

February 2005

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2005 General Assembly Zagreb, Croatia / November 17-20, 2005



Hotel - The Westin Zagreb

partners of Fellows, and a limited number of guest speakers and observers. The last two General Assemblies were “The Governance of Diversity” (Minneapolis Minnesota, 1994) and “The Global Century” (Vancouver, British Columbia, 1998). General Assemblies are normally preceded by one or more pre-conferences--smaller regional and invitational gatherings organized by local Fellows and usually co-sponsored with other organizations.

The theme for 2005--“The Future of Knowledge: Evolutionary Challenges of the 21st Century”--carries out one of the purposes envisioned by the founders of the Academy: “To explore the social consequences and policy implications of knowledge.” In the early post-World War II years when the Academy was being created as a new kind of global organization, the main concern was the knowledge that had produced the atomic bomb. Today, the world finds itself with an ever-accelerating proliferation of knowledge and information-communications technologies that are changing every aspect of our scientific, economic, political and cultural lives, and raising fundamental concerns about the future evolution of the human species and life on Earth. Our purpose is to examine

The World Academy traditionally holds a General Assembly twice in each decade. All Fellows and Associate Fellows are invited, as are spouses and

the driving forces of this ongoing knowledge revolution, and to consider ways of responding to some of the challenges, problems and opportunities that it presents.

The conference begins on the evening of Nov. 17 with refreshments and an informal dinner, and welcoming remarks by program organizers and the mayor of Zagreb.

The opening session begins Friday morning, Nov. 18. Invited speakers are European Union Commissioner for Research and Development **Janez Potocnik** and President **Stjepan Mesic** of Croatia.

Other plenary events include a public discussion entitled “Changing Our Minds: Electronic and Chemical Modification of Cognition and Emotion,” a plenary panel on security and the culture of peace, a discussion on human responsibility for evolution, an exploration of the prospects for employment in the global knowledge society, and the traditional banquet featuring (invited) speakers Prime Minister **Ivo Sanader** of Croatia and HRH Prince **El Hassan bin Talal** of Jordan.

Concurrent workshops are contemplated on a wide range of topics including the changing social roles of scientists and

(Continued on page 2)



Art Pavilion, Zagreb

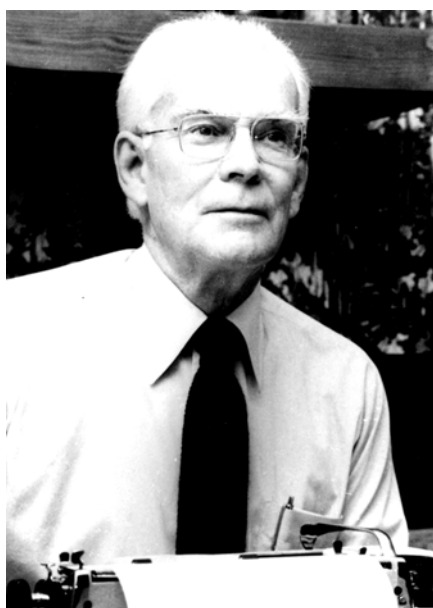
(Continued from page 1)

science, the demographic revolution, the ownership of knowledge, the frontiers of genetics, and the future of higher education.

All conference events will be held in the Westin Zagreb (formerly the Opera) Hotel. Zagreb, the capital of Croatia and a major cultural and economic center of Southeastern Europe, is served by several international airlines.

Conference expenses of fellows will be covered in part by the Academy, the extent depending on the success of current fundraising efforts. Pledges and contributions have already been received from the Mertz-Gilmore Foundation, the Rockefeller Foundation (matching grant), the Croatian Chamber of Economy, the International Center for Peace and Development, and several Fellows of the Academy.

John Edwin Fobes / 1919-2005



Jack Fobes, former Deputy Director General of UNESCO, died suddenly but quietly at his home in Asheville, North Carolina, on Jan. 20.

He had had a long career in public service, beginning with four years in the U.S. Army Air Corps during World War II, rising from private to major.

After the war, in

1945, he served on the Preparatory Commission of the United Nations in London. The next year, in New York, he became secretary of an advisory group to Trygve Lie, the first secretary-general of the United Nations. As a U.S. civil servant in the Bureau of the Budget, he helped administer the Marshall Plan from 1946 to 1951.

He and his family moved to Paris in 1952, where he served for three years as attaché to the U.S. Delegation to NATO and OEEC. Upon return to the United States, he was appointed director for the State Department's

Office of International Administration. In 1960, the family moved to New Delhi, India, where he served as assistant director, then deputy director, of the U.S. Mission to India, the largest U.S. foreign-aid program at the time.

In 1964, he returned to Paris, to work for the United Nations Educational, Scientific and Cultural Organization as assistant director-general for administration. In 1971, he was appointed deputy director-general and chief operating officer, a post he held until his retirement in 1977.

After retirement he remained active in organizations such as the Club of Rome, the U.S. National Commission for UNESCO, and the United Nations Association. He was the founder and longtime chair of Americans for the Universality of UNESCO, dedicated to promoting the return of the United States to UNESCO. In 1995 he organized a nonofficial delegation of Americans who attended the 50th anniversary of UNESCO in Paris.

Honors include the UNESCO Silver Medal for Service, and the Nehru Gold Medal in recognition of "profound commitment to the Organization and outstanding contribution to the achievement of its goals." He was elected a Fellow of the World Academy in 1992. •

The aim of science is not to open the door to infinite wisdom, but to set a limit to infinite error.

Bertolt Brecht

New Fellows

Simeon Anguelov

Research chemist and diplomat; former Bulgarian ambassador to France and permanent delegate of Bulgaria to UNESCO.

Robert Blinc

Professor of physics, University of Ljubljana; head, Condensed Matter Division, J. Stefan Institute, Ljubljana; adjunct professor, University of Utah.

(Continued on page 5)

Speculations

Why is there scientific law at all? / Gregory Benford



We physicists explain the origin and structure of matter and energy, but not the laws that do this. Does the idea of causation apply to where the laws themselves came from? Even Alan Guth's "free lunch" gives us the universe

after the laws start acting. We have narrowed down the range of field theories that can yield the big bang universe we live in, but why do the laws that govern it seem to be constant in time, and always at work?

One can imagine a universe in which laws are not truly lawful. Talk of miracles does just this, when God is supposed to make things work. Physics aims to find The Laws and hopes that these will be uniquely constrained, as when Einstein wondered if God had any choice when He made the universe. One fashionable escape hatch from this asserts that there are infinitely many universes, each sealed off from the others, which can obey any sort of law one can imagine, with parameters or assumptions changed. This 'multiverse' view represents the failure of our grand agenda, of course, and seems to me contrary to Occam's Razor—solving our lack of understanding by multiplying unseen entities into infinity.

Perhaps it is a similar philosophical failure of imagination to think, as I do, that when we see order, there is usually an ordering principle. But what can constrain the nature of physical law? Evolution gave us our ornately structured biosphere, and perhaps a similar principle operates in selecting universes. Per-

haps our universe arises, then, from selection for intelligences that can make fresh universes, perhaps in high energy physics experiments (as I imagined in a novel, *Cosm*). Or near black holes (as Lee Smolin supposed), where space-time gets contorted into plastic forms that can make new space-times.

Then an Ur-universe that had intelligence could make others, and this reproduction with perhaps slight variation on "genetics" drives the evolution of physical law. Selection arises because only firm laws can yield constant, benign conditions to form new life. Ed Harrison had similar ideas. Once life forms realize this, they could intentionally make more smart universes with the right, fixed laws, to produce ever more grand structures.

There might be observable consequences of this prior evolution. If so, then we are an inevitable consequence of the universe, mirroring intelligences that have come before, in some earlier universe that deliberately chose to create more sustainable order. The fitness of our cosmic environment is then no accident. If we find evidence of fine-tuning in the Dyson and Rees sense, then, is this evidence for such views? •

Gregory Benford is a professor of physics at UC Irvine, and author of numerous science fiction and nonfiction books including *Deep Time*. For an introduction to some of the ideas referred to in this essay, see the chapters by Guth, Smolin and Rees in John Brockman (ed) *The Third Culture: Beyond the Scientific Revolution*.

Art is not a study of positive reality, it is the seeking for ideal truth.

George Sand



Marc Luyckx, director of the think tank 2020 Vision in Brussels and former member of the Forward Studies Unit of the European Commission, has been appointed dean of studies in the new CBA Business School located in Zagreb. The school has been created partly with the assistance of the World Business Academy based in California, of which Dr. Luyckx is a fellow.

CBA intends to be among the first "new paradigm" business schools in the European Union, preparing students for the new business model which builds on corporate social responsibility, sustainability and sustainable growth, the increasing importance of human capital, and the personal and spiritual growth of leadership.

In announcing his new appointment, Dr. Luyckx writes: "We are indeed entering a knowledge society, post-capitalist and post-industrial. The issue today is not to have the newest, best, and cheapest technology. It is rather to be able to invent the new business practices and structures of management that correspond to this new society. Our dream, in CBA Business School, is to be in front of the wave." •

STOCKHOLM

2004 Biopolicy Seminar Considers Social Innovations for Development

The Biopolicy Seminars, featuring the Biopolicy Award and Lecture, are now an annual World Academy event chaired by President Emeritus **Carl-Göran Hedén**. The most recent, convened Oct. 27 in the Royal Swedish Academy of Sciences in Stockholm, was on the theme: "Social Innovations for Development – A Case for Biopolicy."

The recipient of the 2004 Biopolicy Award was Dr. **Agni Vlavianos-Arvanitis**, founder and president of the Biopolitics International Organization (BIO), headquartered in Athens. In her lecture, Dr. Vlavianos-Arvanitis called for a new era of global environmental thought and action, going beyond present conceptualizations: "Working to sustain what exists is not enough. With new challenges constantly arising and with an increased awareness of the urgent need to take action against destructive trends, the time is ripe to find more comprehensive, long-term solutions to protect our planet and guarantee a balanced society for the future. A new vision, beyond sustainable development, can help place the situation in perspective, and provide the necessary incentives to move ahead and explore possibilities leading to more just and safe global management."

The Biopolicy Award was presented to Dr. Vlavianos-Arvanitis by Prof. **Erling Norrby**, former secretary general of the Royal Swedish Academy of Sciences.

In the morning seminar session, participants were introduced to the "World Café" approach to creative thinking by **Göran Gennvi**, and then engaged in an interactive discussion-group session led by **Eng-Leong Foo** and **Burke Zimmerman**, based on the questions raised in a pre-conference internet conference on "Biotechnology: Possibilities, Risks, Ethics and Society."

Presentations in the afternoon session were:

- "A Quarter Century Search for Social Innovations," **Sam Nilsson**
- "Nine Vistas for Design-driven Innovation," **Bengt-Arne Vedin**
- "Nature as a Model for Inventors and Designers," **Maria Strömme**
- "Biometrics as a Trigger for Innovation." Panel chaired by **Olof G. Tandberg**
- "Teaching by Doing – The Earthday Money Concept," **Ikuma Saga**
- "Frontiers of Education," **Walter T. Anderson**

The Biopolicy Seminars are organized by the Engineering Sciences Division of the Royal Swedish Academy of Sciences and the Biotechnology Division of the Royal Swedish Academy of Engineering Sciences (alternating years), and are administratively supported by the Biofocus Foundation. •

New Books by New Fellows

Three newly-elected Fellows of the Academy have written recently-published books – each of them dealing with a different facet of the human condition.



Solving Tough Problems: An Open Way of Talking, Listening, and Creating New Realities. (Berrett-Koehler)

Adam Kahane had been a university researcher in physics and economics, then an expert analyst of government policy and corporate strategy, before he had the life-changing experience in 1991 of facilitating a now-classic scenario exercise in which leaders from different elements of South African society came together to consider their country's future. The resulting Mont Fleur scenarios had a profound impact on the direction taken by post-apartheid South Africa and also on Kahane's career: he now travels widely, facilitating problem-solving efforts in some of the world's leading hot spots such as Colombia, Israel-Palestine, and Northern Ireland. His new book describes the theory and practice of cooperative problem-solving.

Science fiction writers foresee the inevitable, and although problems and catastrophes may be inevitable, solutions are not.

Isaac Asimov

NEW DELHI**Indian Leaders Explore New Approaches to Employment Development and Security**

“Uncommon Opportunities: A Roadmap for Employment, Food and Global Security” was the title of a conference held in New Delhi November 19 – 22, 2004 and sponsored by the M. S. Swaminathan Research Foundation in collaboration with the National Commission on Farmers, The Mothers Service Society, the International Center for Peace and Development (USA), the UN World Food Programme, and the World Academy of Art and Science. Primary organizers of the conference – which featured presentations by leading Indian government officials, development workers and scientists – were WAAS Fellows **M. S. Swaminathan** and **Garry Jacobs**.

The conference opened up new ideas and themes regarding key global concerns, including two – employment-led economic development and nuclear disarmament – that will be explored in future World Academy activities.

Employment development was addressed at a linked meeting at which we heard Prime Minister **Manmohan Singh** declare that building a knowledge-based economy is both a loftier and a more difficult aim “than just creating information technology capabilities.” Later, in our own conference, India’s President **A.P.D. Abdul Kalam**, spoke of rising expectations as central to the future of developing countries. He quoted a management expert: “The real source of market promise is not the wealthy few in the developing world, or even the emerging middle-income consumers. It is the billions of aspiring poor who are joining the market economy for the first time.”

The issue of nuclear disarmament was put to this conference both by Air Commodore **Jasjit Singh** (ret.) and by Admiral **Laxminarayan Ramdas**, former Chief of Staff of the Indian Navy, who proposed that India “convene a meeting of all nuclear weapon capable states . . . without any fixed agenda other than to agree to discuss all aspects of the nuclear question.” Nothing substantial, in Admiral Ramdas’ judgment, has come out of six decades of talk about nuclear proliferation and nuclear disarmament. His idea is to “evolve a new workable nuclear management regime” to think hard about “nuclear disasters, nuclear accidents and other such unforeseen events so as to mobilize resources for meeting such contingencies.”

In concluding remarks to the conference, World Academy President Emeritus **Harlan Cleveland** observed: “There surely is no other country in the world, large or small, that is so blessed as to be led by a forward-looking economist and a humanistic scientist. Opening conference sessions, of which I have experienced more than my share, are likely to be boringly conventional. But I have just heard, from the two leaders of the new India, two lucid evocations of an exciting yet realistic future.”

Several of the presenters from the New Delhi conference will join us in Zagreb. •

*A work of art
is above all
an adventure
of the mind.*

**Eugène
Ionesco**

Robert J. Berg Joins Board of Trustees

Robert J. Berg was elected to the World Academy’s Board of Trustees in November, 2004. Bob is a Washington-based international consultant and senior advisor to the *U.N. Economic Commission for Africa*. He has advised a number of UN development initiatives. For many years he led the *International Development Conference*. Prior to that he was senior fellow of the *Overseas Development Council* and director of evaluation for *USAID* and the *OECD/DAC*. He serves on a number of boards of higher education and international development. •

HONOLULU

Educators, Futurists Envision the Universities of the Future

A group of experts in various aspects of teaching, research and university administration met at the Ala Moana Hotel in Honolulu Feb. 4 – 6 to imagine the ways that institutions of higher education may evolve and change in response to such forces as globalization, technological innovation and cultural change. A particular focus of the conference was the governance of higher education – who will do it, and how, and for whose benefit.

The conference opened with a public meeting at which **Robert Fuller**, former president of Oberlin College, spoke on “Somebodies and Nobodies: Rankism in Higher Education.” Discussants were **David McClain**, interim president of the University of Hawaii; and **Maureen O’Hara**, president of Saybrook Graduate School and Research Center (San Francisco).

In working groups, conferees explored the “The Impact of Technologies on Higher Education,” “The Impact of Globalization on Higher Education,” and “Who Pays for and Who Benefits from Higher Education.” Plenary sessions were “Envisioning the Futures of the University,” “Case Study of the University of Hawaii,” and “Governing the Universities of the Future.”

Conference participants included two Presidents Emeritus of the University of Hawaii: **Harlan Cleveland** and **Fujio Matsuda**.

Also among the participants were World Academy Fellows **William Bergquist**, **John Craven**, **Deane Neubauer**, **Fred Riggs**, **Hamid Shrivani**, **Ralph Wolff**, and **Kaoro Yamaguchi**.

The co-organizers, representing the three sponsoring organizations, were **Majid Tehranian** (Toda Institute for Global Peace and Policy Research); **Jim Dator** (Hawaii Research Center for Futures Studies), and **Walt Anderson** (World Academy). •

Science has
“explained”
nothing;
the more we
know the
more
fantastic the
world
becomes and
the
profounder
the
surrounding
darkness.

**Aldous
Huxley**

New Books by New Fellows
(Continued from page 4)

Somebodies and Nobodies: Overcoming the Abuses of Rank (New Society)

Robert Fuller has had the experience of being a somebody: he was, at 33, the youngest college president in the U. S. and a media darling widely interviewed and admired for his educational reforms. In his 40s and 50s he became a citizen diplomat, traveling about the world and hobnobbing with presidents and prime ministers. But he has also had the experience of being a former professor, former college president, and former diplomat: a nobody. His periodic visits to “nobodyland” led him to identify and investigate “rankism” – which he defines as abuse of the power inherent in rank – and ultimately to write his new book exploring our obsession with status and arguing for a deeper sense of inherent human dignity.

The Red Ape: Orangutans and Human Origins (Westview)

Jeffrey Schwartz – who teaches physical anthropology and the history and philosophy of science at the University of Pittsburgh – is also a research associate in the Department of Anthropology at the American Museum of Natural history and probably the leading dissenter from the widely-accepted belief that chimpanzees are the closest relatives of human beings. This book, first published in 1987, is now released in a thoroughly revised edition that analyzes many recent fossil discoveries and incorporates new plates and drawings in support of his belief that Asian orangutans are in fact our closest nonhuman cousins.

New Fellows

Nader Al-Awadhi

Deputy director general, Research Affairs, Kuwait Institute for Scientific Research (KISR). Areas of expertise include biological remediation, restoration and rehabilitation of desert environments, sustainable development in arid zones.

Zbigniew Bochniarz

Visiting professor and director of the Center for Nations in Transition at the Hubert H. Humphrey Institute of Public Affairs, University of Minnesota. Honorary professor and chairman of the Scientific Council, International Center for Business and Public Management, University of Warmia and Mazury (UWM), Poland.

June Delano

Director, Executive Learning Strategies, The Monitor Group, Cambridge, MA. Advisor to multi-national corporations and governments on executive and organization development.

Robert W. Fuller

Former president, Oberlin College, Ohio. *Author, Somebodies and Nobodies: Overcoming the Abuse of Rank*; co-author, *The Mathematics of Classical and Quantum Physics*.

Judith Jenya

Attorney, painter and photographer; founder and former executive director, Global Children's Organization.

Adam Kahane

Founding partner, Generon Consulting and the Global Leadership Initiative. Author of *Solving Tough Problems: An Open Way of Talking, Listening, and Creating New Realities*.

Abdulhadi Sadoun Al-Otaibi

Director general, Kuwait Institute for Scientific Research. Other activities: International Desalination Association, International Atomic Energy Agency, Arab School for Science and Technology, World Association of Industrial and Technological Research Organizations, Higher Council for the Kuwait Environmental Protection Agency.

Jeffrey Schwartz

Professor of anthropology, professor of history and philosophy of science, and fellow in the Center for Philosophy of Science, University of Pittsburg. Faculty, Wecht Institute of Forensic Science and Law, Duquesne University School of Law. Author, *The Red Ape: Orangutans and Human Origins*.

Faisal Taha

Director, Technical Programs, International Center for Biosaline Agriculture, Dubai. Former professor and chairman, Plant Production Department, UAE University; Program Manager, SSGA/Agricultural Development Bank, Regina, Canada.

(Continued on page 8)

Let each man
exercise the
art he knows.

André
Gide

Guidelines for Nominating New Fellows

All Fellows of the Academy – including Associate Fellows – may nominate new members.

There are no formal qualifications -- such as age or possession of advanced degrees -- for becoming a Fellow.

Criteria to be used in selecting candidates include:

- Distinction or accomplishment in one's profession. A nominee should be a person who would qualify for membership in a national academy of his or her field.
- Interdisciplinary interests or accomplishments.
- Record of public service.
- Global perspective. To be a Fellow of the Academy is to be a member of global civil society, concerned for the welfare of an increasingly-interconnected global civilization.

The prospective nominee should have provided a CV or resume to the nominator, and have indicated interest in being nominated. Prospective nominees should be informed that nominations are ordinarily voted on four times yearly, and that nomination does not guarantee election to the Academy. All nominating materials must be on electronic file, preferably MS Word, and should be submitted to: Prof. Ana Maria Sandi, Chair, Admissions Committee, World Academy of Art and Science. Address: asandi@worldbank.org. Membership in the Academy involves no dues or financial obligations, but members are invited annually to make a voluntary contribution to the Academy's work. •

New Fellows

Robert Boily

President and founder of Inforex Inc., Laval, Quebec.

Edward Epstein

Chair, Peace and Conflict Studies program and director, Rotary Center for International Studies in Peace and Conflict Resolution, University of California, Berkeley.

Kai Falkman

Ambassador (ret.); author of fiction and nonfiction books, editor of poetry collections; president, Swedish Haiku Society.

Faris Gavrankapetanović

Professor, School of Medicine, and director general, Clinical Center, University of Sarajevo.

Vittorio Giarini

Founder and former secretary-general, the Geneva Association; co-author of *The Limits to Certainty*, *The Employment Dilemma*, and other reports to the Club of Rome.

Boris Kamenar

Professor emeritus, University of Zagreb; former foreign secretary, Croatian Academy of Sciences and Arts.

Stane Pejovnik

Professor of Material Sciences; former state secretary, Ministry of Education, Science and Sport and president, Science and Technology Council, Republic of Slovenia.

John Petersen

President and founder, the Arlington Institute, Arlington, Virginia; director, World Future Society.

Krunoslav Pisk

Professor of physics, Ruđer Bošković Institute, Zagreb, Croatia; acting director general, Inter-University Center, Dubrovnik.

Jordan Pop-Jordanov

Director, Research Center for Energy, Informatics and Materials, Macedonian Academy of Sciences and Arts, Skopje.

Hamid Shrivani

Provost and executive vice-president for academic affairs and professor of art and architecture, Chapman University, California.

Jasjit Singh

Air commodore, Indian Air Force (Ret.); director of the Centre for Air Power Studies, New Delhi; former director, Institute for Defense Studies and Analyses (IDSA).

Ryzard Tadeusiewicz

Rector of the AGH University of Science and Technology, Krakow.

Vito Turk

Professor of chemistry, University of Ljubljana; director, Jozef Stefan Institute.

Nadan Vidošević

President, Croatian Chamber of Economy; former minister of economic affairs and former member of the Parliament of Republic of Croatia.

Daniel Visser

Professor and head of the Department of Private Law, University of Cape Town; senior fellow, University of Melbourne; honorary professor, University of Aberdeen.

Agni Vlavianos-Arvanitis

Founder and president, Biopolitics International Organization (BIO), Athens.

David Zubitashvili

Director, Research Institute of Power Engineering and Power Structures; former deputy minister of Economics, Industry and Trade, Georgia; editor-in-chief, *Energy*.

Science has
proof
without any
certainty.
Creationists
have
certainty
without any
proof.
**Arthur C.
Clarke**