary) to accomplish in the transfer or sharing of advanced technologies?

6. Harmony of Humans-in-Nature

Scientific and technological advances continue to fuel an economy which requires more production, as well as creates more possibilities of production. Each passing year this process seems to put more strain on the ecology

of the planet and beyond. What theories of relationship of science, technologies and ecology preserve and protect nature for the future.

7. Harmony among Religious Traditions

Behind conflicts and struggles in today's world are too often religious conflicts, within and among traditions. What sort of re-visioning religions' roles, within and among traditions, will preserve the respect of founders' teachings while allowing peaceful coexistence? Are reconciliations among – for example theistic and non-theistic – theories of reality a possibility? Or will ethics and values increasingly be found on the center of the world's religious stage? How are different religious traditions cooperatively to influence governments and cultures, instead of in exclusive, partisan ways. In short, what re-visioned world view(s) are likely to include multiple religious traditions while promoting harmonious coexistence?



Honorary Chair
Sung-Bae Jin
President
Unification Thought Institute
Seoul, KOREA



Organizing Chair
Ronald Burr
Professor of Philosophy
Southern Mississippi University
Hattiesburg, Mississippi USA

Session 1: Detente for Religion and Science Tuesday, November 25, 2:00 - 4:00 pmt

1. Religion and Science: Detente Between Whom About What?



Paul Sharkey
Professor of Community Health/
Philosophy and Religion
University of Southern Mississippi
Hattiesburg, Mississippi USA

2. Holism as the Reconciliation Principle of Science and Religion



Hisayoshi Watanabe
Department of English Literature
Setsunan University
Kyoto, JAPAN

3. A New Approach to the Unification of Religion and Science from the Unification Principle Perspective



Jin Choon Kim
Dean of the College of Theology
Sun Moon University
Choong-nam, KOREA

Festival Committee – Lincoln West

Session 2: Theories of Evolution and Creation
Tuesday, November 25, 4:30 - 6:30 pm

1. Toward a Holistic Theory of Life



Richard C. Strohman
Professor Emeritus
Department of Molecular and Cell
Biology
University of California, Berkeley
Berkeley, California USA

2. Reinterpreting the History of Life from a Design Perspective



Jonathan Wells
Post-Doctoral Research Biologist
Department of Molecular and Cell
Biology
University of California, Berkeley
Berkeley, California USA

Session 3: Theoretical Heirs of Socialism and Capitalism
Wednesday, November 26, 8:30 - 10:30 am

1. Anomie Revisited and a Brave Step Forward into the New World



Jamilah Ariffin
Professor and Senior Research
Fellow
Technology University of Malaysia
Johor, Malaysia

2. In Search of a Theory of Value in Economics: A Key to the Construction of an Ideal Society



Takeshi Furuta
Senior Research Associate
Unification Thought Institute
Tokyo, JAPAN

Session 4: Re-construction of the Concept of the Family and the Value Set Associated with It
Wednesday, November 26, 11:00 - 1:00 pm

1. The Family in Today's World and in the World of Tomorrow



Azizun Islam
Department of Philosophy
National University
Dhaka, BANGLADESH

2. Unificationist Family Values and the Contemporary World



Anthony Guerra
Dean, College of Graduate and
Undergraduate Studies
University of Bridgeport
Bridgeport, Connecticut USA

Festival Committee – Lincoln West

Session 5: North-South Issues, Including Equalization of Technology
Wednesday, November 26, 2:30 - 4:30 pm

1. Balancing North and South for a Harmonious Globe

Debendra Manandhar

Senior Co-ordinator

Rural Community Infrastructures Works Program
Kathmundu, Nepal

2. Towards a New Political Economy of Development



Thomas Ward

Visiting Professor of International
Studies

University of Bridgeport
Bridgeport, Connecticut USA

Session 6: Harmony of Humans-in-Nature
Thursday, November 27, 8:30 - 10:30 am

1. Sustainable Living in the Global Village: A Common Value for Family, Community, and Human Enterprise



Charles C. Reith

Professor of Environmental
Management

A.B. Freeman School of Business
Tulane University
New Orleans, Louisiana USA
and

Nancy Brennan-Reith

Principal
Sustainable Systems
Kenner, Louisiana USA



2. Original Human Nature and the Mandate of Dominion: An Exploration of Unification Thought

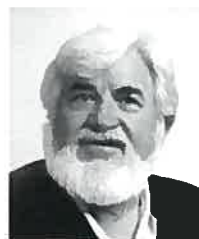


Dietrich Seidel

Assistant Professor of Theology
Unification Theological Seminary
Barrytown, New York USA

Session 7: Harmony Among Religious Traditions
Thursday, November 27, 11:00 - 1:00 pm

1. A New Heaven and A New Earth: Re-Visioning Worldviews for Religious Cooperation and Harmony Rather Than Competition and Conflict



Edward Warner

Humanities and Religion
Indiana State University
Terre Haute, Indiana USA

2. Religion's Role in Promoting Family and Global Family



Andrew Wilson

Professor of Biblical Studies
Unification Theological Seminary
Barrytown, New York USA

Summary Session

Thursday, November 27, 2:30-4:00 pm

Closing Plenary Session

Thursday, November 27, 4:30 pm, Ballroom West

General Discussants

Theodore Shimmyo

President
Unification Theological
Seminary
Barrytown, New York USA

Akifumi Otani

Director
Unification Thought
Institute-Japan
Tokyo, Japan

Statement of Purpose

An Interdisciplinary Academic Forum

The International Conference on the Unity of the Sciences (ICUS) is an interdisciplinary academic forum dedicated to examining the important issues confronting our contemporary world. ICUS is sponsored by the International Cultural Foundation, Inc. (ICF), which is a non-profit organization set up to promote academic, scientific, religious and cultural exchange among the peoples of the world. ICF was founded in 1968 by the Reverend Sun Myung Moon.

Starting in 1972 with 20 participants, ICUS has continually expanded its scope, while also deepening its relationship with the worldwide academic community. During its tenure, the conference has come to be recognized as a forum for scholars and scientists committed to addressing issues of fundamental concern to humanity. ICUS now has a global network of cooperating scholars. In the words of Dr. Alexander King, President of the Club of Rome, "ICUS is the only world occasion where scholars from diverse disciplines can come together and discuss mutual interactions in their work as a multidisciplinary attack on global problems."

Apart from its meeting, ICUS also has an impressive and expanding publication program. ICUS Books includes volumes that come from conference committees as well as other single-authored manuscripts.

The Challenge

In our common effort to build a better future for all peoples, there is little question but that we face significant and even discouraging challenges. Many scholars and scientists, of course, devote themselves to exploring and finding solutions to the most pressing global concerns. Breakthroughs in science have contributed greatly to our knowledge of the world and to our understanding of and ability to deal with disease, famine, overpopulation, under-development and environmental pollution. Yet despite advances in science, humanity is presently confronted with grave dangers, some of which result from the often unintended but harmful side effects of technological applications of scientific knowledge.

At the same time, the problems which humanity now faces are not merely of a material or technical nature. As we know, it is oftentimes the more cultural and ethical factors which serve as the decisive forces in creating success or failure for the world's peoples. These cultural and ethical factors, however, are not generally understood as being easily integrated with a scientific worldview.

Science, which has probed the depths of the natural world, rarely assigns itself the task of exploring fundamental questions having to do with the meaning and purpose of human existence in the universe. These

areas of exploration have often been taken up by philosophers, artists, theologians and mystics. Such explorers, like scientists, also seek to understand and eliminate unnecessary suffering in our world. They do this by identifying and teaching values which must serve as the foundation for individual and social existence, and which are productive of greater human fulfillment.

Neither the sciences nor religions and philosophies have provided adequate solutions to humanity's contemporary material and spiritual problems. However, if science is to fully address itself to the human situation, it must develop a greater appreciation for values and integrate this appreciation into the search for universal knowledge and well-being. Otherwise, the increase of scientific knowledge could very well lead to destruction. As Albert Einstein stated in an address given at Princeton Theological Seminary in 1939,

Science can only be created by those who are thoroughly imbued with the aspiration toward truth and understanding. This source of feeling, however, springs from the sphere of religion.... To this there also belongs the faith in the possibility that the regulations valid for the world existence are rational. I cannot conceive of a genuine scientist without that profound faith. The situation may be expressed by an image: science without religion is lame; religion without science is blind. (Albert Einstein, *Ideas and Opinions*, New York: Dell, 1954, pp. 54-55.)

Intellectual endeavors will solve human problems effectively only if we can appreciate standards of value which serve to guide the theoretical quest and practical application of scientific knowledge.

The global challenge to scholars, as understood in the ICUS perspective, is multidimensional. On the one hand, there is the need to understand and contribute to the possibilities for a fuller and more meaningful human life for all, by providing tools for comprehending and averting life-threatening situations. At the same time, ICUS also sees the global challenge as one that requires a transformation of the very practices by which the academic community acquires knowledge and seeks to address these challenges. This transformation involves not only the effort to integrate science and values, but also the commitment to a cooperative, interdisciplinary approach to inquiry.

Facing the Challenge

ICUS was founded in order to squarely face the challenge discussed above. This founding spirit includes the firm conviction that the world's scientists and scholars have a great potential to substantially contribute

Statement of Purpose

to the progress and well-being of humanity. ICUS was also established in order to foster the participation of the academic community in an international, interdisciplinary dialogue which considers the possibility and promise of an integrated, holistic and non-exclusive worldview founded on the premise of absolute, universal values.

In stating this underlying purpose, ICUS recognizes that the premise of absolute values may not be accepted by all, or even a majority, of participants. Nevertheless, it is possible to identify certain ennobling values that have inspired people over the ages, such as the pursuit of truth, beauty, and goodness—ideals that benefit all of humanity. The clarification of these shared values and their implications is worthy of serious study, whether or not these values are presumed a priori to be absolute. If scholars are to be able to chart a promising course for humanity's future, scientific knowledge must be related to values.

ICUS provides scholars with a rare opportunity to discuss timely issues in the company of a distinguished, international group of colleagues. As ICUS committees address problems of global concern, there is a concerted effort to extend the inquiry beyond conventional disciplinary limits. When, for example, topics such as development or education are considered, a variety of perspectives are included, such as technical, theoretical, philosophical and ethical orientations. In this way a more cooperative and comprehensive analysis can be made. Indeed, much of the distinctiveness and importance of ICUS resides in the fact that it is an international forum which examines topics in an interdisciplinary way and with paramount attention given to the factor of values.

ICUS participants are encouraged to use the resources at their disposal to discuss and contribute to the achievement of an improved understanding of our changing world. In this respect, science is understood as having a significant role to play, both as observer and participant, in contemporary processes of world transformation.

A Distinctive Approach to Scientific Inquiry

From the observations discussed above, it follows that there are two fundamental criteria which underlie the approach which ICUS committees take in considering particular topics such as the origin and nature of the universe, biological evolution, biomedical ethics, economic development, environmental studies, education, or the comparative study of worldviews. First of all, ICUS is characterized by an interdisciplinary and unified approach to inquiry. This "Unity of Knowledge" criterion helps ICUS either to avoid the pitfalls or to move beyond the over-specialization and

fragmentation which may characterize mono-disciplinary studies. Second, with its "Science and Values" criterion, ICUS underscores the centrality of values as they operate both in the practice of science and in the subject matter of science. ICUS thereby emphasizes the need for an integration of scientific practices with a value perspective.

Committees with a "Unity of Knowledge" focus consider specific topics with a comprehensive analysis, relying on the input from many different disciplines. At the same time, a committee might take upon itself the task of exploring the very desirability and possibility of obtaining a "Unity of Knowledge" perspective: that is, scientific methodology itself may be examined. Committees that have a "Science and Values" focus reflect on the philosophical, religious, cultural or ethical issues that are relevant either to some particular form of scientific inquiry or to some area of scientific application, such as health care or the environment.

In the context of these characteristics, each ICUS meeting is challenged to address an overall conference theme. Past conference themes have included, "The Responsibility of the Academic Community in the Search for Absolute Values," "Modern Science and Moral Values," and "Absolute Values and the New Cultural Revolution." These have encouraged both the examination of the profound changes—changes related to advancing technology or modernization, as well as cultural flux—in our world and the effort to responsibly address global problems in a way that leads to the material and spiritual betterment of all people.

The Participation of Scholars

ICUS is dedicated to a continuing study, in an atmosphere of complete academic freedom, of the underlying themes of the "Unity of Knowledge" and "Science and Values." Participants in ICUS come from a variety of nationalities, ethnic backgrounds, religions and cultural traditions. Thus, while participants' interests and expertise overlap to a degree with the vision expressed by the Founder, this overlap is generally only partial. The sponsors of ICUS do not expect participants to accept more of the Founder's vision than they in good conscience can. While many ICUS participants may be active in various other causes and activities, ICUS is completely independent of all other organizations, programs or political movements.

In summary, ICUS' purpose is to investigate with full academic freedom the enduring themes of the "Unity of Knowledge" and "Science and Values," and to study as scholars the scientific as well as the ethical and social implications of the specific themes of the conference.

A Short History of ICUS

The International Conference on the Unity of the Sciences (ICUS) arises from the commitment of the Reverend Sun Myung Moon to create an integrated worldview which can serve as the basis for a peaceful, harmonious future. Only such a worldview can provide order to human knowledge and a resolution of conflicting values premises.

Hence, the two enduring themes of ICUS –“Unity of Knowledge” and “Science and Values”– have been raised as a challenge to stimulate the research and creativity of the world's scientists and scholars.

Starting in 1972 with 20 participants, ICUS year by year expanded its scope as it deepened its relationship with the worldwide academic community. This growing phase culminated with the historic Tenth ICUS, which convened 808 participants from over 100 countries in Seoul, Korea in 1981. By this time ICUS had gained recognition from the world academic community as being truly unique as an interdisciplinary, international gathering of scholars and scientists addressing issues of fundamental concern to humanity.

Now a worldwide network of cooperating scholars has been established and, together with ICUS, several other ICF programs are helping to sustain this network. Thus ICUS is presently moving toward smaller conferences. More focused attention is being placed on publishing committee manuscripts that contribute to the two fundamental ICUS themes, and enhance the cross-disciplinary dialogue.

Conference Chronology



Edward Haskell
*Chairman, Council for Unified
Research and Education*
ICUS I (1972)
Moral Orientation of the Sciences
20 participants from 8 nations



Lord Adrian
Professor of Physiology
Nobel Laureate
ICUS III (1974)
Science and Absolute Values
128 participants from 28 nations



Nobusige Sawada
*President, Japanese Association
of Philosophy of Science*
ICUS II (1973)
Modern Science and Moral Values
60 participants from 17 nations



Robert S. Mulliken
*Distinguished Research Professor
of Chemical Physics*
Nobel Laureate
ICUS IV (1975)
*The Centrality of Science and
Absolute Values*
340 participants from 57 nations

A Short History of ICUS



Sir John Eccles
Distinguished Professor of Physiology and Biophysics
Nobel Laureate
ICUS V (1976)
The Search for Absolute Values: Harmony Among the Sciences
 360 participants from 53 nations
ICUS VI (1977)
The Search for Absolute Values in a Changing World
 400 participants from 50 nations



Eugene P. Wigner
Professor of Physics Emeritus
Nobel Laureate
ICUS VII (1978)
The Re-evaluation of Existing Values and the Search for Absolute Values
 450 participants from 60 nations
ICUS VIII (1979)
The Responsibility of the Academic Community in the Search for Absolute Values
 485 participants from 67 nations
ICUS XII (1983)
Absolute Values and the New Cultural Revolution
 300 participants from 80 nations



Morton A. Kaplan
Professor of Political Science
University of Chicago
ICUS IX (1980)
Absolute Values and the Search for the Peace of Mankind
 600 participants from 80 nations
ICUS X (1981)
The Search for Absolute Values and the Creation of the New World
 808 participants from 100 nations
ICUS XI (1982)
The Search for Absolute Values and the Creation of the New World
 525 participants from 100 nations
ICUS XII (1983)
Absolute Values and the New Cultural Revolution
 300 participants from 80 nations



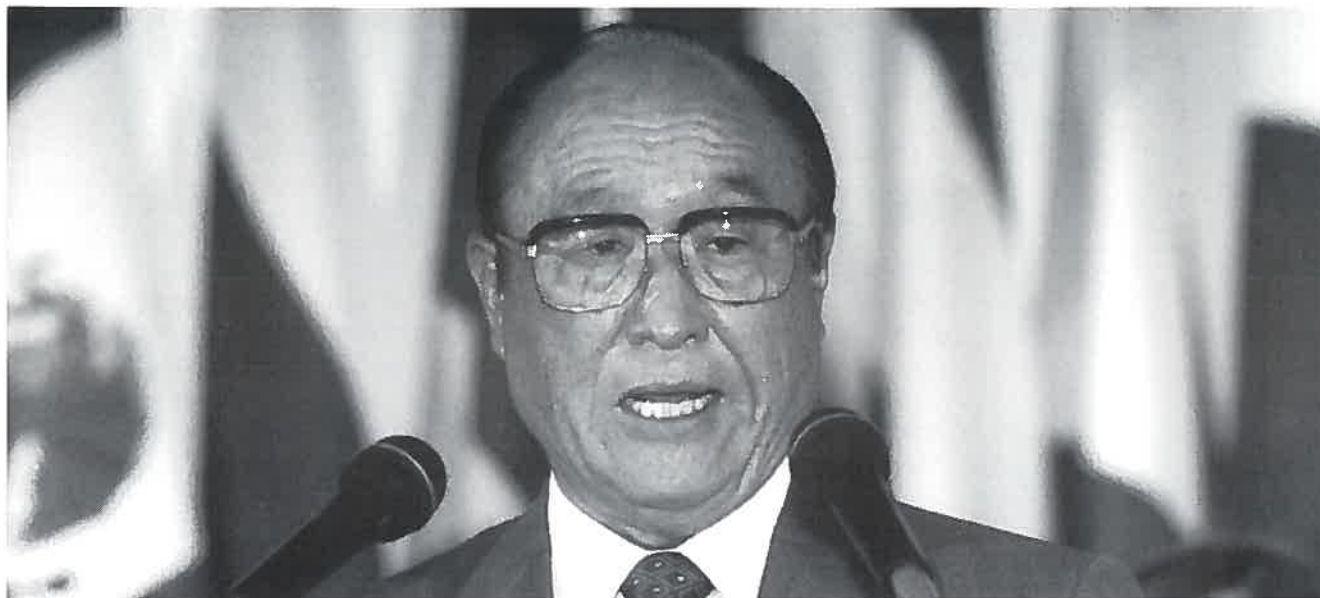
Kenneth Mellanby
Director Emeritus, Monk's Wood Experimental Station
ICUS XIII (1984)
Absolute Values and the New Cultural Revolution
 225 participants from 40 nations
ICUS XIV (1985)
Absolute Values and the New Cultural Revolution
 240 participants from 40 nations
ICUS XV (1986)
Absolute Values and the New Cultural Revolution
 240 participants from 45 nations



Alvin M. Weinberg
Distinguished Fellow
Institute for Energy Analysis
ICUS XVI (1987)
Absolute Values and the Reassessment of the Contemporary World
 225 participants from 47 nations
ICUS XVII (1988)
Absolute Values and the Reassessment of the Contemporary World
 260 participants from 47 nations
ICUS XVIII (1991)
Absolute Values and the Reassessment of the Contemporary World
 210 participants from 40 nations



Tor Ragnar Gerholm
Professor of Physics Emeritus
University of Stockholm
ICUS XIX (1992)
Absolute Values and the New World Order
 200 participants from 40 nations
ICUS XX (1995)
Absolute Values and the Unity of the Sciences: The Origin and Human Responsibility
 150 participants from 35 nations
ICUS XXI (1997)
Searching for Absolute Values and Unity in the Sciences: Science for the Benefit of Humanity
 150 participants from 40 nations



The complicated problems of the world cannot be fully understood simply within the narrow perspectives of individual fields of knowledge. Their solution is beyond the capability of any single specialized society of scholars. This is because the problems of the world are essentially the problems of the human being. A human being has both a physical body with material desires and material senses and a spiritual self with spiritual desires and spiritual senses. The world is nothing but an extension of the human being with these two-fold aspects; in other words, the interrelationship of human beings with their two-fold aspects determines the order within societies and among nations. This is the reason why multidisciplinary research for solving the world's problems has to significantly consider such factors as religion, culture, art, and so on.

In order for ICUS to reassess today's world, there should be a unifying standard and its central point. This central point should relate with the two-fold desires of the physical body and the spiritual self of the human being. I recognize that, in the Middle Ages, God-centered thoughts and religious dogmatism blocked scientific exploration and limited the physical fulfillment of human beings. However, it has been a big mistake for humanistic thinkers since the Age of Enlightenment to hold not only that religious belief is inferior to human reason, but also that

humans' spiritual demands are in conflict with human reason. The emphasis which the Enlightenment or humanism put on rationality has been the great driving force for the sciences as they pursued the discovery of rational laws in nature. With reason only, however, we become separated from the ultimate purpose of the human being, who has a two-fold nature. Without this ultimate purpose, the human being cannot stand independently and even discover the right direction. While ignoring spirituality and being satisfied with reason and intellectual accomplishment, people have not been concerned about solving the urgent problems connected with their own ultimate purpose. As a result, they have come to be enthralled under materialism and so have lost their dignity.

Truth is one and is a principle ruling both nature and the human world. This principle in nature is the root and source of all things of the universe. This principle in the human being is the absolute values of love which guides us to complete our personalities through the harmony of our spirituality and physicality and to realize truth, goodness and beauty.

From the Founder's Address
by The Reverend Sun Myung Moon
ICUS XVI, Atlanta, Georgia

The International Cultural Foundation

The International Cultural Foundation (ICF) sponsors the ICUS meeting. ICF is a non-profit foundation founded in 1968 by the Reverend Sun Myung Moon with the purpose of promoting academic, scientific, religious and cultural exchange among the countries of the world. Based on a deep desire to create a peaceful world, ICF aims to foster the emergence of a rich, new world culture embodying the enduring common values of all cultures, yet retaining as well the unique and essential traditions of each people.

The scope and diversity of ICF is evidenced by the many programs supporting positive, value-based dialogue, research, and publishing by scholars and scientists of all disciplines and nationalities. In addition to ICUS, ICF sponsors the Professors World Peace Academy, Paragon House Publishers and other projects.

The underlying pattern and direction of all the ICF activities comes from the board of directors in response to the many suggestions received from scholars and scientists working with ICF.

The ICF Founder's Award

On the foundation of fourteen years of support for scholarly activity, the International Cultural Foundation created a major new academic award: the ICF Founder's Award.

This award recognizes the outstanding achievements of great scholars in their fields of professional expertise as well as their contributions in the service of humanity and furthering causes of world peace. Both areas are considered in selecting the award recipient.

The award was initially given in 1982 and carries a substantial cash prize. It has been presented by the Founder of ICF, the Reverend Sun Myung Moon, on the occasion of the ICUS.



Nobel laureate in physics, Eugene Wigner, receives 1st Founder's Award



Founder's Award recipient F.A. von Hayek, Nobel laureate in economics

Related Activities

Interdisciplinary and International

The Professors World Peace Academy is an educational organization of scholars from diverse cultural, disciplinary, and political backgrounds. Through its interdisciplinary and international approach, scholars can engage in open discussion of realistic solutions to the problems of war and violence.

PWPA is a world-wide network of academics with chapters in over 100 countries. Each chapter is an association of scholars tied to a common purpose seeking out the most important issues for peace in its own nation as well as those essential for world peace. PWPA envisions a world in which war is no longer viewed as an acceptable way to solve international problems.

History of PWPA

PWPA was founded by the Reverend Sun Myung Moon in Seoul, Korea in 1973. Korean-Japanese friendship was a main goal of the first conferences. It sponsored the first International Conference on World Peace (ICWP) on the theme "World Peace and Asia" in 1974.

Through the 1970s the organization expanded

significantly around the world with the help of ICUS. Then, on December 18, 1983 PWPA-International was founded at the First International Congress of PWPA Presidents in Seoul. Through its office, PWPA-International supports and coordinates the work of the PWPA chapters worldwide.

PWPA-International has assisted the development of the PWPA chapters with start-up funds for conferences and publications. It sponsors International Congresses for the chapter presidents and leading scholars on major global issues.

Publications

In 1984, PWPA launched *The International Journal on World Peace*. It also began an international publishing program which consists of conference proceedings, monographs and books published with Paragon House.

PWPA chapters in fifteen countries have their own publication programs. The chapters in Korea and Japan especially have produced a substantial number of journals and publications over the last twenty-two years. PWPA presidents also serve as advisors to the monthly *World & I* magazine.



Related Activities

Paragon House Publishers

Paragon House is a progressive publisher of serious, intellectually-oriented non-fiction for the general trade and college markets. Founded in 1984 as a project of the International Cultural Foundation, Inc. (ICF), a non-profit, educational and charitable organization, Paragon House is an editorially autonomous, commercial publishing house driven by this purpose: to excel in publishing books that promote informed discussion of important issues advanced through quality scholarship, literary achievement, and intellectual independence.

Specializing in both original and reprint nonfiction and reference books in cloth and paper

formats, Paragon House publishes approximately ten new titles annually. With a strong, successful backlist, the company has over 150 active titles currently in print.

With a focus on the topical and thought-provoking, Paragon House publishes books in the areas of political science, science, international relations, philosophy and religion, literary and historical biography, military history, and women's studies. Grounded in scholarship, the books are written by established and cutting-edge thinkers in a variety of disciplines. Notable among academic offerings is the *Paragon Issues in Philosophy* series.

Recently Published

Philosophy of Science



James Fetzer

In this volume Fetzer supplies a foundation for the inquiry into the nature of science, the history of science, and the relationship between the two.

Paragon Issues in Philosophy

A Brief History of American Culture American Religion, Politics, Intellectual Life, Literature and the Arts from the 1600s to the 1990s



Robert Crunden

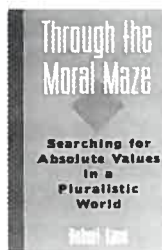
"Leavening common information with uncommon insights and skillfully managing its mission, Crunden's work should provoke fine conversations on what Americans might want to say next."

—*Kirkus Reviews*

"A readable, insightful overview of the underlying patterns that give shape to U.S. cultural history."

—*Booklist*

Through the Moral Maze: Searching for Absolute Values in a Pluralistic World



Robert Kane

"With impressive erudition and lucid logic, Kane shows that rational intelligent people can aspire to objectivity not just in ethics but in diverse areas of value conflict, including politics, art, education,

and religion. Remarkable for its daring, *Through the Moral Maze* offers hope for resolution in moral debates too often marred by skepticism and intolerance."

—*George Graham, University of Alabama, Birmingham*

Philosophy of Technology: An Introduction



Don Ihde

Philosophy of Technology is a clear introduction to one of philosophy's newest issues: the impact of technology on science and people.

"Ihde's introduction should prove useful as a text in a variety of science, technology, and society-type courses"

—*Science, Technology & Society*
Paragon Issues in Philosophy

Related Activities

World & I Magazine

The *World & I* is an encyclopedic magazine that covers topics from various fields of human endeavor and experience, and from many countries and cultures.

Each issue, which has over 400 pages, deals with a broad range of subjects presented in eight editorial sections.

The *World & I* combines the best of scholarship and the best of journalism. It prints analytical and insightful articles that are presented in an interesting and enjoyable format. Its goal is to make information comprehensive and meaningful to literate and thoughtful people and to become an invaluable reference book for important topics of our day, as well as a chronicle of our times.

It also has the goal to contribute to understanding across national, ethnic and cultural boundaries in a world that is becoming so interdependent that access to the latest information, analysis and thinking has become an absolute necessity.

The *World & I* is designed to provide adults and intellectually engaged students with a cumulative and encyclopedic account of contemporary life in the many nations and cultures of the world.

It provides:

- Enduring knowledge prepared by leading professors and distinguished practitioners
- Reference materials for high school and college students
- Diverse viewpoints on contentious issues
- Topics of conversation for every member of the family



ICF Leadership and Conference Staff

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ICUS Office

Gregory Breland, Executive Director
147 Goodrich Avenue
Lexington, Kentucky 40503
USA

Telephone: 606/277-3743
Fax: 606/278-4009
Email: icus@compuserve.com

ICUS is a project of the International Cultural Foundation, Inc.

ICUS Publications

From the beginning, ICUS meetings have generated a large body of quality scholarship on significant issues. The existence and availability of this material has given rise to a substantial publishing program, now known as ICUS Publications. The center of the ICUS publishing program is ICUS Books. In keeping with the ICUS tradition, ICUS Books aims to advance human understanding by publishing manuscripts that approach scientific topics with a special regard for the broad ICUS themes of Science and Values and the Unity of Knowledge.

For ICUS I (1972) through ICUS XI (1982), ICUS Books consisted of volumes of the proceedings of the various ICUS meetings. Beginning with ICUS XII (1983), a Commemorative volume has been published from each ICUS, along with edited multi-authored

volumes on particular themes. These edited theme volumes have often been the selected fruits of a particular committee from a particular ICUS. Because of this, the edited volumes tend to be inter-disciplinary approaches to timely issues, addressing the overall subject of the particular volume from several scientific, philosophical, historical, cultural or religious perspectives.

In addition to conference proceedings, commemorative volumes and multi-authored edited volumes, ICUS Books also publishes single authored volumes. These single authored books are either enlargements of papers presented at ICUS, or solicited manuscripts on subjects or themes relating to the concerns of ICUS. ICUS Books actively seeks book projects and proposals that support or amplify the aims of ICUS and ICUS Books.

ICUS Books

Global 2000 Revisited: Man's Impact on Spaceship Earth

Edited by Hugh W. Ellsaesser



Since the publication of Rachel Carson's popular book, *The Silent Spring* in 1962, the West has been assailed by prophecies of environmental calamity. The news media are widely prone to broadcasting the most dismal prospects for our future. *Global 2000 Revisited*

reviews the popular 1970s study and asks the controversial questions: Are popular notions on the environment based on sound science? Has the National Academy of Science favored media hysteria at the expense of objectivity? This volume takes a hard look at current viewpoints on the state of the environment.

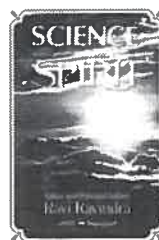
ISBN: 0-89226-100-5 (Hardbound)

ISBN: 0-89226-101-3 (Paperback)

432 pages, illustrations, index, Hardbound \$34.95, Paperback \$17.95

Science and Spirit

Edited by Ravi Ravindra



Science and Spirit uses a new age approach as it addresses many issues including the environmental emergency facing the planet today. Other topics include the discussion of developing a new, universal world view and the need for all societies to consider the

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Presents a balanced picture of the situations as it exists today and, importantly, interweaves population matters in with other social issues... I like especially the chapters on health care, ethical aspects, environment and conservation, and aging.

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Dept. of Sociology, University of Chicago

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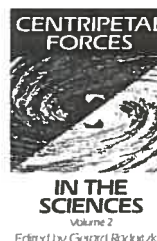
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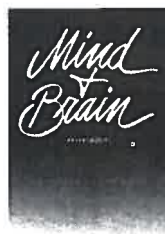
Modernization is a powerful concept for motivating and sharing social and economic policy, but the idea has been given a variety of interpretations and content, so the possible common elements of these interpretations and possible incompatibilities remains to be clarified. There is a wide agreement that certain values are necessary to create a climate in which modernization can be pursued, and that these values necessary for modernization are to be fostered and encouraged through education. This book focuses on societal values underlying successful modernization, paying particular attention to the content, philosophy, and processes promoted by educational institutions in developing countries. Created from committee of ICUS XIV.

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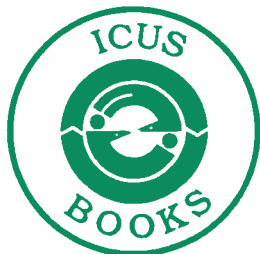
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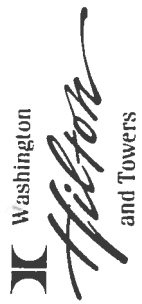
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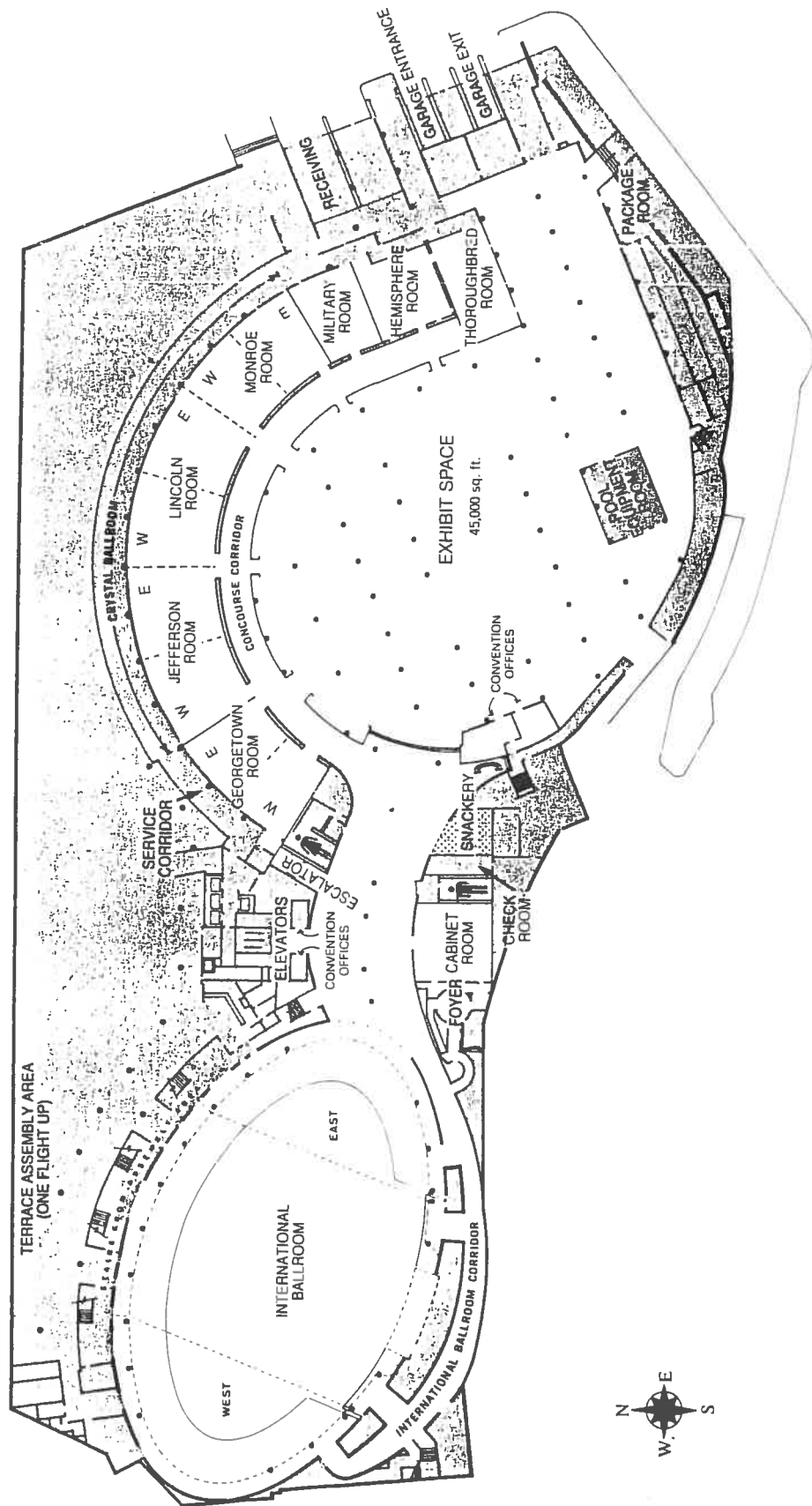
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