
Searching for Absolute Values and Unity in the Sciences:

*Science for the Benefit of
Humanity*



Lotte Hotel
Seoul, Korea
February 9-13, 2000

Twenty-second International Conference on the Unity of the Sciences

WELCOME

The past century has seen breathtaking progress in science and technology, but also the most tremendous misuses of power, resulting in the mass-murder of innocent people and their enslavement. It is impossible to strike a balance between the century's good and evil. But all agree the 20th century was a period of change: a Great Transition from a rural past to an emerging post-industrial culture.

This transition is far from complete and will carry over to the new century, involving all of humanity and resulting in a global village. There are bad omens, though. People in the world's advanced democracies have little confidence in their politicians and their societies' future. The younger generation of potential leaders are unwilling to shoulder political responsibilities leaving room for dark forces, which often use violence in challenging democratic rule. Secularization leaves the churches empty, creating a spiritual vacuum. Under the trade name, "New Age," occultism and heathenism have become fashionable in some pseudo-intellectual circles.

No doubt, it was the social impact of science and technology that brought about the Great Transition. But, it also took the establishment of many social institutions to bring out the hidden forces of scientific discoveries and technological innovations: banks and insurance, legal protection of capital and intellectual properties, jurisdiction and the enforcement of law.

Reverend Moon pointed this out in his very first ICUS address twenty-eight years ago: if science had not developed, economic prosperity such as we have today would not have occurred. Recently the world's media has trumpeted the scientific achievements of the 20th century. Yet, the essence of the Great Transition has escaped notice: the liberalization and empowerment of the individual at the expense of the family, the local community and the nation. The industrial revolution took us from the barter economy to the market place. Electronic means of communication put a wealth of information at one's immediate disposal. Public education and the media provided

the means for self-realization. Why should the free and resourceful, bright and well-educated care for anything but their own individual lives?

For two very good reasons. First: because power cannot be separated from responsibility and responsibility, by definition, has a social dimension. If the global village is a credible scenario for the future, responsibility cannot be confined within the boundaries of the family, the local community or the nation. It must eventually include all of humanity.

Second: because the most precious things in human life, ranging from love and family to universal peace and justice, cannot be attained by an individual alone. These goals can only be reached through concerted, united actions. Unification requires a framework of commonly shared values. In the global village these values have to be universal, if not necessarily eternal. They may well be called "absolute." In my opinion Reverend Moon was right in insisting on "Unity of Knowledge" and "Absolute Values" as the recurrent themes of ICUS.

On behalf of thousands of ICUS scientists and scholars, I congratulate our Founder for his remarkable achievements during a long and productive life. We wish him and Mrs. Moon many more happy and successful years together.

I welcome the participants to this conference. Thank you for your hard work in preparing your papers, it is bound to be a success. Let me also thank the members of Gregory Breland's hard-working staff. They have done a lot to make this all possible. Let us finally remember that for all Koreans unity has a very special meaning. We sincerely hope that their greatest dream of a unified Korea will materialize soon.



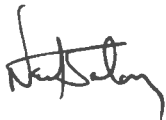
Tor Ragnar Gerholm
Conference Chair
ICUS XXII

WELCOME

For the twenty-second ICUS we come to the homeland of its Founders, the Reverend and Mrs. Moon, whose unwavering support of this academic enterprise over the years is unrivaled. While Korea wrestles with political change, especially in the North, and its effect on unification, we have a timely opportunity to learn more about Korean culture and establish bonds with the Korean people. I hope you have a chance during your busy conference schedule to do both.

During the conference you will have opportunities to learn about ICUS-related projects, such as the Professors World Peace Academy, Paragon House Publishers, and a whole host of other activities which are part of the Convocation of World Leaders and the World Culture and Sports Festival. We anticipate that the many events of the conference will provide stimulating and rewarding experiences for all of us.

Our staff wishes to make your stay as pleasant as possible. The hospitality table is located in the lobby of the second floor. Your comments and suggestions for improving the conference, as always, are welcome.



Neil Salonen
President
International Cultural Foundation

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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.

CONFERENCE CHAIRMANSHIP



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



Richard L. Rubenstein
Conference Vice-Chair
Distinguished Professor
of Religion
University of Bridgeport
Bridgeport, Connecticut



Michael Higltsberger
Conference Vice-Chair
University Professor
Institute of Experimental
Physics
University of Vienna
Vienna, Austria

INTERNATIONAL CULTURAL FOUNDATION LEADERSHIP



Chung Hwan Kwak
Chairman
Board of Directors
International Cultural
Foundation



Neil Albert Salonen
President
International Cultural
Foundation



Gordon L. Anderson
Secretary-General
International Cultural
Foundation



Gregory Breland
Executive Director
ICUS

LIST OF COMMITTEES

Committee 1: Symmetry in Its Various Aspects

Peacock East, 36th Floor

Denes Nagy, Honorary Chair
President of ISIS-Symmetry
Institute of Applied Physics
University of Tsukuba
Tsukuba Science City, Japan

Bulent I. Atalay, Committee Chair
Professor of Physics, Mary Washington College
Adjunct Professor, University of Virginia
Fredericksburg, Virginia
Member, Institute for Advanced Study,
Princeton

Committee 2: Holistic Medicine in Modern Health Care

Peacock West, 36th Floor

Norge W. Jerome, Honorary Chair
Professor Emerita of Preventive Medicine
University of Kansas
Kansas City, Kansas

Carl Becker, Committee Chair
Professor of Human Sciences
Kyoto University
Kyoto Japan

Committee 3: The Threat of Epidemics

Charlotte East, 36th Floor

Jan Brøgger, Committee Chair
Professor of Social Anthropology
Norwegian University of Science and Technology
Trondheim, Norway

Committee 4: Military and Police - Public or Private? Explorations in the Theory and History of Security Production

Charlotte West, 36th Floor

Gerard Radnitzky, Honorary Chair
Professor of Philosophy of Science,
Emeritus
University of Trier
Trier, Germany

Hans-Hermann Hoppe, Committee Chair
Professor of Economics
University of Nevada
Las Vegas, Nevada

Committee 5: Non-linear Structures in Natural Science and Economics

Astor East, 36th Floor

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

Alexander Kingsep, Committee Chair
Head of Department of Applied Physics
Kurchatov Institute
Moscow, Russia

Committee 6: Science and Music: A Unifying Concept

Astor West, 36th Floor

Raymond Daudel, Honorary Chair
President of the European Academy of
Sciences, Arts and Humanities
Paris, France

Jean Maruani, Committee Chair
Professor of Theoretical Physical Chemistry
University of Paris
Paris, France

Marja Rantanen, Vice-Chair
Composer and Pianist from Sibelius Academy
Helsinki, Finland

SCHEDULE

Wednesday, February 9

All Day	Arrivals
12:00 pm	Registration <i>2nd Floor Crystal Ballroom Foyer</i>

Thursday, February 10

8:00 am	Breakfast <i>Sapphire Ballroom, 3rd Floor</i>
10:30 am	Founder's Birthday Celebration <i>Olympic Gymnasium Center</i>
1:30 pm	Lunch <i>Sapphire Ballroom, 3rd Floor</i>
3:00 pm	Cultural Performance <i>Sejong Culture Center</i>
7:00 pm	Opening Banquet Founder's Address <i>Crystal Ballroom, 2nd Floor</i>

Friday, February 11

7-8:30 am	Breakfast <i>Sapphire Ballroom, 3rd Floor</i>
8:30-9:00 am	Joint ICUS/PWPA Opening Plenary <i>Sapphire Ballroom, 3rd Floor</i>
9:00 am	IIFWP Opening Plenary Convocation <i>Crystal Ballroom, 2nd Floor</i>
10:30 am	Refreshment Break <i>Crystal Ballroom Foyer</i>
11:00 pm	Committee Session I <i>Peacock East and West</i> <i>Charlotte East and West</i> <i>Astor East and West, 36th Floor</i>
12:30 pm	Lunch <i>Sapphire Ballroom, 3rd Floor</i>

2:30 pm	Committee Session II <i>See Session I for rooms</i>
4:00 pm	Refreshment Break <i>36th Floor Lobby</i>
4:30-6:00 pm	Committee Session III <i>See Session I for rooms</i>
6:00 pm	Dinner <i>Sapphire Ballroom, 3rd Floor</i>
7:30-9:00 pm	Committee Session IV <i>See Session I for Rooms</i>

Saturday, February 12

7-8:30 am	Breakfast <i>Sapphire Ballroom, 3rd Floor</i>
9:00 am	Committee Session V <i>See Session I for rooms</i>
10:30 am	Refreshment Break <i>36th Floor Lobby</i>
11:00 pm	Committee Session VI <i>See Session I for rooms</i>
12:30 pm	Lunch <i>Sapphire Ballroom, 3rd Floor</i>
2:30 pm	Committee Session VII <i>See Session I for rooms</i>
4:00 pm	Refreshment Break <i>36th Floor Lobby</i>
4:30-6:00 pm.	Committee Session VIII <i>See Session I for Rooms</i>
6:30 pm.	Dinner <i>Sapphire Ballroom, 3rd Floor</i>
8:00 pm	Optional WCSF Evening Programs Cultural Performance Martial Arts Federation

Sunday, February 13

7-8:30 am	Breakfast <i>Sapphire Ballroom, 3rd Floor</i>
9-10:00 am	Optional WCSF Plenaries Peninsular Nations for World Peace Island Nations for World Peace Continental Nations for World Peace <i>Crystal Ballroom, 2nd Floor</i>
10:00 am	Refreshment Break <i>Crystal Ballroom Foyer</i>
10:30 am	Convocation Closing <i>Crystal Ballroom, 2nd Floor</i>
11:30 am	Lunch <i>Sapphire Ballroom, 3rd Floor</i>
12:30 pm	Buses Depart for Olympic Stadium
2:00 pm	Blessing Ceremony <i>Olympic Stadium</i>
5:00 pm	Departure for Little Angels Academy
6:00 pm	WCSF Exhibitions <i>Little Angels Academy</i>
7:00 pm	Congratulatory Banquet <i>Little Angels Academy</i>

Monday, February 14

7:00 am	Breakfast <i>Sapphire Ballroom, 3rd Floor</i>
All Day	Departures

ICUS AT THE WCSF

Inspired by the Seoul Olympics in 1988, Sun Myung Moon, Founder of the International Cultural Foundation, which sponsors ICUS, decided to promote a “cultural olympics” aimed at the creation of harmonious global culture. The World Culture and Sports Festival (WCSF) brings together leaders and youth of all nations and walks of life. The WCSF gathers simultaneously many organizations Reverend Moon has previously founded allowing cross-fertilization of the best of the world’s knowledge and culture.

The WCSF became a reality in August, 1992, when the First World Culture and Sports Festival was held in Seoul, Korea. ICUS XIX, “Absolute Values and the New World Order,” was held as part of the Festival. ICUS XX was held in 1995 in Seoul as part of the 2nd WCSF on “Absolute Values and the Unity of the Sciences: The Origin and Human Responsibility.” ICUS XXI was held in Washington, D.C. in 1997 at the 3rd WCSF on “Science for the Benefit of Humanity.”

This conference, ICUS XXII, will be part of the 4th WCSF here in Seoul.

Other international organizations participating in this WCSF, include:

- ❖ Family Federation for World Peace and Unification International
- ❖ Federation for World Peace
- ❖ Federation of Island Nations for World Peace
- ❖ Federation of Peninsular Nations for World Peace
- ❖ International Relief and Friendship Foundation
- ❖ Interreligious Federation for World Peace
- ❖ Interreligious and International Federation for World Peace
- ❖ Martial Arts Federation for World Peace
- ❖ Professors World Peace Academy
- ❖ Religious Youth Service
- ❖ Unification Thought Institute
- ❖ Women’s Federation for World Peace
- ❖ World Media Association
- ❖ Youth Federation for World Peace

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

Issues of symmetry are seen as unifying themes in a broad range of disciplines—from mathematics and the physical sciences on one hand, to the arts and social sciences on the other. The mathematical physicist Herman Weyl once 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 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 to describe symmetrical shapes, where the operations of translation, rotation, and reflection leave the object indistinguishable. And it also describes the symmetry in physical laws, where symmetry with respect to translation, rotation, reflection, (and even time, parity, charge, etc.) leaves the mathematical form of the law unchanged. In this context, however, there are higher connotations—of the very conservation laws representing the pillars upon which the discipline is founded.

In nature we observe symmetric shapes at the macroscopic level both in animate and in inanimate objects. At the microscopic level beyond the capabilities of our natural senses, and at the supra macroscopic, 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 the same spiral shapes 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 microscopic or a scanning-tunneling microscope, and at the other, an optical or radio telescope.

Crystallographers identify five 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 likeness of humans—were 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 Great Mosque in Cordoba.

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. 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. Indeed, 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 the sciences there exists a stratification. Physics, as the most fundamental of the 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, the consistency, and the language of the sciences. The nutrients of mathematics move upward through the sciences, in a process evocative of osmosis. This paradigm is useful in explaining why physicists often use the mathematics formulated by mathematicians a generation earlier, why chemists adopt the techniques of physicists, again developed somewhat earlier, and so on. The order of the committee papers reflects the aspects of symmetry and asymmetry as they pertain to the sciences ascending roughly from the most fundamental to the most complex. In 1997 a predecessor to the present committee was held and the papers concentrated on symmetries in mathematics, physics and chemistry, as well as economics, sociology and anthropology. The present committee addresses some complimentary issues.

Denes Nagy
Honorary Chair
President of ISIS-Symmetry
Institute of Applied Physics
University of Tsukuba
Tsukuba Science City, Japan



Bulent I. Atalay
Committee Chair
Professor of Physics
Mary Washington College
Adjunct Professor
University of Virginia

Session I: Peacock East, 36th Floor

Friday, February 11, 11:00 - 12:30

1. Symmetry, Asymmetry, Dissymmetry: Art and Science, East and West

Denes Nagy
President of ISIS-Symmetry
Institute of Applied Physics
University of Tsukuba
Tsukuba Science City, Japan

Valeria Inkler
Calligraphic Artist
Tsukuba, Japan

2. The Enigma of Asymmetry



Dilip K. Kondepudi
Professor
Department of Chemistry
Wake Forest University
Winston-Salem,
North Carolina

Session II: Peacock East, 36th Floor

Friday, February 11, 2:30 - 4:00 pm

1. Mathematical Crystallography: Why Do We Have Symmetry?

Denes Nagy
President of ISIS-Symmetry
Institute of Applied Physics
University of Tsukuba
Tsukuba Science City, Japan

2. The Structure of Microcrystalline Zeolites: Symmetry with a Purpose



Halimaton Hamdan
Department of Chemistry
Technological University
Skudai, Johor, Malaysia

Session III: Peacock East, 36th Floor

Friday, February 11, 4:30- 6:00 pm

1. Symmetry and Sidedness in Human Anatomy



Michael K. Atalay
Instructor in Radiology
Johns Hopkins Hospital
Baltimore, Maryland

2. Functional Asymmetries Between the Two Sides of the Brain



Michael Nicholls
Department of Psychology
University of Melbourne
Parkville, Australia

Session IV: Peacock East, 36th Floor
Friday, February 11, 7:30- 9:00 pm

Free Time

Session V: Peacock East, 36th Floor
Saturday, February 12, 9:00-10:30 am

1. Various Forms of Symmetry and Beauty



Robert Ricketts
Professor
American Institute for
Bioprogressive Education
Scottsdale, Arizona

2. The Human Expression of Symmetry: Art and Neuroscience



Christopher W. Tyler
Associate Director
Smith-Kettlewell Eye Research
Institute
San Francisco, California

Session VI: Peacock East, 36th Floor
Saturday, February 12, 11:00-12:30

1. Symmetry - Islamic Art - My Art



Syed Jan Abas
Professor of Mathematics
University of Wales
Bangor, United Kingdom

*2. The Two Leonardos, Part I. Nature's Numbers:
Leonardo Fibonacci di Pisa*



Bulent I. Atalay
Professor of Physics
Mary Washington College
University of Virginia
Fredericksburg, Virginia

Session VII: Peacock East, 36th Floor
Saturday, February 12, 2:30-4:00 pm

1. The Two Leonardos, Part II: Leonardo da Vinci



Bulent I. Atalay
Professor of Physics
Mary Washington College
University of Virginia
Fredericksburg, Virginia

2. General Recapitulation

Holistic Medicine in Modern Health Care

In the past century, medicine has made tremendous strides in eliminating contagious infectious diseases, reducing infant mortality, and extending the human life span. Our lives are far safer, cleaner, and happier due to improvements of public hygiene, and emergency medicine.

These marvelous developments in modern medicine give rise to new problems: economic, ethical, biological, and spiritual. Economically speaking, there is not enough money to provide everyone with high-tech treatment. This leads to ethical problems in the prioritizing of health care needs and delivery services. Biologically, the use of antibiotics and sterilization has given rise to strains of "super-bacteria" resistant to these agents, while post-industrial diet and lifestyles challenge humankind with new diseases like cancer and HIV. While the role of doctors has changed from one of caregiver to one of clinical technician, the psycho-spiritual needs of patients are often ignored.

Modern medicine is at a crossroads. The costs of modern cancer treatments, coronary bypasses, and similar high-tech responses to modern diseases have bankrupted the socialized medical economies of Europe, and threaten even private insurance schemes. Billions of dollars are spent on pain-relievers and corrective surgery, yet millions of Americans are debilitated by chronic pain, costing half a billion days' work and \$100 billion in lost productivity annually. Billions have been spent on cancer and heart research, but have yielded no miracle drug to cure cancers, no lasting solutions after coronary bypasses or even heart transplants. This is not very surprising, considering that these are "diseases" of lifestyle, and not of infection.

Moreover, patients are dissatisfied. Too often, biochemical medicine fails to treat patients as whole living persons, with stresses and fears and dreams. Technological medicine fails to account

for the spiritual as well as physical dimensions of patients. All too often, modern doctors fail to communicate lovingly with their clients.

Such dissatisfaction is driving modern patients to so-called "Alternative," "Complementary," "Holistic," "Traditional," and "Natural" remedies, untested as well as tested. Books on self-healing become runaway bestsellers as the public seeks to educate itself in ways the doctors will not. In turn, the medical community cries out for regulations of this lucrative competition which threatens their monopoly and may on occasion pose genuine risks to patients. There is a continual need for a balanced and critical evaluation of what so-called holistic medicine can and cannot realistically provide. Each topic will be addressed in the following manner

- (1) *Introduction.* Introduce one holistic therapy or modality that you have found to work reliably in your practice or experience. For what kinds of patients is it suited? What cautions should be noted?
- (2) *Research.* What clinical or laboratory research supports the effectiveness of this modality? What kinds of further tests or experiments ought to be considered?
- (3) *Standards.* What legal or professional guidelines are desirable to assure the public and the profession of the quality and safety of this therapy or modality?
- (4) *Medical Education.* What education would be desirable for practitioners of this therapy/modality, either within or outside of traditional medical schooling?
- (5) *Public Awareness.* How should the public be taught or cautioned about this therapy/modality?
- (6) *Cost-Effectiveness.* What are the economic implications of this practice, compared to the presently dominant therapies or modalities?



Norge Jerome
Honorary Chair
 Professor Emerita of
 Preventive Medicine
 School of Medicine
 University of Kansas
 Kansas City, Kansas



Carl Becker
Committee Chair
 Professor of Human Sciences
 Kyoto University
 Kyoto, Japan

Session I: Peacock West, 36th Floor
 Friday, February 11, 11:00-12:30

1. Introductions and Overview

2. Integrating Science and Nature in a Global Health Care System



Ron Hobbs
 Dean, Naturopathic Medicine
 University of Bridgeport
 Bridgeport, Connecticut

Session II: Peacock West, 36th Floor
 Friday, February 11, 2:30 - 4:00 pm

1. Comprehensive Medicine - Its Philosophy and Methodology



Katsutaro Nagata
 Health Administration Center
 School of Medicine
 Hamamatsu University
 Hamamatsu City, Japan

2. Successful Holistic Treatment for Chronic Depression



C. Norman Shealy and
 Paul Thomlinson
 Vice President
 Research and Quality Assurance
 Burrell Behavioral Health
 Springfield, Missouri

Session III: Peacock West, 36th Floor
 Friday, February 11, 4:30 - 6:00 pm

1. Chi Kung and Holistic Health and Medicine

Wong Kiew Kit
 Grandmaster
 Shaolin Wahnam
 Sungai Petani, Malaysia

2. Traditional Chinese Medicine(TCM) in the United States: Incorporating TCM in Modern Health Care to Enhance the Care of Patients



Ka Kit Hui
 Director
 UCLA Center for East-West
 Medicine
 UCLA Medical School
 Los Angeles, California

Session IV: Peacock West, 36th Floor
Friday, February 11, 7:30 - 9:00 pm

Free Time

Session V: Peacock West, 36th Floor
Saturday, February 12, 9:00-10:30 am

1. Aromatherapy: Uniting Body, Mind and Spirit—The Missing Model



Lizette Pirtle
International Affiliation
Coordinator
National Association of
Holistic Aromatherapy
Houston, Texas

2. Aromatherapy: The Healing Uses of Essential Oils



Geraldine DePaula
President, Aroma Medica and
Department of Family Medicine
Thomas Jefferson University
Erdenheim, Pennsylvania

Session VI: Peacock West, 36th Floor
Saturday, February 12, 11:00 - 12:30

1. The Potential of Modern Phytotherapy as a Whole System Science



Daniel Kenner
Director
Ormed Institute
Forestville, California

2. Two Cases of Cancer Patients Treated by Holistic Medicine



Tae-Soo Kim
Chairman
Korean Natural Health Research
Association
Seoul, Korea

Session VII: Peacock West, 36th Floor
Saturday, February 12, 2:30-4:00 pm

Concluding Discussion

Session VIII: Peacock West, 36th Floor
Saturday, February 12, 4:30 - 6:00 pm

Free Time

Commentators/Discussants

Pradit Chareonthaitewee
Civil Service Commission
Ministry of Public Health
Bangkok, Thailand

Cheryl Lau
Harvard University
Transportation, Inc.
Carson City, Nevada

Kyung Hee Chin
Executive Dean
Health Sciences
University of Bridgeport
Bridgeport, Connecticut

Hisayoshi Watanabe
Professor of English
Literature
Setsunan University
Uji City, Japan

Byung Hee Koh
Visiting Professor
University of Bridgeport
Bridgeport, Connecticut

The Threat of Epidemics

In 1969, the United States surgeon general, William H. Stewart, told his country that it had already seen most of the frontiers in the field of contagious disease. With the discovery of antibiotics and the development of new vaccines, the microbiological challenge appeared to be conquered. The attention shifted to the problems of lifestyles. Drinking and overeating had replaced bubonic plague, smallpox, and cholera. The developed nations indulged in a vision of an antiseptic age with man in control.

But ten years later, new diseases struck with greater impact and visibility, and old ones reappeared and were resistant to the new drugs. Both syphilis and measles made comebacks.

Of the new diseases AIDS is the most prominent and well-known. The first cases reported in the press appeared in the early 1970s, but a few other cases had been reported as early as the late fifties. A few cases in Norway had been diagnosed as immune deficiency. Only later professor Stig Frøland at Rikshospitalet Oslo was able to spell out the diagnosis, AIDS, because he had meticulously preserved blood samples of the diseased.

AIDS became the leading killer in Africa a mere 18 years after the infection was first recognized, detailing the speed which infections are able to spread. The threat of epidemics is today more serious than the threat of war or famine.

Thus, this committee has two purposes. One is to promote the knowledge of epidemics as a medical and cultural problem by bringing together scientist of high caliber and publishing the results. The other is to alert the world community to the threat of epidemics with the aim of getting the problem at the top of the list of global concerns.

Since 1951 more than 28 new diseases have been discovered. Of these AIDS is the best known, but also Marburg disease, Lassa and Ebola fever, Lyme disease, and legionnaires disease have been in the limelight. Legionellosis is now striking without warning in hospitals, hotels and recently at a Dutch flower-market. This particular pest is particularly interesting because it

shows that our technological environment breeds its own brand of infections. Just as the so-called neolithic revolution and the development of agriculture in Egypt, Mesopotamia, and China provided a breeding ground for infectious diseases, the air-conditioning systems, cooling towers, and whirlpools of the highly technical United States sponsored legionnaire disease. Similarly, the industrial breeding of meat may have caused the cow-disease. The cow-disease, or bovine spongiform encephalopathy (BSE), resembles Creutzfeldt-Jakob disease (CDJ). CDJ belongs to a group of diseases whose history goes back at least 200 years. First the sheep staggered, then they trembled, became irritable, and itched so badly that they scraped off their wool on rocks and trees.

BSE resembles scrapie, CJD and kuru, a strange illness which almost wiped out the Fore tribe of New Guinea. The Fore disease was investigated by the American virologist D. Carleton Gajdusek. He discovered that the disease struck mostly women and children and traced it to a post-mortem cannibalism practices by the Fore women as part of the death ritual. Gajdusek discovered that the disease which was called *kuru* by the Fore, was caused by a degeneration of the brain. The good news is that the progress made by Gajdusek has increased the general understanding of the mode of operations of so called slow-viruses, and made a breakthrough in treatment more likely.

In 1982 Stanley Prusiner suggested that the cause of these diseases is not a virus but a protein molecule called *prion*. Possibly an attack on Alzheimer's, Parkinson's, multiple sclerosis, and other degenerative neurological disorders may be launched. The medical contributors of the seminar will focus on these degenerative disorders.

Epidemics have played a prominent part in cultural history, a fact which is often ignored by the professional historians. Several of the papers to be presented will address these issues.



Jan Brøgger
Committee Chair
Professor of Social Anthropology
Norwegian University of Science and Technology
Trondheim, Norway

Session I: Charlotte East, 36th Floor

Friday, February 11, 11:00 - 12:30

1. *The Cultural History of Epidemics*



Jan Brøgger
Professor of Social
Anthropology
Norwegian University of Science
and Technology
Trondheim, Norway

2. *Nomads and Epidemics*



Bi Puranen
Futures Studies and Communica-
tion Strategies
University of Stockholm
Stockholm, Sweden

Session III: Charlotte East, 36th Floor

Friday, February 11, 4:30 - 6:00 pm

1. *The Biochemical Challenge of HIV*



Edward Kakonge
Professor of Biochemistry
Makerere University
Kampala, Uganda

Session II: Charlotte East, 36th Floor

Friday, February 11, 2:30 - 4:00 pm

1. *The Ancestral Homeland of Plague and the Black Death's Area of Origin*



Ole J. Benedictow
Professor of History
University of Oslo
Oslo, Norway

Session IV: Charlotte East, 36th Floor

Friday, February 11, 7:30 - 9:00 pm

Free Time

Session V: Charlotte East, 36th Floor
Saturday, February 12, 9:00 - 10:30 am

1. Mukenenya - Metaphor of a Modern Plague



Sigrid Damman
Dept. of Social Anthropology
Norwegian Science and
Technology University
Trondheim, Norway

2. Evolutionary Aspects of the Host-Parasite Relationship



Guido Pincheira
Professor of Genetics
University of Chile
Santiago, Chile

Session VI: Charlotte East, 36th Floor
Saturday, February 12, 9:00-10:30 am

1. Tuberculosis "La Belle Dame sans Merci"



Bi Puranen
Cultures Studies and Communication Strategies
University of Stockholm
Stockholm, Sweden

2. Influenza, an Epidemic Problem: Emphasis on the Spanish Flu and Excavations After Outbreak in Arctic Norway



Tom Bergan
Professor and Chief Physician
University of Oslo/Rikshospitalet
Oslo, Norway

Session VII: Charlotte East, 36th Floor
Saturday, February 12, 2:30-4:00 pm

Concluding Discussions

Police and Military - Public or Private? Explorations in the Theory and History of Security Production

Two of the most widely accepted propositions among political economists and philosophers are these:

First: Every “monopoly” is “bad” from the viewpoint of consumers. Monopoly is here understood in its classical meaning as an exclusive privilege granted to a single producer of a commodity or service or, alternatively, as the absence of “free entry” into a particular line of production: only one agency, A, may produce x. Any such monopolist is “bad” for consumers because, shielded from potential new entrants into his area of production, the price of his product x will be higher and the quality of x lower than otherwise.

Second: The production of security must be undertaken by, and is the primary function of government. Here security is understood in the wide meaning adopted in the American *Declaration of Independence*: as the protection of life, property (liberty), and the pursuit of happiness from domestic violence (crime) as well as external (foreign) aggression (war). In accordance with generally accepted terminology, government is defined as a territorial monopoly of law and order (ultimate decision-maker and enforcer).

While both propositions are clearly incompatible, this has rarely caused concern among economists and philosophers, and in so far as it has, the typical reaction has been one of taking exception to the first proposition rather than the second. This reaction is notable in light of the fact that in the course of the twentieth century alone, governments have been estimated to be responsible for the death of almost 170 million people. Does this evidence not indicate that something might be

inherently wrong with the second proposition?

The committee aims to explore and provide systematic clarification of this fundamental theoretical question as well as eminently practical concern. Can the dismal performance record of governments as providers of security, and in particular, can the devastating wars and massive human rights violations experienced during the twentieth century, be explained as mere “accidents?” Is this record, as has been suggested, merely due to the prevalence of specific forms of government? More specifically, can it be ascribed to a lack of democratic governments or certain constitutional limitations imposed on government power, and is it therefore reasonable to expect that this record would systematically improve if only appropriate constitutional reforms were enacted? Or, as the first of the above propositions suggests, has the miserable record of governments as providers of security a “systematic” reason in the very nature of government as a compulsory monopolist, and is this record then merely a manifestation of the general law applicable to all monopolies, i.e., of producing low quality products at excessively high prices? If so, how, if not by government, can security be provided effectively? How, in particular, is one to evaluate the proposal that it is freely competing and financed insurance agencies which present themselves as a natural alternative to government in the production of security?

It is the objective of the committee to provide theoretically and historically substantiated answers to these questions.



Gerard Radnitzky
Honorary Chair
Professor of Philosophy
of Science, Emeritus
University of Trier
Trier, Germany



Hans-Hermann Hoppe
Committee Chair
Professor of Economics,
University of Nevada
Las Vegas, Nevada

Session I: Charlotte West, 36th Floor
Friday, February 11, 11:00 - 12:30

1. Introductions and Overview

2. The Provision of Law and Order in Political Theory



Luigi Marco Bassani
Assistant Professor
University of Milan
Milan, Italy

and



Carlo Lottieri
Research Associate
University of Siena
Brescia, Italy

Session II: Charlotte West, 36th Floor
Friday, February 11, 2:30 - 4:00 pm

1. Monarchy and War

Erik Kuehnelt-Leddihn
Lans, Austria

2. Are Democracies More Peaceful Than Other Forms of Government



Gerard Radnitzky
Professor of Philosophy of
Science, Emeritus
University of Trier
Trier, Germany

Session III: Charlotte West, 36th Floor
Friday, February 11, 4:30 - 6:00 pm

1. Mercenaries, Guerillas, Militias, and the Defense of Minimal States and Free Societies



Joseph R. Stromberg
Center for Libertarian Studies
Fort Myers, Florida

2. Storms, Strikes, and Surveillance: A Case Study in the Militarization of Economy and Society



James R. Fleming
Associate Professor
Science, Technology and Society
Colby College
Waterville, Maine

Session IV: Charlotte East, 36th Floor
Friday, February 11, 7:30 - 9:00 pm

Free Time

Session V: Charlotte West, 36th Floor
Saturday, February 12, 9:00-10:30 am

1. Secession and the Production of Defense



Guido Hülsmann
Research Fellow
State University of New York and
Mises Institute
Auburn, Alabama

2. The Will to be Free. The Role of Ideology in National Defense



Jeffrey Hummel
Golden Gate University
San Francisco, California

Session VI: Charlotte East, 36th Floor
Saturday, February 12, 11:00-12:30

1. National Defense and the Theory of Externalities, Public Goods and Clubs



Walter Block
Economics Department
University of Central Arkansas
Conway, Arkansas

2. Police, Adjudication, and Arbitration. Public or Private?



Stephan Kinsella
Partner and Professor
Duane, Morris & Heckscher
LLP
South Texas College of Law
Houston, Texas

Session VII: Charlotte East, 36th Floor
Saturday, February 12, 2:30-4:00 pm

1. On Government and the Private Production of Defense



Hans-Hermann Hoppe
Professor of Economics
University of Nevada
Las Vegas, Nevada

2. Concluding Discussions

Discussants

Dan Cristian Comanescu
Lecturer in Economics
University of Bucharest
Bucharest, Romania

Josef Sima
Economist
Liberalni Institute
Prague, Czech Republic

Non-linear Structures in Natural Sciences and Economics

During the last few decades non-linear science, the first being non-linear physics, has come to be the subject of the most advanced treatment among the natural sciences. One of the great scientific achievements of the 19th century was the development of the *universal approach* which considered varieties of phenomena; in particular, oscillations and waves, transport phenomena or diffusive processes, for example. Many effects and processes in physics, mechanics, and chemistry began to be considered on a common basis and with some common understanding, regardless of their particular nature. Based on this common understanding, mutual enrichment took place. One example was Volterra's equation, in mathematical physics, which was initially constructed to describe the interaction of a community of predators and their victims. Such a unification of understanding dealt mainly with natural sciences, while socio-political processes remained at the level of the humanities or the mathematical naïve.

We now observe some progress in this direction. First, economics and life sciences are involved in mutual enrichment. Second, one of the more important recent scientific development is the formation of non-linear science. Initially it may seem to be only a mathematical term, that is, non-linear science is any science for which a non-linear approach applies. In fact, there exist a vast group of non-linear effects, which are no less universal than the linear phenomena described in the 19th century. The enrichment noted above is a non-symmetric one; some basic results and methods are being transferred from physics to chemistry and then to biology, life sciences and social and economic sciences. Going in the opposite direction, the problem depends on the methods of verification, since the more fundamental the natural science, the more defined are the models.

Unlike in linear science, the variety of non-linear phenomena can hardly be studied and properly described analytically (although some analytical results play an important role, serving as a basis for universal scenarios). Moreover, in economics any reasonable approach must be

based on numerical methods. In order to understand today's socio-political realities, one has to deal with large amounts of information, which must be analyzed by computer. That is why numerical methods together with non-linear physics, provide the basis for non-linear science.

Many phenomena in life and social sciences were incompatible with the typical characteristics of linear phenomena, i.e., oscillations, diffusive processes, and entropy growth, which reveal its limitations. Now we recognize that most phenomena in these areas are essentially non-linear. In particular, one of the main features of any self-consistent, non-linear dynamic is the formation of non-linear structures.

We can observe these structures in mechanics (solitons and vortices, strange attractors), chemistry (Belousov-Zhabotinsky reactions), dynamics of the Earth's crust, biology, and the complicated dynamics of human history and world economy. Many of their features when properly described appear to be universal.

Our goal is to examine the laws that apply to non-linear phenomena, starting from physics and transferring them and building reasonable scenarios in both life and social sciences, using an extrinsic method. Such a treatment is complementary to traditional methods developed specifically for each of these sciences. As we know from the physics and chemistry developed in the 20th century, the complementarity approach turns out to be fruitful in natural sciences (part of which is human society).

Besides physics and hydrodynamics, non-linear problems of astronomy, geology, medicine, and economics will be discussed.



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



Alexander S. Kingsep
Committee Chair
 Head
 Department of Applied Physics
 Russian Research Institute
 Moscow, Russia

Session I: Astor East, 36th Floor

Friday, February 11, 11:00 am -12:30 pm

1. Non-linear Structures and Dynamics in Non-trivial Chemical Systems



Nicholas G. Rambidi
 International Research Institute
 for Management Science
 and Physics Department
 Moscow State University
 Moscow, Russia

2. Patterns, Waves and Solitons in Fluids



Manuel Velarde
 Professor of Physics
 Universidad Complutense
 Instituto Plusidisciplinar
 Madrid, Spain

Session II: Astor East, 36th Floor

Friday, February 11, 2:30 - 4:00 pm

1. Non-linear Dynamics of Astrophysical Disks



Alexei M. Fridman
 Institute of Astronomy
 Russian Academy of Sciences
 Moscow, Russia

2. Dynamic Processes During Disk Accretion into the Black Hole



Guennadi S. Bisnovatyi-Kogan
 Space Research Institute
 Moscow, Russia

Session III: Astor East, 36th Floor

Friday, February 11, 4:30 - 6:00 pm

1. Non-linear Phenomena in the Model of Blood Coagulation



A. I. Lobanov
 Moscow Institute for Physics and
 Technology
 Moscow, Russia

2. The Methods of Non-linear Dynamics in the Analysis of Heart Rate Variability



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

Session IV: Astor East, 36th Floor
Friday, February 11, 7:30 - 9:00 pm

1. Non-trivial Transport Phenomena: Sub- and Super-diffusion



Konstantin V. Chukbar
Kurchatov Institute
Moscow, Russia

2. Discrete Chaotic Dynamics and Time and Space in Complex Systems



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

2. Non-linear Processes of Accelerated Destruction of the Earth's Crust



Evgeny V. Artyushkov
Institute of Earth Physics
Moscow, Russia

Session VI: Astor East, 36th Floor
Saturday, February 12, 11:00-12:30

1. Mathematical Model of Technological Change



Alexander Shanenin
Moscow State University
Moscow, Russia

Session V: Astor East, 36th Floor
Saturday, February 12, 9:00-10:30 am

1. Non-linear Dissipative Structures in Hot Plasmas



Ksenia A. Razumova
Kurchatov Institute
Moscow, Russia

2. A Firm Model in a Transitional Russian Economy



Igor G. Pospelov
Computing Center
Russian Academy of Sciences
Moscow, Russia

Session VII: Astor East, 36th Floor
Saturday, February 12, 2:30 - 4:00 pm

*1. Problem of Aggregation and Foundations of
Economic Models*



Alexander Petrov
Computing Center
Russian Academy of Sciences
Moscow, Russia

*2. Change, Organization and Complexity: A Co-
herent Paradigm*



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

Session VIII: Astor East, 36th Floor
Saturday, February 12, 4:30 - 6:00 pm

Concluding Discussions

Science and Music: A Unifying Concept

Everything in nature, from elementary particles to galaxy clusters, including the spectra of the elements, the structure of crystals and polymers, and biological and geological rhythms, is made of waves, periodicities, vibrations, and resonances. It has been said that a scientist is someone who deciphers God's score in nature, while a composer is someone who deciphers God's score within man.

Connections between science and music (and philosophy) go back to remote periods of history, when they did not exist as such but were parts of magic rituals. Pythagoras was the first recorded thinker in the western world to introduce explicitly physical and mathematical (and also mystical) considerations into musicology: he devised a music scale which prevailed until the 17th century and on which our modern scales are still based. Numerous mathematicians and physicists (Descartes, Euler, Mersenne, Galilei, Savart, Huygens, Helmholtz, and, in modern times, Xenakis) wrote memoirs on acoustics and music.

In the 19th century, Weiss suggested a similarity between musical scales and crystal symmetries. In the 20th century chemists wrote musical scores inspired by the genetic code, and physicists looked for connections between molecular spectra and musical scores. Religious rituals (as the collective masses in Cluny) and technical innovations (as the building of the organ or the advent of the

computer) were also influential in the history of music, as were philosophical and sociological trends (from Plato through Rousseau). It is then in order that an institution devoted to unifying sciences, as well as science and culture, gets involved in a committee dealing with the relations between science and music.

Possible contributions:

1) Music and Mathematics I: the problem of the scales; melody versus harmony.

2) Music and Mathematics II: space and time in the arts; a correspondence between graphic and music patterns through periodic analysis.

3) Music and Astronomy: the harmony of the spheres, from Pythagoras and Plato through modern cosmology

4) Music and Chemistry: from wave mechanics to the periodic table.

5) Music and Biology: proteins and nucleic acids as musical scores.

6) Music and Psychology: inner vibrations and music therapy.

7) Music and Sociology: from folk, military and religious music to mass concerts and elevator music.

8) Music and Ethnology: Greek, medieval and modern music compared to Chinese, Hindu and Arabic music

Raymond Daudel
Honorary Chair (in absentia)
President of the European Academy of
Sciences, Arts and Humanities
Paris, France

Marja Rantanen
Vice Chair
Composer and Pianist
from Sibelius Academy
Helsinki, Finland



Jean Maruani
Committee Chair
Professor of
Theoretical Physical Chemistry
University of Paris
Paris, France

Session I: Astor West, 36th Floor
Friday, February 11, 11:00 am -12:30 pm

1. *Introduction and Overview*
2. *Musical Patterns at the Various Levels of Complexity in Nature*



Jean Maruani
Professor of
Theoretical Physical Chemistry
University of Paris
Paris, France

and



Marja Rantanen
Composer and Pianist
from Sibelius Academy
Helsinki, Finland

3. *Science and Technology as an Inspiration and Support for Artists and Musicians*

Raymond Daudel
President
European Academy of Sciences,
Arts and Humanities
Paris, France

Session II: Astor West, 36th Floor
Friday, February 11, 2:30 - 4:00 pm

1. *The Problem of the Scales: Melody versus Harmony*

Eric Emery-Hellwig
Professor of Music Education and Aesthetics
Grandvaux, Switzerland

2. *Free time for visiting other committees*

Session III: Astor West, 36th Floor
Friday, February 11, 4:30 - 6:00 pm

1. *The Music World Before, During, and After Pythagoras*



Demetrios Lekkas
Musicologist and Composer
Hellenic Open University
Kifissia, Greece

2. *Prehistoric Mode and Polyphony in the Balkans*



Thanassis Moraitis
Artist and Musicologist
Associate to the Director
Music Folklore Archive
Melpo Merlier Foundation
Athens, Greece

Session IV: Astor West, 36th Floor
Friday, February 11, 7:30 - 9:00 pm

1. *A Musical Void in the Surrealist Quest: Encounter with Pacific North West Coast Natives*

Guy Buchholtzer
Research Associate
Social Science, CNRS
Vancouver, BC, Canada

*2. Anthropologic Basis of the Search for Harmony
in the Structure of the Universe*



Georges Koussanellos
Composer, Performer and Musicologist
University of Paris
Paris, France

Session V: Astor West, 36th Floor
Saturday, February 12, 9:00-10:30 am

1. Solar Harmonics



Demetrios Lekkas
Composer and Musicologist
Hellenic Open University
Kifissia, Greece

*2. Space and Time in Music: A Correspondence
Between Architecture and Musical Art*

Eric Emery-Hellwig
Professor of Music Education and Aesthetics
Grandvaux, Switzerland

Session VI: Astor West, 36th Floor
Saturday, February 12, 11:00-12:30

*1. Music Patterns in Molecular Spectra and
Structures*



Roland Lefebvre
Professor Emeritus
Chemical Physics
University of Paris
Bures Sur Yvette, France

and



Marja Rantanen
Composer and Pianist
from Sibelius Academy
Helsinki, Finland

*2. The Human Body As A Crossroad Between
Inner and Outer Vibrations: Examples of Biological
Rhythms*



Claude Gaudeau de Gerlicz
Scientific Director
Institute of Bioinformatics and
Biotechnology
Tours, France

Session VII: Astor West, 36th Floor
Saturday, February 12, 2:30 - 4:00

1. *Music As a Psychic Elaboration of Physical and Relational Vibrations, Rhythms and Sounds: Applications in Music Therapy*

Edith Lecourt
Professor of Clinical and Psychopathological
Psychology
University of Paris
Paris, France

2. *Systemic Approach of the Influence of Classical Music on the Development of Emotional Intelligence*



Laurent Dukan
Director
European Center of Integrative
Psychology
Paris, France

Session VIII: Astor West, 36th Floor
Saturday, February 12, 4:30 - 6:00 pm

1. *The Sociology of Music: From Max Weber to Theodore Adorno*

Jean-Louis de Lannoy
Associate Professor of Sociology
University of Toronto
Toronto, Canada

2. *Music and Values in Western and Eastern Cultures*

David Eaton
Artist Director
New York City Symphony Orchestra
New York

Discussant
Yavor Delchev
Institute of Nuclear Research and
Nuclear Energy
Bulgarian Academy of Sciences
Sofia, Bulgaria

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

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 seen 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 to the progress 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.

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 inter-disciplinary 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.

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. 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 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 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



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



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



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



Lord Adrian
Professor of Physiology
Nobel Laureate
ICUS III (1974)
Science and Absolute Values
128 participants from 28 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 Reassess-
ment of the Contemporary World*

225 participants from 47 nations

ICUS XVII (1988)

*Absolute Values and the Reassess-
ment of the Contemporary World*

260 participants from 47 nations

ICUS XVIII (1991)

*Absolute Values and the Reassess-
ment 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 Hu-
man 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

ICUS XXII (2000)

*Searching for Absolute Values and
Unity in the Sciences: Science for
the Benefit of Humanity*

150 participants from 35 nations

FOUNDER'S PAGE



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 infe-

rior 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.

Reverend Sun Myung Moon
Founder's Address, ICUS XVI, Atlanta, Georgia

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.

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

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.

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

Professors World Peace Academy (PWPA)

Interdisciplinary and International

The Professors World Peace Academy (PWPA) was established to support the academic community in the quest for peace, social stability, and prosperity. With chapters in over one hundred countries, it forms a broad network of scholarly exchange. PWPA is interdisciplinary, intercultural, and future-oriented

History

PWPA was founded in Seoul, Korea in 1973 at a gathering of 168 Korean and Japanese professors. Professors were able to discuss the embittered relationship between the two countries in a more objective, rational and constructive way than had political or cultural leaders.

Word of PWPA spread to the international academic community through the International Conferences on the Unity of Sciences in the 1970s. By 1982 chapters had been established in 40 countries, and on December 18th, 1983 professors from 70 countries gathered in Seoul, Korea to launch the international PWPA. By 1985 PWPA had chapters in over 100 countries. By 2000, PWPA chapters have sponsored over 1000 conferences and activities at the local and regional levels.

Congresses

Under the guidance of President Morton A. Kaplan, PWPA-International sponsored three major international congresses which looked at the world's major social systems—the Soviet, the Chinese, and Western Democracies. In Geneva, in 1985, 90 experts on the Soviet system predicted its collapse and discussed ways in which that collapse could be peaceful.

PWPA-International has also supported five Pan-African Congresses, as post-colonial Africa has been a divided continent with little opportunity for scholars of its various regions to meet with one another.

Publications

PWPA International has published the quarterly *International Journal on World Peace* since 1984. It covers all aspects of peace including international relations, social analysis, education, the family, values, globalization, economic development, and history. The journal has been recommended as a “core journal of the social sciences” by *Choice* magazine, and has been used in college courses and diplomatic training institutions.

PWPA has published several hundred books in over 15 languages. The major reference and textbooks are published and distributed to the academic and trade market by Paragon House.

The Creation of World Citizens

PWPA is encouraging the education of young people as global citizens. The first step towards the realization of this goal was taken in 1992 when PWPA formed an agreement with the University of Bridgeport. Among the programs being developed are an international service training center, a medical school which combines Eastern and Western approaches, and global distance learning courses. PWPA also provides scholarships for international students. In 1996, PWPA assisted the formation of the World University Federation, with the University of Bridgeport and Sun Moon University in Korea as charter members. The key principles of the charter are harmony, purity, peace, and unity.



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 (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 twelve to fifteen titles annually.

Recently Published

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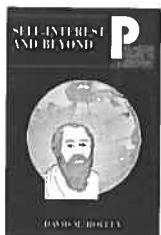


Lin Sten

What challenges will society face on its continuing quest to enhance survival? Society is always faced with questions about the use and benefits of new technologies. In the revolutionary changes of the next decade, some life forms will have miraculous enhancements to their existence while others will be faced with the question of whether they will survive. This important book looks at the question of human survival in an age of unprecedented technological advancement. Sten discusses future scenarios, both optimistic and pessimistic, and proposes how society can overcome the risks and maximize its survival.

448 pp. 1-55778-779-4 \$24.95

Self-Interest and Beyond



David M. Holley

Using classical and contemporary philosophical ideas, as well as stories from literature and recent films, this book involves the reader in considering alternative possibilities for self-development. By reflecting on possible selves and possible lives, the reader should be able to give greater depth to self-interested thinking and discover the value of building a self with a range of motivations besides self-interest.

Paragon Issues in Philosophy, 256 pp. 1-55778-778-6 \$16.95

With a strong, successful backlist, the company has over 350 active titles currently in print.

Paragon House publishes scholarly research, textbooks, and reference works in the areas of general philosophy, ethics, contemporary values, religion, social thought, women's studies, social sciences, and interdisciplinary studies. The books are written by established and cutting-edge thinkers in a variety of disciplines. Paragon House has several book series, including *Paragon Issues in Philosophy*, the *Visions of Reality: Understanding Religions*, the *Holocaust Series*, the *Omega Series*, the *Liberal Democratic Societies* and *New Era Books*. For current information, visit their website at www.paragonhouse.com.

Ethics After the Holocaust: Perspectives, Critiques, and Responses



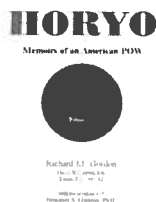
John K. Roth

The book's distinctive dialogue format deepens inquiry that interprets the Holocaust not only as an assault on millions of innocent Jews, first and foremost among them, but also as an attack on goodness itself. The six scholarly contributors, Leonard Grob, Peter J. Haas, David Hirsch, David Patterson, Didier Pollefeyt, and John K. Roth, experienced Holocaust scholars from the fields of literature, philosophy, religious studies, and theology, emphasize that ethics must be a way of living that cares especially for the defenseless.

Holocaust Series 358 pp. 1-55778-771-9 \$18.95

Horyo: Memoirs of an American POW

Richard M. Gordon



This book tells of the author's experience as a Japanese prisoner of war during World War II. In April 1942, Gordon was captured by the Japanese and forced to participate in the infamous Bataan Death March, and subsequently held prisoner of war in several camps. In shocking detail, he describes life and death in these camps and forces the reader to confront the predatory behavior of many soldiers in such circumstances. Gordon remained a POW until his liberation on September 4, 1945.

400 pp. 1-55778-781-6 \$24.95

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



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 publishing program, known as the ICUS Books imprint and distributed by Paragon House Publishers. In keeping with the ICUS tradition, the imprint aims to advance human understanding by publishing manuscripts that approach scientific topics with a special regard for the broad 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

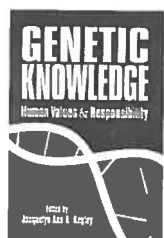
from each conference, along with edited multi-authored volumes on particular themes. These edited theme volumes have often been the selected fruits of a particular committee from a particular conference. Because of this, the edited volumes tend to be interdisciplinary approaches to timely issues, addressing the overall subject from several scientific, philosophical, historical, cultural or religious perspectives.

In addition to conference proceedings, commemorative volumes and multi-authored edited volumes, the imprint 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

Genetic Knowledge: Human Values and Responsibility

Edited by Jacquelyn Kegley



This volume addresses the many value, scientific, and public policy issues surrounding the use of genetic knowledge. Important questions are raised about the definitions of “health” and “disease”; “personhood” and “family.” Ethical and legal issues concerning individual rights and responsibilities version communal good and responsibilities; concerning discrimination, stigmatization and the right of privacy are discussed. Issues include ethic and ethos of accountability such as the notion of responsible, preventive medicine; genetic carrier responsibility, obligation to family and future generations. The perspective is interdisciplinary and multicultural.

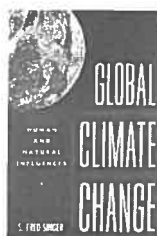
ISBN 0-89226-203-6 (Soft) \$16.95

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240 pages, illustrated, index

Global Climate Change: Human and Natural Influences

Edited by S. Fred Singer



Many people have become increasingly concerned with mankind's future on this planet. This subject has profound philosophical and scientific aspects and is of international concern. This book focuses on three categories of problems: problems that arise as inadvertent by-products of human activities, problems that arise as undesirable long-range consequences of purposeful modifications of the environment, and problems that arise from global environmental issues that can be called “natural” in that they are not controlled by man.

ISBN: 0-89226-071-8, 424 pages, illustrated
Paperback \$17.95.

Fallout from the Population Explosion

Edited by Claude A. Villee, Jr.

FALLOUT
from the
POPULATION
EXPLOSION



Population control has been a political concern for several millennia. Both Plato and Aristotle discussed population size in their political theories. In the 1960's the catastrophe theory came into fashion: we were warned that if we didn't do something about the expanding human race then each of us might soon be confined to one square yard of earth. Since then the issue seems to have dropped from public consciousness. Claude Villee has brought together a number of papers on this topic from several ICUS conferences.

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.

—Professor Donald Bogue

Dept. of Sociology, University of Chicago

ISBN: 0-89226-028-9, 264 pages, Hardbound \$24.95.

Modernization: The Humanist Response to Its Promise and Problems

Edited by Richard Rubenstein.



This collection of essays examines aspects of the modernization process and its religious, social, environmental, and political consequences. The authors are all humanists in the sense that they are fundamentally concerned with the quest for values by which men and women can sustain themselves, and they come from a wide variety of national, religious, cultural, and professional backgrounds.

ISBN: 0-89226-031-9

360 pages, Paperback \$14.95.

Centripetal Forces in the Sciences, Volume 1

Edited by Gerard Radnitzky



field.

The primary aim of basic science is to improve our knowledge of the world and of man as a part of nature. But specialization in science is unavoidable. This leads to a compartmentalization of science and, at the level of the individual, to a limitation of competence and knowledge to an unfortunately, increasingly narrow field.

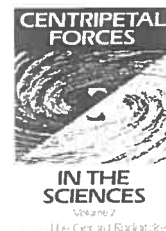
These books present a number of approaches to the unity of the sciences. Volume One consists of four sections. The first covers the idea of "Unity of Science" in intellectual history. The second presents the unifying potential of the evolutionary perspective. The third considers the economic approach, and the fourth discusses unity in the social sciences.

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Centripetal Forces in the Sciences, Volume 2

Edited by Gerard Radnitzky.



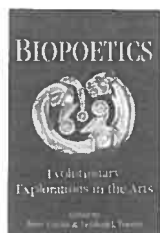
Volume Two contains four parts. Part one is concerned with problems of the unification of science and of reductionism in the light of methodology of research and of science policy. Part two discusses reduction and emergence in physics and chemistry. Part three presents reduction and explanation in biology, the social sciences and history, and part four is concerned with the reductionism of the sociological turn in the philosophy of science.

ISBN: 0-89226-048-3

358 pages, illustrated, index, Hardbound \$29.95.

Biopoetics: Evolutionary Explorations in the Arts

Edited by Brett Cooke and Frederick Turner



It offers a comprehensive introduction to the burgeoning field created by the application of evolutionary psychology to the study of literature and other arts. Twenty essays by leading scholars in literature, art history, psychology, anthropology, chaos theory, and genetics provide a wide representation of the many venues for this powerful new paradigm, all rooted in contemporary scientific findings.

I admire greatly (work of Cooke and Turner). In contrast to the current body of literary and art criticism, ... (theirs) is the only trend I've seen headed somewhere. I think (they) stand a good chance of creating a critical view that is both bearable and durable.

—Edward O. Wilson, Harvard University and Pulitzer

Prize Winner

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Education and Values in Developing Nations

Edited by John Oxenham



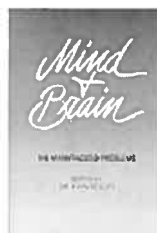
Modernization is a powerful concept for motivating and sharing social and economic policy, but the idea has been given a variety of interpretations and content, so the possible common elements of these interpretations and possible incompatibilities remains to be clarified. There is a wide agreement that 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.

ISBN: 0-89226-050-5

170 pages, charts and index, Hardbound \$22.95

Mind and Brain: The Many-Faceted Problems

Edited by Sir John Eccles



Are mind and brain one and the same? How and where does mind or consciousness originate, and does it exist apart from the brain? Sir John Eccles, recipient of the Nobel Prize in 1963 for his work in nerve impulse transmission, has brought together in the volume a collection of important papers on these topics from numerous ICUS sessions.

The great advantage and attraction of these essays is their inter-disciplinary character with a willingness to consider other dimensions of the subject. The book is of value for all who are concerned with the mind or the brain, whatever their discipline.

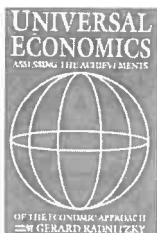
—International Social Sciences Review

ISBN: 0-89226-032-7

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Edited by Gerard Radnitzky



The “economic approach” to analyzing human conduct has become an increasingly important influence on scholars and scientists in recent decades. A vast field of study has developed which has included explanations of history, international relations and a variety of social phenomena. This approach has gained impressive results in some areas, but has drawn sharp criticism from some quarters and has even been labeled “imperialist” in nature. Led by world-renowned economist Gerard Radnitzky, the contributors assess the achievements of the economic approach and appraise the various criticisms leveled against it.

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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

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