



UTOPERA

Art and Science in Orbit

by Sam Nilsson

President, European Division of WAAS

In the June Newsletter we gave the background and structure of the "Art and Science in Orbit" initiative. We are now pleased to report that considerable progress has been made since then, regarding both content and financing.

Task Force Meeting in Paris, July 4-5

The task force, under the leadership of Professor Hans Nordenström, FWAAS, met for a discussion of the final proposal for the traveling exhibit. The meeting was attended by WAAS Fellows Bertrand Chatel, Augusto Forti, Pontus Hultén, Piotr Kowalski, John Proctor (Secretary General), Carl-Göran Hedén (President), and Sam Nilsson (President, European Division). Also present was Carl-Axel Dominique, composer and associate member of WAAS. The meeting was made possible by a special grant from the Salén Foundation, and UNESCO kindly provided meeting facilities.

The President of the European Division chaired the meeting. The topic of discussion was a comprehensive paper prepared by Nordenström and Dominique, in which the most significant ideas put forward since the Paris meeting of February, 1985, had been integrated. The "Nordenström-Dominique" paper has as its main theme the role of human creativity in arts and science as a manifestation of the hope for the future of Mankind in a world of increasing interdependence and diversity. UTOPERA was accepted as the uniting name of this WAAS initiative. The scope of the UTOPERA will be, according to Nordenström and Dominique, a "phantasmagoria" which is to be seen as the opposite of the over-organized societies' oppression of fantasy and indigenous creativity.

Content of UTOPERA

UTOPERA will comprise several elements of artistic and scientific expres-

sion. A musical drama might be produced as a mixture of avant-garde and tradition, with figures that are easily recognizable. Dominique presented a sketch of a libretto which was well received by the participants. The UTOPERA will also contain high-level scientific seminars, and the audience will be able to interact with the scientists and artists and among themselves and to ask questions about the future. An interview series will be produced on video, with prominent intellectuals talking with their grandchildren about their work and the future. WAAS Fellows such as Linus Pauling, Ilya Prigogine and Jonas Salk will be interviewed in the first series.

The Paris meeting concluded that we now have a sufficiently comprehensive package to bring UTOPERA to the first phase of implementation.

Organization and Funding

A coordination committee was created. It will be led by Pontus Hultén, FWAAS and Director of the Pompidou Center in Paris. A support committee to help with fund-raising and sponsorship was also created. Several WAAS Fellows have kindly offered to help in this work. Our first step has a goal of \$150,000, of which 1/3 may come from UNESCO, 1/3 from foundations and 1/3 from sponsors.

We are pleased to report that \$30,000 has already been received from the Salén Foundation. It will be used to advance the UTOPERA concept and the libretto. A request has been made at UNESCO for \$50,000, to be used for the UTOPERA in general and for the video interviews in particular. Swedish Television has agreed to contribute with producer and production facilities worth about \$60,000, and the same is the case for Italian Television. UNESCO will be offered the global distribution rights for the video interviews.

It should finally be mentioned that recent discussions between the President of the European Division and Prince Alfred of Liechtenstein open up possibilities for cooperation between WAAS and the Vienna Academy for Study of the Future.



Dr. Mahnoush Arsanjani (Iran), Chairperson
of the Admissions Committee

New Fellows

Dr. Mahnoush Arsanjani (Iran), Chairperson of the Admissions Committee, submitted properly prepared nominations to the Executive Committee in the October 16, 1988 meeting in Haverford, Pennsylvania. The following candidates were elected Fellows:

Walter Truett Anderson
California, USA

Mr. Peter Brooks
Paris, France

Mr. John Cage
New York, USA

Mr. Raymond Dudel
Paris, France

Dr. Francis B. Kapper
Virginia, USA

Mr. André Heller
Vienna, Austria

Dr. W. David Hopper
Washington, DC, USA

Dr. Chong-un Kim
Seoul, Korea

Prinz Alfred von Liechtenstein
Liechtenstein

Prof. Pierre Spitz
Collonges, France

Dr. Suk-Kee Yoh
Seoul, Korea

Congratulations and welcome to these
New Fellows.



(Part II) Preliminary Notes for Discussion on the Establishment of a World-Museum

This is Part II of a two part article by the Distinguished WAAS Fellow Michael Reisman, Professor of Law, Yale University and Chairman of the Legal Affairs Advisory Committee of the World Academy of Art and Science.

Part I was published in the June 1988 Newsletter. If you wish another copy of the June Newsletter, write to Frederick H. Gloeckner, 734 Millbrook Lane, Haverford, Pennsylvania 19041.

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The subjective exhilaration of this experience frequently leads those who directly or vicariously participate in it, to reify their discovery or association and to believe that, magically or through the intervention of a muse, "something" has been created. This gloss on the experience tends to mystify it further and to render potential creators more passive and hence less prone to discovery.

Continuing to mystify this experience hardly contributes to the goals we have proposed. It would be intellectually enriching, ultimately democratizing and an appropriate introduction to world-museum if all visitors could grasp and experience the procedures and outcomes of creativity. Thus an exhibition on free-association with linguistic and visual cues perhaps, using micro-computers with large CRTs, might be designed with the objective of encouraging the adventurousness and playfulness that can weaken the habitual blinders of personal and group experience, facilitating, over the long-term, discovery and self-discovery, but in immediate terms predisposing the viewer to a more active role in world-museum.

World Museum Objectives

As we have said, one of the objectives of world-museum is to relate arts and sciences to more inclusive identifications. We are all familiar with different depictions of variable inclusivity. In some, of the Ptolmaic variety, the ego is center stage, surrounded by larger and increasingly more inclusive circles signifying family, tribe, nation, region, planet and so on. In slightly more complex variations, the more inclusive cir-

cles intersect with the ego and each other. Such demonstrations, even at this simple level, are important because many experiences, from fetal existence, through infancy and on, tend to confirm and validate exclusive rather than inclusive experience and dependence on the exclusive group rather than the most inclusive interdependence, especially for peoples on the periphery of industrial and science-based civilizations.

Imagine an Exhibit

Imagine an exhibit in which a computer program invites the viewer to indicate, successively, the communities he or she inhabits and/or is dependent upon. Appropriate cues may be programmed, in the fashion of S-R learning models, leading the viewer to the most inclusive community of the species and possibly beyond to include sentient creatures of higher intelligence in other planetary systems. Transempirical "communities", e.g. ancestors, would not be explored here but in another exhibit. But other means of inclusive identification would be programmed. For example, the genetic self could be presented in terms of its past and future developmental communities, introducing both theories of evolution and future possibilities of species "self-determination" through genetic manipulation. Similarly, the bio-chemical self could be presented in terms of its constituent "communities" and interdependencies and in terms of its possible self-transformations.

Object of Exhibitions

The object of these exhibitions would be to present dramatically the *actual* inclusive memberships and dependencies of the self and thereby to enable the viewer to be more aware and realistically oriented in them. By presenting the information in an active, programmed-learning fashion, the viewer would not simply "see" but would learn. The matrix of identification that emerged would be more inclusive and realistic, providing a basis for participation in the rest of world-museum and, one would hope more generally, in a more inclusive system of humane arts and sciences.

The objective of exhibits in world-museum concerned with expectations is to enhance an attitude of reality-testing of composite images of past and future rather than to sell or superimpose another version on a passive participant. For it is the individual's openness to testing features of images of past and future by some systematic method rather than a possession of a particular authorized version that seems to be a precondition of scientific inquiry, artistic inventiveness and the capacity to communicate with people of distinctly different cultures. That increasingly mundane problem is not one of translation, of finding "equivalent" words, but of grasping and then reconstructing the different expectation system of the other. That daunting task can not be even contemplated until one understands the structure of one's own.

Active Exhibits

Exhibits in this part of world-museum could require the observer to engage in hypothesis formation, survey of data and provisional conclusions, exercises for which computers could be useful. Such active exhibits would be interspersed with exhibits from various civilizations and cultures showing that proto-scientific methods are found in many cultures, e.g. folk medicine which sometimes practiced trial and error with primitive instruments for perception and recording. By drawing upon such examples, scientific method may be seen, not as a cultural imperialism or an extra-cultural imposition but as consistent with tendencies in many cultures. The content of the exhibits could include material or ecological interdependencies, population, food, epidemiology and so on.

In the design of his Social Planetarium, the late Harold Lasswell, a former President of the World Academy of Art and Science, suggested a sequence demonstrating realistically the development of social and political orders and their interdependencies:

The visitor might begin with presentations designed to portray the distribution and culture of early man and show the lines of significant innovation until the emergence of cit-

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Geographical Distribution of Fellows

*The 1988 geographical distribution of 383
Fellows and 3 Associate Fellows of WAAS:*

Scandinavia

Finland	3
Norway	1
Sweden	18
Sub Total.....	22
Associate Fellows.....	3

British Isles

Great Britain	28
Ireland.....	2
Sub Total.....	30

Near East

Israel	8
Jordan	1
Pakistan	2
Sub Total.....	11

Far East/Pacific Basin

Australia	8
China	2
Hong Kong	1
India	8
Japan	10
Korea	4
Malaysia.....	4
Philippines	6
Singapore	1
Thailand	4
Sub Total.....	48

South & Central America/Caribbean

Chile.....	3
Costa Rica.....	1
Guatemala.....	2
Mexico.....	1
Puerto Rico	1
Venezuela	2
Sub Total.....	10

Europe

Austria.....	3
Czechoslovakia.....	1
Belgium.....	4
France	26
Hungary	3
Italy	11
Liechtenstein	1
Netherlands	12
Poland	7
Portugal	2
Russia.....	6

Spain	6
Switzerland	8
Germany	10
Sub Total.....	100

North America

Canada	18
Eastern USA	92
Western USA	40
Sub Total.....	150

Africa

Egypt	1
Ghana	2
Kenya.....	2
Morocco	1
Saudi Arabia.....	1
South Africa.....	1
Sri Lanka	4
Zambia.....	1
Sub Total.....	13



*Carl-Gören Hedén, President of WAAS
presenting a plaque to Emily H. Mudd, to
honor her for her outstanding work for the
World Academy of Art and Science.*

Country Correspondents

The World Academy objective to reactivate the Far Eastern Division energized efforts to secure Country Correspondents to improve regional communications among Fellows (cf. June '88 Newsletter). The following Fellows have agreed to serve:

- Dr. E. Hyock Kwon, M.D.
Minister of Health and Social
Affairs
31-4 Sungbuk-Dong, Sungbuk-Ku
Seoul, Korea
- Prof. Kinhide Masahoji,
Vice Rector
The United Nations University
Toho Seimei Building
15-1 Shibuya 2-Chome,
Shibuya-Ku
Tokyo 150, Japan
- Dr. Sanga Sabhasri
Minister of Science, Technology
and Energy
Rama VI Road
Bangkok 10400, Thailand
- Dr. Basil Stuart Hetzel,
Executive Director
International Council for Control
of Iodine Deficiency Disorders
CSIRO, Kintore Avenue
Adelaide, South Australia 5006

We are seeking Country Coordinators in China, the Philippines, and Malaysia. The Country Coordinator concept is appealing to the Executive Committee as a means of stimulating the nomination of Fellows, supply of items of interest for the Newsletter, and regional communication. Mr. Marian Muskat, Chairman, The Israeli Institute for the Study of International Affairs, P.O. Box 17027, Tel Aviv 1170, Israel has agreed to serve as Near Eastern Coordinator.

PLEASE HELP US LOCATE THESE FELLOWS:

Prof. Anton De Vos (Canada)
Prof. Hugh Goitein (England)
Mr. Al Huang Chung Liang (Illinois, USA)
Dr. Benjamin Pal (India)
Mr. Maurice F. Strong, O.C. (England)
Dr. Chote Suvatti (Thailand)
Mr. Morris West AM (Australia)

Forward information to Secretary General, P.O. Box 2025,
Vienna, Virginia 22180-9998



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ies in the fifth millennium. The sequence would be planned to teach awareness of the distinction between folk society and civilization and to emphasize the variety of cultural forms. Prominence would be given to the relatively temporary empires created by able leaders of tribal federations and to the more durable structures held together by bureaucratic elites. The city state, devoted to commerce and manufacturing, would be in the picture as would the feudal and small-state systems, created in the aftermath of imperial disintegration. More recently, the consolidation of large national units and empires would dominate the scene. At various cross-sections and in chosen regions, international "orders" ("parties") have arisen, though no one of them has achieved a central monopoly of coercive violence on behalf of inclusive policy. The types of transnational arenas (multipolar, pluripolar, bipolar, tripolar) would be presented, and the actual limitations on the self-described "universal states" set forth.

Exhibits Emphasize

Exhibits would emphasize the infrastructure of community life and show the degree of value participation and the distinctive practices of various institutions. In the presentation of "power," for example, the emphasis would be on typical patterns of dominance by the few or the many. The major institutional forms of power would include the principal patterns of democratic and non-democratic government. (Lasswell, *The Future of Political Science* 141-142, 1963)

Such demonstrations might provide background for the exercises of reality testing proposed.

In any culture, identifications, expectations and demands are embedded, reexpressed and reinforced by language. Hence there are extraordinary opportunities for growth in self-awareness to be gained in games and exercises in which language is recognized as a highly plastic human creation whose effects can be varied by the "shapes" its users give it. Thus demands might be explored by exhibits inviting the participant to try to invent

transcultural sign and symbol systems as a way of making explicit his or her own latent demands and of comparing them with demand structures of people having different identity and expectation systems.

Sorts of Exercises

In these sorts of exercises, it will quickly be seen that languages—in their broadest sense—the system of signs and symbols which serve as the fundamental medium of cultural organization and communication within and between groups—reveal the same chiasmic pattern of inclusivity and exclusivity. In addition, it will be seen that the social context of language may give radically different meaning to the same signs and symbols. There is a tendency, among those who operate within a single culture, to assume that some images have a consistent universal content and that, hence, their symbolic representations will elicit the same response no matter who the audience. Consider, for example, a mother, head bowed, spine curved protectively around the infant she is nursing. That image, or its symbolic representation, as a gently curving line, enclosing a small object, should, one would think, excite expansive and universal identifications. With only slight variations, a simple structure, signified or symbolized, should excite recognition of the universal need for shelter and all the comfort and security associated with it. But in some contexts, it may synergize with the conception of a fortress signifying an oppressor or some other conflict-laden situation. Erikson has noted comparably diverse interpretations of the same phenomenon within a single nation-state because of different class-based hermeneutics. To some, smoke billowing from a factory's stack may signify pollution, lung disease, destruction of the natural environment and death. But to unemployed workers in the environs, the smoke means work, food, clothing for children and personal security. To the same people, a clear stack in a cloudless sky may signify starvation and death.

Sign and Symbol

Thus, sign and symbol systems, no matter how apparent their universal content may be, may excite diametrically different reactions in audiences shaped by and equipped with different

cultural expectations. Consider a Western European Christian audience encountering Hindu iconography or vice-versa. Thus Becker writes that "Translation, as every translator learns quickly, is not just a matter of imitation, of finding our words to imitate their words, but is also the recreation of the context of the foreign text." (*The Imagination of Reality: Essays in Southeast Asian Coherence Systems*—A. L. Becker and A. Yengoran, 1979)

The Lesson

The lesson to be gained is important. Because few signs and symbols have an inherent, unchanging transcultural meaning, merely increasing the quantity of signs and symbols crossing group boundaries could have few and even undesired effects. The fabrication of a universal, comprehensive language of signs and symbols is not a task for the current agenda. But it may be useful for world-museum to develop an exhibit that would involve the viewer in an exercise of generating reliable signs and symbols for an intercultural communicational exchange beyond the routine pleasantries.

Were the World Academy to undertake this task by itself, it might invite consortia of artists, social scientists and neurologists to assemble current signs and symbols that could be readily used and then seek to develop others. But for purposes of participation in World-Museum, the object is method and increased self-knowledge of demands rather than the generation of an elaborate transcultural vocabulary and syntax.

The First Step

The first step is a disciplined way of describing what people want. Consider the following inventory developed by Harold Lasswell and his associates:

Power	Wealth	Enlightenment
Skill	Well-Being	Affection
	Respect	Rectitude

Can the participant indicate the "amounts" he wants of these values for himself? for others with whom he identifies? for others with whom he does not identify? The social and economic arrangements necessary for their preferred production and distribution and so on? Having done this, at least provisionally, can he make these demands comprehensible to others of different groups? An exercise of this sort is more

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challenging than a conventional sort of problem-solving exercise, such as designing a code system for peoples of diverse language groups in an airport, a refugee camp and so on.

Latent Demand

The exploration of *latent* demands and *latent* messages about their satisfaction can be particularly valuable in sensitizing observers to artistic stimuli from diverse cultures. The comparison of visual artistic objects, for example, might be arranged to make clear to observers the latent messages with regard to shaping more inclusive and less inclusive identifications, more realistic and less realistic expectations, and so on. This would permit the observer to distinguish within himself or herself reactions to scientific and artistic stimulæ which, in addition to being pleasurable, are also manipulative. A comparable comparison of aural artistic creations could demonstrate the same range of reactions that may be induced in an audience using that medium. Here, relatively accessible technologies such as a computer with a "mouse" could be useful permitting the participant to vary symbols rapidly and to unlock free fantasy methods, circumventing the ordinary censoring mechanisms of the conscious mind.

Popular Perceptions

Museums, as was noted earlier, arose to shape popular perceptions in ways useful to the objectives of national political elites. Hence a world museum on the order of the ideas developed here will be viewed by many national elites as challenges to their authority and control. Will they be willing to permit the entry of a world museum into their territories or allow the establishment of permanent world museum branches? In democratic countries in which there is high tolerance for the free exchange of ideas, political obstacles will not loom large, but they should not be discounted, for the ideas implicit in the exhibits are no more neutral than are the ideas of science. The metaphysics of a secular and science based civilization are not compatible with those which continue to support many institutional arrangements and elites even within the industrial world. In imperfect democratic and antidemocratic countries, the resistance will be even greater.

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The Maturation of Biotechnology

Carl-Göran Hedén

Man early learnt to release the stored chemical energy through many channels, for instance via milk, which empirical biotechnical processes could then convert into products with increased shelf life, better taste and improved nutritional value (cheese, yoghurt etc.).

As long as the population pressure on our planet was small, the low energy efficiency in the manufacturing of animal products was hardly significant, but increasingly stringent demands must now be met. This has a direct impact on bioengineering, which is an economically oriented science that regards all organic waste as a natural resource: animal waste becomes biogas, carbon dioxide becomes algae, sewage sludge becomes a soil conditioner, paper mill waste becomes alcohol etc., etc.

In his practice the modern bioengineer regards the traditional fermentation techniques and ancient ecological wisdom with great respect and as a source of inspiration for his science, which now is in the process of replacing the animal slaves with cells and enzymes. Those biocatalysts, which now open the treasure chest of a vast spectrum of new products, sidestep the various support systems that are provided by the animal body or the whole plant, which still need the sun to provide the necessary raw materials.

Modern biotechnology is often referred to as "high-tech", which is normally not only cheap, but as a rule it is also simple to use—if measured in relation to performance! The low price and energy efficiency of a transistor radio is impressive, and one certainly doesn't need to know anything about solid state physics to use it. For instance to improve the nutritional value or shelf life of some food.

The image of biotechnology is so focused on the obvious scale factor advantage in the development, manufacturing and distribution of such biocatalysts that the insensitivity to the scale-factor, which characterizes its use for secondary production in the home or village, tends to be neglected.

My association with UNESCO, UNU, UNIDO, MIRCEN/Stockholm and the International Federation of Institutes

for Advanced Study (IFIAS) simplified this continuous review, which in 1978 led the Secretary General of the Academy John McHale to organize a major conference: "Bioresources for Development" (Eds. A. King and H. Cleveland, Pergamon Press 1980). This provided strong arguments for regarding biotechnology as a strategic development factor, and it for instance caused WAAS to initiate a series of feasibility studies aimed at evaluating the potential of electronic means of communication as a tool for focusing the creativity of bioengineers on the towering problems in developing countries. The Hong Kong round-table discussion, August 6th, 1988 was summarized in an:

Interim report "Impact of Biotechnology" summarized by H. Cleveland and C.G. Hedén.

1. The wide-ranging and cross-disciplinary discussion in Hong Kong illuminated in a way the implications of biotechnology for "growth with fairness." The inherent nature of biological resources, and the fact that most of the world's rich supply of biomass is concentrated in the "poorer" parts of the world, gives promise that a world society focusing sharply on the constructive use of the bioresource can be a fairer world.

2. The scientific community's new interest in the interconnections among the relevant disciplines offers new opportunities to meld in our thinking factors that each discipline has treated as externalities. The scientific community is also accustomed to thinking in global terms, and this will be essential in guiding the impact of biotechnology.

3. The group was persuaded that fair and effective biotechnology development will both require and make possible "uncentralized" social and economic systems, wide opportunities for feedback (as in nature), and broad participation in the governance of development in each country. A good example of an "uncentralized" system is the string of agricultural research institutes around the world coordinated through the CGIAR.

4. This suggests that "networking" among concerned experts, advocacy groups, foundations and public (national and international) officials will be of the essence in achieving consen-

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American Division Report

*President, Professor/Doctor Lorenz
K.Y. NG*

Dinner-dialogues are designed to bring together outstanding individuals from various fields of arts and science, to share with each other their work, significance, impact, and commonality. At such dinner-dialogues, half of the participants would be WAAS Fellows, and others would be individuals who, while they have made outstanding contributions, are not as yet, Fellows of WAAS.

The focus of these dialogues would be on "Human Creativity: Our Hope for the Future." It is expected that through such exchanges of leading-edge information among scientists and artists, new perspectives on present-day problems could emerge and creative solutions could be found. It is anticipated that such dinner-dialogues would be held about once every three months, and preliminary comments would appear in the subsequent Fall and Spring WAAS Newsletters.

Besides the production of stimulating leading-edge information exchanges in the form of monographs and videotapes, new projects of collaboration could emerge. Creative individuals could be identified and brought into the expanding network of WAAS Fellows. In conjunction with the "Arts and Science in Orbit" project of the European Division (see write-up in this newsletter), we anticipate that new collaborative projects between the two divisions would occur.

Our common objective is to help catalyze a new renaissance, where Arts and Science can come together to work for the Common Good of Mankind. Such dialogues could provide a useful background for WAAS as it begins its deliberations on a Strategy for the Decade 1990-2000. WAAS Fellow Eugene Schwartz and his wife, Barbara, have graciously offered to host these dinner-dialogues at their home in New York City. As these catch on, other similar dinner-dialogues could be hosted at other cities.

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sus and charting global strategies for biotechnology. It also suggests that those in the new network, above all the biotechnologists, need to develop for their own use an explicit code of ethics to guide the application to human needs and purposes of the new powers biological and genetic knowledge confers on humankind.

5. An important role in the needed networking can be played by electronic teleconferencing, as demonstrated in a primitive way in the year-long electronic consultation, sponsored by the World Academy, that preceded this workshop. That this communication technology can bring together in an organized fashion a very broad community of concerned people, from widely disparate fields of expertness, is being demonstrated just now by the global networking on AIDS, the manager of this network, E.L. Foo, participated actively in the Hong Kong workshop.

6. Focal points needing the concentrated attention of integrative research and development were.

(a) Coastal desert areas where an optimal combination of sunlight, air and seawater might transform arid regions into productive systems. Resources needed would be a fraction of the cost of megaprojects: inter-continental roads, major channels and tunnels, lunar and Martian bases, etc., considered recently.

The introduction of biotechnologies in an arid lands program should emphasize that the systems approach to bioproductivity not only involves food, but also other products that can improve local buying power and stimulate entrepreneurship. "Learning by doing" should be fostered by experiments on water use efficiency and soil productivity, aimed at locally significant products and processes. In this context, leasing arrangements might be helpful as a means to stimulate investments and franchising as a tool for information transfer.

(b) The use for multiple purposes (e.g., energy and aquaculture) of cold nutrient-rich water in tropical and semi-tropical environments.

(c) Utilization of lignocellulose from agricultural waste materials and

halophyte straw for mushroom cultivation and for chemical feedstock.

(d) Biofertilizer systems, such as blue-green algae, for the cultivation of halophytes.

(e) Halophytes as a source of biogas, using the residue as fertilizer.

The following steps were decided.

1. A Bioresource Network (BIXNET) should be expanded, using the ibc conference as an initial nucleus.

2. A nongovernmental Biological Resources Development Corporation (BRDC) should be incorporated, to promote "growth with fairness" through the biotechnological community.

3. The BRDC Board of Directors should generate joint ventures with private or public organizations to conduct research, development and application of biotechnology for "growth with fairness." These ventures would be designed to make a profit, a portion of which would inure that the benefit of a Trust Fund to promote basic and applied research in biotechnology for development.

4. The Trust Funds would be allocated for development-related R & D by a Council of persons active in BIXNET.

5. BIXNET would be managed by the BRDC executive as an "open network." A fee would be charged for participation, to defray the cost of managing the network. Active participation would qualify an individual for membership on the Council. BIXNET would operate primarily through task forces focused on particular applications of biotechnology for development. All members of the board of directors of BRDC would also by definition be members of BIXNET.

The Hong Kong group requested the chairman of the meeting to approach the Salen Foundation for seed money that would permit the initiation of BIXNET and the launching of BRDC. The incorporation of the BRDC, and arrangements to ensure an early tax-exempt status for the Trust Fund, will be further explored.