

## A Call for Your Comments and Participation

In the course of 1987, the contacts within the membership have been reinforced and it has been underlined that the limited resources of the Academy ought to be concentrated on the continuation and possible expansion of high-quality newsletters, and on plenary meetings associated with attractive and thought-provoking events that would bring together the Fellows and other leaders in Art and Science, as well as like-minded non-governmental organizations concerned with global issues, for constructive and independently financed activities.

Against this background, a plenary meeting in 1990 is now visualized as a launching event for the "travelling exhibition" project (Cf. notices in Dec. 85 and Nov. 1987 Newsletters), which is now referred to as "Art and Science in Orbit." The launching event is being organized by the European Division of the World Academy with the aim of attracting many Fellows who may later wish to assist the American Division and a planned Asian Division in organizing subsequent symposia, round-table discussions or other stimulating activities.

These types of activities would be clustered around the travelling exhibition "module" at its various regional stops.

This conceptualization provides, we believe, many opportunities for Fellows to participate, coordinate, and/or sponsor. In 1990, it is visualized that the substantive issues will be related to the management of the global commons (the atmosphere, the oceans, Antarctica, the information environment and genetic diversity) and the support of indigenous creativity. The travelling "module" would help to focus attention on such issues by reflecting them in the mirrors of artistic creativity.

Your thoughts about this strategy would be greatly appreciated by the Travelling Exhibition Task-Force which is now planning a project definition workshop in Paris, July 1988.

We are most desirous of Fellows' feedback on this important World Academy undertaking. Comments and suggestions should be in the hands of WAAS' Stockholm office before July 1st (11, Solna Kyrkvag, 17164, Solna, Sweden).

C.-G. Hedén  
President  
WAAS

S. Nilsson  
President  
European Division

H. Nordenstrom  
Task-Force  
Coordinator

## A Year of Consolidation and Planning

### Secretary General's Report

Much work has been expended to attain the necessary structural and procedural stability on which the international projects of the World Academy depend. My objective is to share with you a brief review of the World Academy's work this past year in the hope of gaining your interest and assistance for the work of standing committees, special awards, conferences, and publications projects.

The Five Year Plenary Meeting in Lisbon, Portugal, May 10-12, 1987, was held in conjunction with the symposium, "New Paradigms: The World 300 Years After Newton." The arrangements for this most successful symposium were made by Dr. Sam Nilsson, Dr. Augusto Forti, and Dr. Horacio Menanó. (Cf. November, 1987 Newsletter). At the Plenary meeting, Dr. Carl-Göran Hedén was elected President. Dr. Emily H. Mudd, U.S.A. retiring



John H. Proctor, Ph.D.  
Secretary General

Treasurer, and Professor Ronald St. J. Macdonald, Canada, past President, were elected Honorary Vice Presidents for life.

President Hedén initiated four important administrative activities during

the meeting with the newly elected Executive Committee: (1) confirmation of the World Academy's legal residence; (2) bringing the Statutes and By-Laws up-to-date; (3) re-writing the booklet describing the goals and activities of the World Academy, and (4) determining the active membership of the World Academy through establishing a computerized membership file and confirming addresses with certified letters to Fellows. Plans were set in motion to continue the Stuart Mudd Award for outstanding contributions on the social implications of advances in microbiology.

### Executive Committee

The September 25th Executive Committee meeting was held in Philadelphia, PA, November 16th. Profes-

(Continued on page 2)



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sor Eleonora Masini, invited by the American Division, addressed the Executive Committee and attending Fellows (Cf. November 1987 Newsletter). Dr. Bertrand Chatel was appointed the World Academy's representative to the United Nations for non-governmental organizations for public affairs and information exchange.

To reduce costs and preserve the World Academy's capital funds, the Administrative support for the President's office also supports the European Division in Stockholm, Sweden. The Office of the Secretary General also provides support to the American Division in Washington, D.C. The President's office and Secretary General's office were established and an archival library of World Academy documents was established at Yale University, U.S.A. An inventory of all World Academy documents and their location is underway by the Secretary General's office.

Again in Philadelphia, the Executive Committee met on November 15th. The Treasurer's Report for 1987 and the approved operating budget for 1988 reflect a growing concern over the financial requirements of expanding World Academy programs and methods of generating income. The printing of an updated version of the booklet describing the World Academy was scheduled for July, 1988.

The most recent Executive Committee Meeting was held on April 1 and 2 in Haverford, Pennsylvania. President Hedén reviewed the Travelling Exhibition Task Force efforts and the agenda for its July meeting in Paris. The publication of a revised Directory of Fellows was approved.

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#### Advisory Committee on Legal Affairs

The revised Statutes and By-Laws, approved by the Executive Committee, together with the updated booklet on goals of WAAS, were mailed to each Fellow in April of 1988. Professor Michael Reisman prepared the several drafts and produced the final version. Our thanks are due to him for his tireless efforts. Arrangements have been completed to continue the legal seat of the World Academy in Geneva, Switzerland.

#### Awards

Arrangements have been completed by WAAS and the International Union of Microbiological Societies (IUMS) for an endowed sum for the continuation of the Stuart Mudd Award to be presented to an outstanding microbiologist selected by IUMS & WAAS (Cf. November 1987 Newsletter). The President of IUMS will present the Award at a ceremony in conjunction with the interdivisional Meeting of the Union every 4 years. In 1990, this will take place in West Berlin and the awardee will be asked to deliver a lecture which will be repeated at the subsequent Divisional Congresses of WAAS in Osaka. It was agreed to prepare a commemorative plaque which will be presented to the winner on each occasion with a cash award of \$3,000 and a sum of \$2,000 to cover travel and other expenses of the awardee and committee. Expenses to cover these expenditures will come from the four year interest earned on the Endowment principal of \$25,000.00.

The IUMS Executive Board established an Awards Committee of the persons charged with responsibility to advertise the award, seek nominations and select the winner. The Committee consisted of Prof. S. Sasaki (Chairman Bacteriology Division), Prof. J. Shadomy (Vice Chairman Mycology Division and Convenor), the Vice Chairman of the Virology Division and a representative of WAAS. Dr. Horacio Menanó, Portugal, is the World Academy's Awards Committee Chairman.

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#### Finances—A report by the Treasurer

Mr. Richard W. Palmer, Treasurer, reports that during 1987, the World Academy received two grants from the Salén Foundation. The first grant was to facilitate the work of the President's Office and furnish a revolving fund out of which the travel and administrative expenses of the President's Office could be more conveniently and efficiently disbursed. This grant was generously funded in the amount of \$14,662.00 and is now fully expended. The generosity and concern of Salén Foundation are very much appreciated.

The second grant from the Salén Foundation was made to meet ex-



Richard W. Palmer  
Treasurer

penses of the Plenary Meeting in Lisbon in May 1987. These expenses amounted to \$11,538.48.

A contribution was given in kind by the Gulbenkian Foundation to defray certain expenses at Lisbon not otherwise covered by the World Academy. The generosity and cordial hospitality of Dr. Menanó and his colleagues among the Officers and Directors of the Gulbenkian Foundation greatly facilitated the congenial arrangements for our meeting at the Foundation and was much appreciated by all.

The officers and Executive Committee of the World Academy took special note on April 2nd to express its appreciation to the Salén Foundation and the Gulbenkian Foundation for their thoughtful and generous assistance to the work of the World Academy and the success of the Lisbon Plenary. Proceedings from this plenary are currently in manuscript form awaiting exploration as a book publication.

Fellows and friends of the World Academy are invited to make contributions to WAAS. Such contribution checks should be made payable to the "American Division of the World Academy of Art and Science." As such donations are approved as charitable deductions under the United States Internal Revenue Act. The important work of the World Academy can continue only with the generous and regular support of Fellows and friends who recognize the importance of the World Academy's participation through direct efforts as well as serving as a "catalyst" in many interdisciplinary and cross-cultural areas.



*Frederick H. Gloeckner  
Chairman, Public Relations, Publications  
and Newsletter Committees*

### Publications and Public Relations

In addition to completely redesigning and printing the official stationery of the World Academy and the "Blue Book" describing the goals, history and program of the World Academy, this committee produced the November 1987 Newsletter. Ideas and news items for the Newsletter remains a necessity. When you learn of items of interest, the accomplishment of another Fellow, wish to share your own activities or have a change of address, it would be greatly appreciated if you would notify Fred Gloeckner, U.S.A., Chairman, by October 1, 1988 for the November Newsletter.

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### Far Eastern Country Correspondents

An important World Academy Objective is the reactivation of a Far Eastern Division. Letters were sent December 18, 1987 to all Fellows residing in the Far East. The Executive Committee directed the Secretary General to determine if the following Fellows would be willing to serve:

- Kinhide Mushakaja, Tokyo, Japan
- E. Hyock Kwon, Korea
- Basil Hetzel, Australia

Candidates for Country Correspondents are also needed in China, Hong Kong, Thailand, Philippines, and Malaysia.

A Country Coordinator seeks out candidates for new Fellows and encourages Fellows to forward through him/her letters of nomination from two Fellows and the candidate's vitae to the Chairman of the Admissions Committee, Dr. Manoush H. Arsanjani, U.S.A.

Country Coordinator Supply items of Fellow activity, conferences that should be of interest to Fellows and Asian issues of concern related to World Academy objectives to Mr. Frederick H. Gloeckner, U.S.A. Chairman of the Public Relations, Publications and Newsletter Committee.

Finally, Country Coordinators arrange local meetings of Fellows by notifying the schedule of those gatherings to the Secretary General. If approved, the expenses of these meetings are reimbursed within specified limits by the World Academy.

Any Fellows desiring to participate in the new Division's building process, are invited to contact a member of the Executive Committee.

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### Admissions

Dr. Mahnoush Arsanjani (Iran) is Chairperson of this important committee. The subcommittees of the Admissions Committee are:

- Augusto Forti: Art, Literature, Music, Dance, Theatre and Film
- Ryszard Domanski: Social Sciences (including Law)
- Federico Mayor: Physical and Life Sciences (including medicine, Engineering, etc.)

Over the past year we have elected twenty-six new Fellows and eight Fellows have died. Please consult the copy of the By-Laws sent to you for the Fellow nomination procedure. Application is made by a Fellow to the Chairman, Admissions Committee, in writing. Election is accomplished by vote of the Executive Committee. Your letters of nomination, with a Fellow second, accompanied by the candidate's vita should be sent to the President or Chairman of the Admissions Committee. The Executive Committee in September, 1987 approved a plan to offer Associate Memberships in the World Academy for deserving young artists and scientists who are making significant contributions to the World Academy. These two-year memberships require only the approval of the President. The activities of the World Academy greatly depend upon your efforts in seeking and nominating candidate Fellows.

In the November 1987 Newsletter, the names of eighteen Fellows elected

in Lisbon were announced. The following new Fellows have been elected since:

Dr. Yusaf Ali Eraj  
Nairobi, Kenya

Dr. Jose Ireneu Dos Remedios  
Furtado  
Selangor, Malaysia

Professor Robin Hartshorne  
University of California  
San Francisco, Calif. U.S.A.

Dr. Huang Chun Liang  
President  
Living Tai Foundation  
Urbana, Ill., U.S.A.

Professor Armory B. Lovins  
Colorado, U.S.A.

Dr. Frederico Richter  
Guatemala City  
Central America

Dr. Sanga Sabkasri  
Bangkok, Thailand

Dr. Carlos Silva Springmuller  
Guatemala City  
Central America

### Additional Deceased Fellows

*Professor Mark Feer*, Economic Consultant, 133 East 64th Street, New York, NY 10025, USA

*Professor James R. Killian, Jr.* Former President and Chairman, Massachusetts Institute of Technology, Cambridge, MA, U.S.A.

*Dr. D. Amador Neghme*, Emeritus Professor, University of Chile, Classificador 1349, Santiago, CHILE

*Professor Hisaharu Taguchi*, Osaka, Japan

### Yuri A. Ovchinnikov

The Acad my has just learned of the untimely death of Academician Yuri A. Ovchinnikov at the age of 53 — on February 17th 1988. Being Vice-President of the USSR Academy of Sciences, and in charge of chemistry and biology since 1974, Professor Ovchinnikov developed the Shemyakin Institute of Bioorganic Chemistry into the leading biotechnology institute in the USSR. He was most helpful in the WAAS' efforts to enlarge the USSR membership.



## Networking

*a report by the President*

The efforts of the Academy's Stockholm office have in 1987 been concentrated on networking both via travelling and by electronic means. This was made possible by generous grants from the Sven and Dagmar Salén Foundation and by travel support from the "Rethinking International Governance" project initiated by one of the Academy's most dynamic Fellows: Professor Harlan Cleveland (cf. Newsletter Dec. 1985). That project not only involved meetings with many Fellows both in Paris and at Spring Hill in the U.S., but it also caused the president to let the Academy assume the responsibility for launching a transdisciplinary computer conference on the long-range Impact of Biotechnology (IBC). The aim of this exercise was to provide the basis for one of the four components of the project mentioned, but it also introduced many Fellows both to new resource-people and to this means of communication, which the Academy wishes to use as much as possible (cf. Newsletter Dec. 1986).

## The Fostering of Entrepreneurship

The "Impact of Biotechnology" computer conference was started in August 1987 and will be concluded with a face-to-face meeting in Hong-Kong (August 6-7 1988). The discussions have provided the background for several papers (copies can be obtained from the WAAS Stockholm office), where the moderators (C.-G. Hedén and B. Zimmerman) have underlined the significance of non-governmental initiatives. One of those could be the establishment of BRDC, a "Biological Resource Development Corporation or Consortium," aimed at stimulating entrepreneurship in the poor regions of the world.

## Bioresource Networks

Such developments would be designed to impact in poor countries. However, (1) a technical lead would have to come from the industrialized parts of the world, and (2) a variety of contributions would have to be orchestrated through an effective "Bioresource Net-

work." Against this background, the Academy applauds Mr. DeLong's current efforts to set up a development center in New Brunswick aimed not only at employment generation in Eastern Canada, but also at making this a BRDC-facility for coordination and for support to scientists from developing countries. If this materializes, it will, of course, be a major undertaking where both legal and technical advice will be needed. The "code-of-conduct" for the participants in goal-oriented "Bioresource Networks" would for instance need careful attention. Even if clocked messages in a computer-mediated exchange of ideas would seem to make it possible to resolve the balance between the contributions to collective inventions, it is obvious that the limits of confidentiality have to be defined. Perhaps this is an area where the legal experts among the Fellows might wish to express a view.

## Travels

As a consequence of the experience gained at the Lisbon Plenary, and the activities outlined above, the president combined his participation in the Executive Committee meeting in Haverford, April 2nd, with a string of visits involving many Fellows in the U.S.A., Paris and Geneva. The visits were aimed both at discussing the future of the IBC-project (talks with government representatives in New Brunswick and Ottawa as well as with key actors like E. A. deLong in Frederickton and D. Farson in La Jolla, as well as with Fellows like J. Evans in New York, C. Hodges in Tucson and H. Cleveland in Boulder) and the planning of the 1990 Plenary. Since this might well be coordinated with the presentation of the next round of International Inventor Awards (IIA) some of the visits were made in the company of the Secretary General of the IIA System, S. Joste (talks with representatives of the MacArthur Foundation in Chicago, the Rockefeller Foundation and the U.N. in New York, the World Bank and the Board for Science and Technology for International Development (BOSTID) in Washington etc.). Very useful discussions about the 1990 Plenary also took place with resource people like the

President for the Foundation for Global Broadcasting in Washington, H. F. Uplinger, and with a number of interested Fellows like former astronaut R. Schweickart and Professor Jonas Salk.

## "Art and Science in Orbit"

*President of the European Division Report*

The launching of the WAAS travelling exhibition project "Art and Science in Orbit" could be a major component of the 1990 WAAS Plenary. In cooperation with other nongovernmental organizations the Academy is considering the use of this occasion to launch this project at a "Festival of Diversity" which could take place in the new Globe-arena in Stockholm (late summer, 1990). This is the World's largest spherical forum and, with its focus on the TV-medium and advanced projection and sound facilities, it is uniquely well suited for major public events.

## Background

In February 1985 WAAS organized the first meeting with artists and scientists at which their role and influence in world affairs were discussed. This meeting was jointly sponsored by the Calouste Gulbenkian Foundation of Portugal, the European Academy of Art, Science and Humanities, the International Association of Art Critics, the International Council of Scientific Unions and the Paris Art Center.

On this occasion the idea was born that WAAS should try to organize some kind of travelling exhibit together with other kinds of manifestations of Art and Science. It would illustrate how human creativity in Art and Science has been able to disclose the secrets of Nature and to enrich the human spirit with new ideas and values. After all, creativity is one of the most basic human characteristics, but while the Arts are essentially synthesizing and Science analytical Man's capacity to create and invent is the common denominator.

Since the Paris meeting in 1985 WAAS has organized several smaller meetings with a task force whose main purpose has been to define goals and purpose and to consider structural forms of a project which uses "Art and Science in Orbit" as its working name.

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Besides the many small task force meetings, the WAAS Lisbon symposium (May 1987) provided stimulating inputs related to many of the major shifts in philosophy, science and arts which now influence our society.

Among its Fellows the Academy has many artists and scientists who have shown great interest in the "Art and Science in Orbit" initiative. In June 1986 professor Hans Nordenström, a WAAS-fellow from Gothenburg became the task force coordinator and started to integrate the inputs from many leaders in arts and science both within and outside the Academy.

### Project Structure and Components

Around a centerpiece (visualized as alternatively representing the human brain, our planet or the canopy of a tree) there would be a stage on which various components can be arranged. This "module," designed for easy transport, would form the basis of the travelling exhibit.

Ideally this module would be housed in a tent or dome (pneumatic or geodesic, preferably with an inside surface suitable for projections), where visitors would be able to act, as well as interact with the outside world, by various means (video, joysticks etc.).

Associated components might comprise:

- A new kind of comprehensive musical and multiart circus using all the performing arts to give people a holistic perspective across language barriers (Theatre, mime, ballet etc.).
- Seminars (televised locally and/or globally).
- Artistic exhibits/manifestations.
- Local inputs.

Examples of themes proposed for some of the travelling exhibition stops.

- The end of the junk era and the impact of the information society.
- Failures and successes in arts and science over the past 50 years.
- Ethics and Aesthetics in Art and Science.
- A Travel through the Brain.
- New paradigms illustrated.

### Financing

- It is assumed that most of the costs for the planning and execution of the launching event will come from non-governmental sources like Foundations. However, it is hoped that, by sponsoring the Festival, also the international business community will be guided towards a concerted support of the subsequent regional activities.

### Goal and Purpose of the "Art and Science in Orbit" Project

The main goal and purpose of the initiative is to demonstrate and illustrate how, throughout history, creativity has helped man and society not only to survive many difficult situations but also to open up completely new vistas.

The "Art and Science in Orbit" project would help to emphasize how important it is, at this difficult transition point in history, for people of all cultures to use their most powerful tool, their brains, for constructive purposes.

From this follows that the freedom to create what is different must be one of the most essential ingredients for any society wishing to develop and flourish.

The 1990 launching event might hopefully generate funds for supporting non-governmental initiatives aimed at releasing indigenous creativity as a trigger for socioeconomic development. Special efforts would be made to avoid the bias of group or national interests which would, on the other hand, add flavour to the subsequent travelling phase. Special emphasis would be given to:

- a presentation of the predicament of governance, and of the need for a broad public debate of the steps necessary to ensure survival and development of the human species.
- illustrations of how global interdependencies and networking can generate solidarity and mobilize a galaxy of non-governmental organizations as agents for change.

### Sir Ashley Miles

Sir Ashley Miles, FRS, Director for nearly 20 years of the Lister Institute of Preventive Medicine, died February 11, 1988, at the age of 83. He was the doyen of British microbiologists.

Arnold Ashley Miles showed early signs of academic excellence. Only a year after qualifying in Medicine at St. Bartholomew's Hospital Medical College, he gained his Membership of the Royal College of Physicians. From demonstrator in bacteriology under W. W. C. Topley at the London School of Hygiene and Tropical Medicine, he rapidly ascended the academic ladder to become professor of bacteriology at University College Hospital Medical School at the age of 33.

In 1946 he was appointed director of the department of biological standards at the National Institute for Medical Research. It was in 1952 that Miles assumed directorship of the Lister Institute. Under his leadership its distinguished record was continued and enhanced, not least by his own researches into mechanisms of inflammation—a natural development of his wartime work in the epidemiology of wound infections.

In addition to writing some 140 scientific papers, he was a general editor of successive editions of the world famous British work on microbiology, known familiarly to generations of students as "Topley and Wilson".

But Ashley was a scientist with an ability to identify the essential factors in problems well outside the confines of microbiology. He was much in demand on Boards and Committees. (He served on the Executive Committee of the WAAS from 1978-1981). He was a man of absolute integrity, with a keen sense of humor. He could be tough, even autocratic when the occasion demanded it, but those who knew him well were never deceived into believing him other than the kindest of men.

—Abstracted from The Times, London, Feb. 12, 1988



## Preliminary Notes for Discussion on the Establishment of a World-Museum

*Part I of a two part article by the distinguished WAAS Fellow, Michael Reisman, Professor of Law, Yale University and Chairman of the Advisory Committee on Legal Matters of the World Academy of Art and Science.*

### I

Can art and science contribute to the formation and strengthening of widely-shared perspectives of human dignity indispensable to a world order of high productivity, welfare and tolerant pluralism? Certainly, they cannot but have a major influence, for better or worse, on the shaping of perspectives. The concrete expression and reworking of the aggregate experience of human beings is a continuous activity inseparable from their existence. It, in turn, becomes an important factor in shaping the consciousness of individuals and groups and in directing their behavior. Our aggregate culture, including its scientific and artistic components, is a human creation which shapes and recreates our own humanity and, by reworking our past, sets limits and gives direction to our future. Hence it is pertinent and urgent to inquire as to whether those limits and vectors contribute to survival and life-enhancement.

Since earliest recorded history, our species has been divided into bands, tribes and nations, marked by both similar and different values, some aspiring to universalism, others quite atavistic, but all usually accompanied by a narcissistic celebration of the unique superiority of the particular group, by feelings of fear and disdain for the "other," by an ethic of self-sacrifice in the maintenance of group integrity and by a legitimization of violence practiced against outsiders. Often these messages were encoded in powerful artistic expressions, building on deep psychological fears and yearnings and validating them in terms of the group experience while directing aggressive impulses against outsiders.

### Interlocking Beliefs

Those interlocking beliefs and practices may have been eufunctional in their

original context, contributing to the survival of proto-human groups in competition with others for scarce resources. But as we approach the 21st century of this era and the eighth millennium of the recorded memory of our species, it is plain that those beliefs and practices, reinforced and rendered especially noxious by new techniques of communication and of destruction, now pose a threat, not only to the very groups that espouse them, but to our species as a whole. Hence it is appropriate to examine the extent to which the contemporary planetary system of communication may be able to encourage, in the chorus of diverse cultural expressions of the different groups composing our species, values of human dignity which extol the common and shared experiences of all people, minimize differences and, hence, are likely to reduce the virulence of some of the factors which stimulate or exacerbate intergroup conflict. Can the practitioners of science and art, increasingly transnational in their communication, contribute to this objective? Can they do so despite national political elites committed to the maintenance of exclusive perspectives?

The answer to those questions has generally been a confident "yes". But several assumptions underlying that affirmation, which have been widely shared by intellectuals until the present, should be reexamined.

### Global Communication

The global network of communication, which creates a state of planetary electronic simultaneity, has been assumed to involve an inherent dynamic of world cultural amelioration, because of its own properties and because of the content of the messages modulated. It has been assumed that science, conceived of as an empirically verified vocabulary and a systematic syntax directed at acquiring knowledge of the self and the environment, is inherently humanistic and international and that its widespread use carries in its wake a humanization and internationalization of perspectives and behavior. In the broadest sense

and longest term, that may be true: *veritas vos liberabit* if the *veritas* is reflexive as well as externally focused. But there are a number of reasons for questioning that assumption in the shorter term.

### Enlightenment and Information

The pursuit of enlightenment and information, without normative guidelines, can be ahumanistic. There is unfortunately scant evidence of an inherent humanism or concern for humanity in such inquiries. Indeed, some of the choices which application of a scientific method might yield, such as "triage", necessarily involve judgments about the relative worths of persons as one factor in decisions about the distribution of scarce resources. It appears to be equally clear that those who work in various fields of science find national and sometimes racially exclusive doctrines compatible with the findings of science. At a deeper level, it would appear that even the implicit metaphysics of science — rationality as opposed to magic, empiricism as opposed to impressionism, systematic method as opposed to anecdotalism and so on — are compatible with fundamentally anti-scientific notions held at deep levels of consciousness, with significant effects on behavior. Thus, in the Middle East, it has been noted that fundamentalist Islam frequently finds its most avid recruits among university students of the sciences.

### Scientific Inquiry

Finally, scientific inquiry proceeds perforce in a larger political arena in which national elites control many of the resources required for its pursuit. While such inquiry may, over the long-term, be facilitated by the free exchange of findings in defiance of political boundary, there are comparative short-term advantages to political elites, to competitive businesses and to individual scientific careers in limiting scientific exchanges; and, indeed, the tactic is widely used infra and internationally, frequently with the blessing and sanction of law.



### Comparable Trends

Comparable trends and counter-trends are to be found with regard to the arts. In speaking of arts, in this context one must generalize the concept to the skillful working, in whatever medium, of the imagination, using components of group and personal experience in order to express something meaningful and indulgent, though not necessarily enjoyable, to creator and audience. The artistic expression need not be "true" in the scientific sense, but must be true, in terms of content and artistic quality, in the micro or macro psycho-cultural calculus of creator and audience. This level of generalization will permit us to treat the arts transculturally without regard to the extraordinary differences in the aesthetic systems of different cultures. It will also be possible to assess the presence or absence of transcultural trends, parallel to those in the sciences, for the extent to which they contribute to species survival and enhancement.

Students have noted that in the early part of the century, abstract and utilitarian architecture appeared to emerge simultaneously in many urban industrial centers. Hence they concluded that the consolidation of a homogenous global culture of industrial organization and technology was underway. That homogeneity, they believed, would obviate the types of pathological intergroup conflict characteristic of earlier formations. While the homogenizing trend, synchronous with counter-trends, may have persisted, its content is not necessarily compatible with the values of human dignity. Consider only one example. A global culture of popular art, especially for particular age cohorts, has emerged, thanks to the electronic simultaneity available on the planet, but the values conveyed in much of this popular or neo-folk art would hardly appear to be compatible with conceptions of human dignity. On the contrary, much of it seems to extol random violence, the futility of life and of human effort, a coarse sybaritism, a chemical Dionysianism and a promiscuous anarchism. Moreover, similar or cognate expectations of past and future, of themselves, do not increase the likelihood of the development of reciprocally amiable perspectives. History is rich in examples of subgroups

of integrated civilizations and folk cultures which were engaged in constant destructive and self-destructive conflicts.

### Traditional Artistic Forms

More traditional artistic forms would appear still to be deeply influenced by exclusivist rather than universalist national cultural tendencies, which contribute some of the emotional power of the creation. This may be inherent in the nature of the enterprise. Much art involves the skillful blending of familiar items of individual and collective experience and group memory with innovative components. Since many of the items in the past represent tribal or other atavistic impulses, the art in question frequently reinforces notions and values hostile to an inclusive conception of human dignity. It is significant that a writer of the stature of Alexander Solzhenitsyn, who presents a skillful and powerful vision in fiction and *belles lettres* and who appears to be readable in both socialist and non-socialist countries, ultimately preaches an anti-scientific doctrine of mysticism which would substantially exclude many other cultures and civilizations of the world. Jean Paul Sartre's notion that a work of art carries an inherent morality and that, hence, one cannot contemplate the idea of an anti-semitic novel of artistic merit would appear, also, to be rather wishful.

### Modern Technologies

Modern technologies of communication enhance the production and distribution of diverse arts and sciences. But there is scant reason to sit back and wait for arts and sciences automatically to create homogenous perspectives about a world order of human dignity. On the other hand, the current impulse to legislate and regulate should be kept under firm control, for these are hardly fields calling for or positively responsive to external regulation. The ambit of operation of the arts and sciences reaches deep into the imagination and the subconscious and should not be subjected to restriction or external discipline.

The challenge to those whose provenance is art and science and whose commitment is to a planetary community of human dignity in which pro-

duction is sufficient to allow for a humane welfare and in which multiple opportunities for diversity and experimentation are subordinated to an ongoing sense of the community of the entire species is to explore and develop ways of encouraging such perspectives in and through the aggregate cultural creations of a global civilization. We can accomplish this more systematically if we address the goals we seek, our targets and our methods.

### First, as to Goals

If we cannot rely on alleged inherent humanistic values in art and science, it is important to state with clarity and at a general level what we deem to be the essential values of human dignity so that we have a basis for appraisal over time of the production of art and science and a criterion for the construction of particular strategies whose practice can increase the likelihood of desirable outcomes. There are many formulae for human dignity. For the moment, I will suggest that we speak in terms of a system of public order throughout the planet which maintains minimum order and which establishes institutional arrangements for the production and distribution of all values such that they enhance the opportunities for self-fulfillment of all people. This broad statement may be spelled out at lower levels of specificity. When this is accomplished, we have a complex criterion, a map or blue-print with which we may make appraisals through time of artistic and scientific contributions in this regard. And we have the format for an operational program. By selective use of signs and symbols, modulated through the modalities of art and science, it may be possible to encourage worldwide, certain trends in patterns of identification, expectation and demand favorable to world order and human dignity and to discourage others. The purpose is *not* to mobilize in particular patterns of action, but to predispose toward rather than away from human dignity.

### Second, as to Targets

We should identify as the critical target in this undertaking the perspectives or subjectivities of members of our species. To refine our focus, these may be

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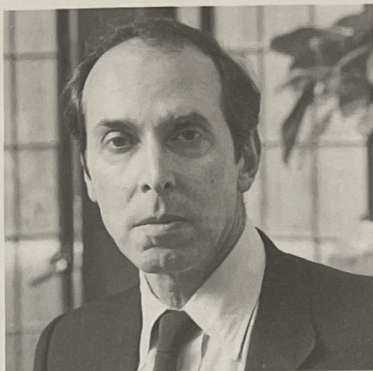
conveniently divided into (1) identifications, (2) expectations of past and future, and (3) demands.

Identifications of human beings involve both yearnings for inclusive identification with our entire species and, indeed, with the entire cosmos, as well as contrary yearnings for the most exclusivistic expressions of the ego against all other manifestations of life. The symbols in the great religions for each of these impulses readily come to mind. Both of these impulses are important. Each unchecked, can become pathological. An appropriate balance must be struck so that the ego has sufficient vigor to operate and make claims on its own behalf but sufficient breadth to *identify with the species and, beyond, with the most inclusive ecological communities on whose viability its survival now depends.* The identifications of all people must thus come to include significant inclusive components, coexisting with more exclusive identifications, so that one is simultaneously a citizen of the world, as well as a member of a nation-state, an occupational group, a sexual group, an age cohort and so on.

### Expectations

Expectations involve the envelope of reality in which each human being operates. These expectations include conceptions of history, beliefs about the possibility of change in the future, conceptions of utility and of aesthetics, notions of individual efficacy and so on. They include for all peoples a degree of realism in perception, without which survival would be impossible. They also include elements of magic and fantasy, which appear to be important to creativity, which is the ability to bring into the framework of overt consciousness features of ecological and social processes hitherto not perceived. The matter-of-fact expectations about past and future, that matrix within which every human being orients himself, must move toward a certain convergence so that human beings around the planet inhabit the same phenomenal world.

Human beings are purposive actors who seek, through time, to optimize their values. The demands people make on themselves and others are deeply influenced by identifications and by expectations. Because of this, they tend, to the present, to be limited, for the



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most part, to demands for indulgence of members of an in-group and to be tempered by perceptions of possibility derived from the past experience of their dominant cultural group. The demand structures of human beings about the planet must begin to converge with regard to the production and distribution of key values, such as power which should be shared, enlightenment and skill, which should be freely explored and distributed, respect which should be accepted as an inherent characteristic of every person, and so on.

### Strategy

As to strategy or method for approximating goals to targets. The immediate challenge is not to generate a comprehensive set of strategies but only to explore whether the World Academy, in collaboration with others, can develop an exhibition or ambulatory museum or a model that can be replicated in different settings with appropriate changes for local communication which can contribute to the formation of the perspectives described above. The museum itself would appear to be a timely mediant target, for the modern museum is closely linked with the rise of nationalism. In the formation of the modern nation-state, elites found it useful to assemble collections of artifacts, exemplifying and celebrating the development of the natural entity, by highlighting selective experiences and productions of the group's past, creating and shaping thereby future identifications, expectations and demands. The time may be propitious to replace the national museum with a world-museum as it were, global in its objectives, in the collection of its components and ambulatory or peripatetic rather than

fixed like a shrine in a particular national capital. Harold Lasswell has proposed a Social Planetarium in which participants could be oriented to the alternative possibilities of astropolitics. Others have suggested a World Festival, with more emphasis on the contribution of the arts.

As we have seen, the artifacts of art and science of our global civilization perforce influence identifications, expectations and demands, reinforcing in some ways, changing in others. They can make a contribution to the enhancement of human dignity of each of these dimensions of the subjective life of individuals. *A demonstration of this, drawing on artifacts of many different cultures — scientific and industrial as well as folk — could be an object lesson to peoples, if suitably presented.* Because art and science are problem-solving enterprises, the world museum, as I will refer to it, should avoid replicating the contemporary museum model in which "things" the viewer has been told are of artistic or totemistic value or are very valuable or priceless in economic terms are admired with awe or dutifully copied or memorized as models for value. An exhibition need not be a confrontation of passivities, in which objects behind a display case face human beings who are expected to be equally passive and silent on the other side of the glass and, indeed, might as well be objects themselves. An exhibition can be designed actively to engage the minds of the observers, transforming them into problem-solvers whose reactions and proposals can be added to the exhibition, *challenging others who similarly respond and supplement.* The world-museum of art and science can use modern technology to accomplish as well as to exemplify this.

The introductory part of the world-museum might actively involve the viewer in "creative" experiences of self-discovery. "Creativity" is, of course, something of a misnomer. Whether one operates through the modality of one of the arts or the sciences, discovery, as its very etymology suggests, involves the self becoming aware, through either perception or innovative association, of features of the environment or aspects of psycho-personal organization hitherto not perceived or not or only faintly understood.

*Part two will be published in the November 1988 Newsletter.*