

THE GREAT TRANSITION

by
Alexander King

The evolution of society has been marked by a gradual, but latterly very rapid accumulation of knowledge and its applications, manifested most markedly in technological development, aimed at the improvement of the human condition and at the increase of power and influence of those who possessed it. But social change has not followed a smooth curve; it has been an essentially discontinuous process with periods of major transformation resulting from the assimilation of fundamental technological innovations such as those of the discovery of bronze, the smelting of iron, the domestication of animals and the establishment of a settled agriculture and, nearest to our age, the improvement of the steam engine which ushered in the industrial revolution.

Most of the new technologies which have appeared since the beginning of the XIX century can be regarded as a continuation of the type of industry which emerged with the industrial revolution and, of course, copiously fed by the outpourings of scientific research during the period. They are characterised by the enhancement of the puny power of men and animals by that of steam, oil, electricity and nuclear energy and by the improved performance and range of materials which the new machines demanded.

Much evidence is accumulating which suggests that we are at yet another point of discontinuity in the evolution of society, caused by the spill over of a science based technology across a new threshold and by the emergence of a new information science which encompasses both knowledge of the genetic code and the marvellously miniaturized techniques of microelectronics. The question may well be asked as to how the new science and technology differs in significance from the many impor-

tant developments of recent decades, as for instance nuclear power, the laser or radar. The difference resides in the extraordinary width of application of the new developments which will have an impact on well neigh every sector of economy and society unlike any other



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innovation since the appearance of the steam engine. It will soon be possible to embody mind and memory into any instrument devised by man and at a low cost. The industrial revolution replaced or extended much of the mechanical work hitherto done by humans, by the machine. The new discontinuity will, in addition, abolish many routine mental tasks and supervisory activities.

As with the earlier major transitions, the new technologies will, directly or indirectly, bring about fundamental changes in the nature of both economy and society; these are likely to go much deeper than inter-discontinuity periodic fluctuations such as those of the so-called Kondratieff cycles, in their influence on, for example the characteristics of manufacturing industry and its global distribution, in the nature, conditions and extent of work, on the structure of society and its institutions, on the content of education, the distribution of wealth, political processes and their ideologies and on the daily life and activities of individuals everywhere.

The world problematique

The great transition to a new type of society, designated by many as the information society, will have involved many factors in addition to the technological, although the latter will be its chief motor. This brings us to the concept, termed by the Club of Rome, "the world problematique". This conceives the contemporary problems of our planet as an untidy tangle of interrelated issues, The interactions between the different threads of the tangle are considerable, but only dimly understood. Thus population issues, food production, water and energy availability, environmental impacts and economic and political factors and many others are inextricably interrelated and will have to be considered together. Otherwise policy changes in a particular sector are likely to have unforeseen impacts on the operation of other parts of the problematique; these may be reinforcing or hostile. During the transition, problems of war and peace are likely to continue to be dominant. Not only will the threat of nuclear holocaust continue to be a paramount consideration, but the diversion of finance, energy, materials and skilled manpower to military use greatly inhibits world development. Amongst the other main problem areas likely to continue to be important during the transition I shall mention only the monetary and credit systems, the North/South issue, the abolition of world poverty and the population explosion. In accordance with the problematique concept all of these will have interaction with the technological development factor. Thus North/South disparities tend to widen with technological advances which greatly favour those countries which possess a strong scientific and industrial infrastructure to exploit them. Again, scientific progress, especially in medicine and hygiene favour population increase by decreasing infant mortality and extending the life span. Yet they have little immediate impact on traditional desires for large families,

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formerly necessary merely to maintain the population.

World population increase

World population increase and its consequences can be expected to be a main concern throughout the transition. Recent decreases in fertility in some countries has given rise to some complacency, but it has to be remembered that, because of the very low average age in many countries of the Third World, population in absolute terms will be increasing more at the end of the century than it is today. We still have to expect a world population of six billion at the end of the century and a leveling off at perhaps ten billion at 2050. The consequences of the explosion will be many. On technical grounds the total world production of food should be sufficient to feed the new multitudes, although even here we run into difficulties due to soil erosion, water scarcity and possibly also, before the end of the transition major changes in the world climate. The main problem will be to ensure that the food gets to those who are hungry, i.e. to the masses of the poor. Political and economic conditions will therefore dominate over the technical. Equally crucial will be the need to provide employment; it is stated that about a billion new jobs will have to be created in the developing countries before the end of the century if present levels are to be maintained. The disparity in demographic growth between industrialized and developing countries will certainly exacerbate the North/South issue and we are likely to see extensive migrations and hostilities arising from efforts to contain them. Pressure on resources and energy will inevitably increase and with these, environmental degradation. This will call for new international mechanisms and new techniques for world resource and environmental management. It is not possible here to say much about the direct effects likely to result from the advanced technologies. The new biology will no doubt contribute greatly during the transition to the breeding of new, high yield and resistant food crops which may be of fundamental importance if the CO₂-induced climatic change becomes a reality, while its medical applications may be considerable. Likewise we can expect the aris-

ing of a series of bioresource technologies for use in the chemical industry and in rural, self-reliant development. Such advances are of mainly technical significance. It is much more difficult to foresee the impacts on society which will result from the widespread applications of microelectronics. Nevertheless it is becoming clear that at a number of critical points of social development we shall be faced with a series of options the choice between which may determine the direction of society for decades to come. We shall only mention two of these situations.

New Skills—Fewer Workers

The first of these relates to the employment consequences of the expected rapid advances in the automation of industry. This will undoubtedly call for new approaches to work organization and will demand many new skills but fewer workers. This type of wealth producing jobless growth is already beginning to appear in the United States and will spread. It is argued that in this environment of high productivity industry, new industries, new products and new markets will arise to take up the redundancies caused by automation or that they will be absorbed in the service sectors. This seems unlikely because the service sectors are also exposed to automation and sufficiently large new markets can only be expected if Third World economic development becomes very rapid—which is equally unlikely. Thus we could be faced with endemic high unemployment unless fundamental changes are made in the hours and years of what is conventionally considered as productive work. This would necessitate replacement of the concept of employment, unemployment and underemployment by that of occupation in which the proportion of the time of the individual spent in paid, productive activity in today's sense would be relatively small and would be complemented by secondary occupation, of an artistic educational, craft, sports or other nature. This would, necessitate deep changes in policies for the distribution of wealth, the structures and content of education and in life styles.

Communications Technologies

The second critical point where options lie in contrary directions concerns

the possibilities which the new technologies possess for influencing the political system. The evolving communication technologies permit a very high degree of decentralization, in industry and education, for example, but also of the political process. It will become possible for legislators to consult their constituents frequently and in detail and to keep them fully informed of the issues being considered. This could also lead to the establishment of a multi-level process of consultation and decision-making which would bring the decisions much nearer to those who would enjoy or suffer the consequences, thus making possible a real democracy. On the other hand, the same technologies could greatly help to consolidate the power and control of centralized governments. The means will shortly exist for the electronic control of the activities and eventually, perhaps the thoughts of everyone by "Big-Brother" dictators and societies. We may reach a point before the end of the century where, in both the main ideological systems, policy choice will be made towards a fuller democracy or drift to a rigid totalitarianism.

Some immediate needs

At this point of inflexion in the evolution of society the stakes are high; dangers are great, but possibilities are enormous. To achieve the transition smoothly and harmoniously necessitates long term imaginative thinking on the part of all sections of the world community and not least of all by governments. It will require radical changes of attitudes and structure. Above all it will demand a common will, based on enlightened self-interest of all parties, difficult to achieve within the present confrontational system with all the pettiness it engenders. The fundamental question is whether governments, with the support of an informed public, will be capable of using the new opportunities offered by the advanced technologies, deliberately and consciously to shape a better society, rather than passively to attempt mere adjustments, post facto, to its consequences as a matter of current expediency.

There is thus an immediate need to intensify attempts to analyse the various trends and to gain some sense of their social consequences and also to

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WAAS MEETINGS

Business

A business meeting of the World Academy took place on Friday evening, November 8th and Sunday, November 10th in Washington, D.C. President MacDonald presided and Drs. Ng, Elkes, Proctor, Mrs. McHale, Mr. Gloeckner, Arsanjani, Domanski, Korff, Mudd, Nilsson, Bjorksten, and Reisman attended. A budget was adopted, new members, listed in this issue, were elected, the issue of awards was reviewed and longer-term plans for conferences and fund raising were discussed. Current projects of the Academy were reviewed.

Planning

On March 22, 1986, a Planning Group of the Executive Committee met at the Yale Club in New York City to review plans for a number of conferences and international study programs which the Academy might undertake. The meeting was presided over by President MacDonald. Dr. Ng, the President of the American Division, Dr. Proctor and Professor Reisman attended. The Committee decided to refer their suggestions to the Executive Committee meeting in Stockholm June 11th and 12th.

Executive Committee round table discussions.

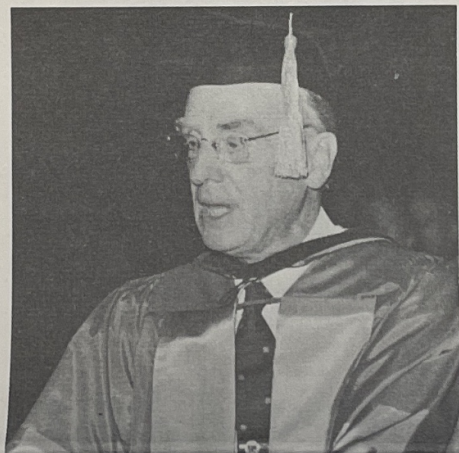
Preceding a round table-discussion on *"Social change, stress and Health"* two joint meetings of the Executive Committees of the Academy and of its European Division took place, one at the Royal Academy of Engineering Sciences and the other at the Royal Academy of Science. The round table-discussion took place on June 12th at the latter and was chaired by a new fellow of the Academy, professor Lennart Levi, head of the WHO Psychosocial Center at Karolinska Institutet in Stockholm. After an introductory paper by professor Levi, Mr. G. Dahlgren from the Ministry of Health and Social Security reviewed the results of the intersectorial (=interagency) meeting on health, which had just taken place at the World Health Organization in Geneva. Dr. J. Proctor then summarized the WAAS-meeting on "Management of Pain and Stress (Washington, Nov., 1985). After

this presentation professor R. Domanski gave a status report on the WAAS-project: "Modelling of the spatial organization of socio-economic systems". The latter takes a modelling approach to settlement analysis and emphasizes the centralization/decentralization issues that are certainly also relevant to stress and health.

The administrative meetings.

The Executive committee meetings were held on June 11th and in the morning of June 12th. They were attended by R. Domanski, A. Forti, F. Gloeckner, H. Menano, E. Mudd, S. Nilsson, J. Proctor (for L. Ng), M. Reisman, R. De Vincente-Jordana, and on the 12th by Drs. A. E. Tandberg and A. Pannenburg.

Since President Macdonald had asked to be excused due to the pressure of his work as a judge at the European Court of Human Rights in Strasbourg, professor Hedén chaired the meetings.



Carl-Göran Hedén
President of the World Academy of Art and Science

One of the main points for discussion was raised by a letter from Professor Macdonald who wished to be relieved as President due to the unexpected growth in the number of cases before the Human Rights Court. The committees accepted professor Macdonald's resignation with deep regrets. After hearing the report of a nomination committee chaired by F. Gloeckner with two representatives from the American (Mudd and Reisman) and two from the European Division (Domanski, Menano) the meeting unanimously elected Carl-Göran Hedén to President as soon as he and Ronald Mac-

donald had decided between themselves on the appropriate method and timing of the transition. The committee also recommended that a category of honorary vice-president for terms of three years be created and that the first incumbent be the outgoing President Ronald St. J. Macdonald. This recommendation was passed unanimously. Professor Hedén gratefully accepted the appointment on two conditions: a. that his mandate would be only three years, and b. that a President Elect, who could take over after this period, would be elected at the next Assembly. This was expected to take place in Lisbon in May 1987 when the composition of the whole Executive Committee would be reviewed, the statutes modified and the by-laws established.

Traveling Exhibition

A second important item concerned the follow-up to the recommendation from the Paris meeting (February 1985) that the feasibility of a travelling exhibition on "Art and Science" should be explored as a focal point for regional seminars. Professor H. Nordenström from Chalmers Institute of Technology demonstrated his exhibition "Clouds and Geometry" to the meeting which asked Dr. A. Forti to take steps in order to coordinate this important contribution with the activities of the Paris group. It was felt that both this project and the "Pain" project of the American Division would be suitable components for a "portfolio of task-force projects". This would be put before the Fellows in the autumn 1986 Newsletter which would be prepared by the Stockholm office which would use the reaction of the membership in the planning for the Lisbon Assembly. Other items might relate to peace as a social science concern, the rise of antirationality etc. A prerequisite for accepting task-force activities would be that a prestigious "initiator" would assume the main responsibility for the project which should include seeking outside funding.

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A Booklet on Pain and Stress

This booklet containing the seven presentations made at the November 9, 1985 conference in Washington, D.C., is available. Fellows desiring a copy should write to John Proctor, 308 East Street, N.E. Vienna, VA 22180, USA.



FUTURE WINNERS AND LOSERS AMONG NATIONS: A MORE TROUBLED VIEW

Yehezkel Dror

A comprehensive study of policymaking in the face of adversity (see Yehezkel Dror, *Policymaking Under Adversity* [New Brunswick, NJ: Transaction Books, 1985]) has led me to some quite different conclusions from Dr. Bohdan Hawrylyshyn, in his important item "The Winners and Losers Among Nations" (*World Academy of Art and Science News*, July 1985).

Governance must be adjusted to its environments and to its tasks, with quite different state features performing better or worse under changing conditions. Thus, when spontaneous social processes adjust well to slowly changing technologies and cultures — then rather inactive and non-innovative governance is preferable. The situation faced today by all nations is quite different: Ideological cleavages divide the world, with real democracies being a minority among states and a small minority in terms of populations; rapidly changing technologies require difficult social adjustments; widespread violence, combined with easily accessible mass-lethal weapons, results in escalating terrorism and may easily produce "crazy states" (see Yehezkel Dror, *Crazy States* [Milwood, NY: Kraus Reprints, 1980]), leading perhaps towards a new age of neo-barbarism or a dictated global *Pax Americana-Sovietica*; existential needs of human being subjected to much turbulence, if not traumatization, increase the search for "leaders", may produce new aggressive mass-ideologies and can easily result in a "planetary age of the crowd" (see Serge Moscovici, *The Age of the Crowd: A Historic Treatise on Mass Psychology* [Cambridge, UK: Cambridge University Press, 1985]); and so on.

It is far from obvious that contemporary democracies have a clearcut advantage in handling such and other adversities and that the march of history assures the global victory of humane and democratic regimes in the foreseeable future. Therefore, an urgently needed task is to redesign democracies so as to increase their capacity to handle successfully present and emerging challenges, while preserving their basic values. The trouble is that

many of the needed redesigns may be less attractive than some of the proposals made by Dr. Hawrylyshyn and some may be even anathematic to much of contemporary thinking. Still, unless democratic capacities to handle changing conditions are significantly augmented, democracy may well perish. (One does not have to agree with all its ideas to recognize the pertinence of Jean-Francois Revel, *How Democracies Perish* [New York: Doubleday, 1983]).



Prof. Yehezkel Dror, Wolfson Professor, Hebrew University, Jerusalem, Israel.

Upgrading of democratic capacities to handle present and foreseeable environments, while preserving their basic values, requires among others improvement of three main dimensions of governance:

1. *Societal and governmental rationality and creativity must be augmented.*

The inherent difficulties of the problematique facing nations, and the global community as a whole, require much augmentation of societal and governmental rationality and creativity. To progress in this demanding direction, needed are: new modes of thinking on policy issues, such as viewing them as "fuzzy gambles", because of irreducible uncertainties; overcoming various "subversions of rationality" (see Jon Elster, *Sour Grapes: Studies in the Subversion of Rationality* [Cam-

bridge, UK: Cambridge University Press, 1983]); encouraging public sector entrepreneurship; increasing governmental learning abilities; etc.

Consequently needed institutional innovations include, for instance: Changes in the preparation of policy elites, up to learning opportunities (and, perhaps, study obligations) for elected politicians; development of new types of policy professionals, in line with the proposals of Harold Lasswell concerning policy sciences; strengthened roles for "Think Tank" type organizations; and serious engagement by the mass media in massive endeavours to upgrade citizen enlightenment (see the crucial issues posed in Patrick Brandtlinger, *Bread and Circus: Theories of Mass Culture as Social Decay* [Ithaca, NY: Cornell University Press, 1983]).

2. *Capacities to engage in guided creative-destruction are needed.*

The term "creative-destruction", as first coined by Joseph A. Schumpeter, puts well the necessity to increase societal elasticities so as to permit accelerated adjustment and pre-adjustment to shifting conditions. Without getting rid of outdated institutions, structures, habits and concepts, actual adjustments will lag more and more behind rapidly changing predicaments. Therefore, "destruction" is an essential precondition of "creation". How to accomplish the necessary destruction while maintaining social cohesion and containing value costs — this is a major issue facing all types of governance and democracies in particular.

Related is the necessity to make clearcut critical choices when situations require a decision between alternative options, with a non-decision and a diluted compromise constituting often the worst alternative. Also, quite a number of countries are in some important respects on declining curves, where radical trend-mutating decisions, however risky, are clearly preferable to continuing in the same directions with only incremental changes (a striking historic illustration is provided by Robert J. Young, *In Command of France: French Foreign Policy and Military Planning, 1933-1940* [Cambridge, MA: Harvard University Press, 1978]). The prevalence of such situations further rein-



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forces the need for governments to be able to make and implement clearcut public choices.

Guided constructive-destruction and critical as well as trend-shifting decision needs require not only augmented rationality, including controlled utilization of markets as sometimes effective adjustment mechanisms, but also depend on *democratic power concentrations* strong enough to overcome strong and entrenched social rigidities (see Mancur Olson, *The Rise and Decline of Nations: Economic Growth, Stagflation and Social Rigidities* [New Haven, CN: Yale University Press, 1982]). To provide such necessary power concentrations, quite some governance redesigns are necessary.

At the very least some basics of political democracy must be reinstated, such as an effective monopoly by governments over the instruments of force, combined with a reasserted right of democratic majorities to implement legal decisions also against the wishes of stubborn political minorities. More unpleasant and risky, the importance of Rulers may well be on the increase, also in democracies. It seems that heads of governments fulfill functions that are becoming more essential, serving as power builders and brokers, as critical decision makers, as influencing public opinion, as counterbalancing sectoral views of departments and more. Hence, the need to reconsider the election, authority, operations and staff supports of heads of governments.

3. New realistic visions are needed.

Without commitment to realistic visions, both by political elites and the public at large, it may be impossible to provide cohesion to public action and to meet psychological needs of population in a period of rapid transformations. Purely materialistic goals are increasingly inadequate and classical ideas of social democracy have been exhausted by the welfare state. Therefore, unless new realistic visions which fit basic democratic and human values are put forth and become a major compass for public action — inherent cultural contradictions of democracies (see Daniel Bell, *The Cultural Contradictions of Capitalism* [2nd ed., London: Heinemann, 1979]) may serve as a breeding ground for a destructive mixture of hedonism and explosive ideologies,

or at least produce apathy and withdrawal from the public sphere (see Albert O. Hirschman, *Shifting Involvement: Private Interest and Public Action* [Oxford: M. Robertson, 1981]), which can easily sap the vitality of democracies.

What is perhaps most urgently needed are *inventions in democratic governance which will augment its capacities to meet values and needs under emerging conditions*. This may well be a task in which the World Academy of Art and Science, together with other interested bodies such as the Club of Rome, can and should fulfill a pioneering role.

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Suggested Nominating Procedure

The Executive Committee has suggested the following nominating procedure:

A proposal for fellowship can be made by any two Fellows of the Academy. It should be submitted to the President in the form of a brief paper (about 300 words), presenting the merits of the nominee in the light of the objectives of the Academy. The proposal should be signed by at least two Fellows and be accompanied by a Curriculum Vitae.

The President will transmit these documents to the Fellowship Committee who will present its recommendations at the next meeting of the Executive Committee. A Fellow is elected by a two-thirds majority vote.

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Awards

The future of the WAAS Awards was discussed, in view of the fact that several participants also intended to take part in the symposium for evaluation *the International Inventor Awards* (June 13th) and in the following banquet, when the King of Sweden, assisted by the Queen, would present four large awards to some inventors who had achieved a significant impact in developing countries. This experiment concerned inventions made in four target areas selected in 1976 (water, industry, forestry and energy) with the aim of exploring the use of prospective, rather than retrospective, awards as a means to focus more on the target than on the individual. The experiment had been suggested by professor Hedén as a contribution to the 100 year anniversary of the oldest Inventor's Association in the world, which happens to be the

Swedish, but WAAS had followed the activities with interest for many years because its network of "resource people" had played a supporting role. Since the success of the experiment was now obvious (261 inventions from 50 countries proposed by 44 nominating organizations: the UN-system, national and regional bodies, patent offices, inventor's associations etc.) it was of course important for WAAS to explore what could be learned. It was agreed that awards for "social innovations" might be useful (cf. C.-G. Hedén and A. King: "Social Innovations for Development", Pergamon Press) but Dr. Panneborg pointed to philosophers, journalists and politicians in order to underline the difficulties in choosing awardees. However, this might well be a challenge for which the Academy is uniquely suited.

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The Rufus Jones Award.

At a reception on July 1st 1986 at the Palais Nations in Geneva, the prominent international lawyer, professor Paul Reuter, received the Rufus Jones Award for Contributions to World Peace and International Understanding. Professor Hedén acted for President Macdonald who sent a cable on behalf of all fellows conveying "admiration, gratitude and congratulations for his significant contributions over many years to the development and strengthening of international law and organization". The telegram continued: "The fellows admire him as a scholar, practitioner, humanist and dedicated advocate of a better, more effective and fairer world system. His commitment and vision provide us with precious inspiration for which we will long be grateful". After hearing the motivation of the selection committee read by professor M. Reisman, professor Reuter received the award in front of a gathering of about a hundred people dominated by the International Law Commission of the UN and a number of prominent Geneva personalities. Several fellows of the World Academy of Art and Science participated, including one of its founding members, professor Linus Pauling. Present were also fellows Alexander Kind, president of the Club of Rome, Jacques Freymond, L. Mata and J. Rada.

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PREVENTION OF MENTAL DEFICIENCY

Basil S. Hetzel, M.D.
Executive Director, (ICCIDD)

In March 1986 a new International Agency, the International Council for Control of Iodine Deficiency Disorders (ICCIDD) was inaugurated at a meeting in Kathmandu, Nepal.

Iodine Deficiency Disorders (IDD) refer to the spectrum of effects of the dietary deficiency of iodine on growth and development. These include a swelling of the Thyroid gland in the neck (Goitre) as the most familiar but retardation of brain development as the most important.

It is now clear that Iodine Deficiency is the major cause of mental deficiency which can be totally prevented.

Populations in Asia (300 Million in China, 200 million in India) live in Iodine deficient soil and are therefore at risk. These areas are often mountainous as in the case of the Himalayas and the Andes or subject to flooding as in the case of the Ganges Valley.

The soil has been leached of Iodine by glaciation, snow water, or floods. The persistence of subsistence agriculture means that these communities are dependent on their local food supply so that iodine has to be added to the diet.

This can be carried out on a mass scale with iodized salt or iodized soil. Some success has been achieved, (China, Indonesia) but many hundreds of millions of people are still iodine deficient.

The 39th World Health Assembly in Geneva in 1986 adopted a resolution sponsored by 22 countries calling for the Prevention and Control of Iodine Deficiency Disorders within the next decade. A great opportunity exists for the successful elimination of an ancient scourge of mankind.

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Dr. Amador Neghme, Honored

Last September 1985, the National Academy of Medicine of Perú, awarded to Dr. Amador Neghme, Fellow of WAAS and President of the Chilean Academy of Medicine, the Diploma of HONORARY MEMBER, which was delivered in a ceremony held in Lima, Perú, on October 29, 1985.

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secure a deep understanding of the situation in the consciousness of decision-makers and of the public in general.

Particular consideration will have to be given to the problems of governance and of the renewal of our institutions. The institutions of society, created a century or more ago to meet the needs of earlier, simpler times are no longer capable of mastering the complexities and uncertainties of today's world, let alone those of the new society. Amongst the many elements where institutional and social innovation will be required, I mention only three; (1) There is a great need for mechanisms to ensure that the significance of long-term trends is recognized before they reach crisis magnitude. With the short electoral cycles of most countries administrations and oppositions are forced to concentrate on issues of immediate concern to the voters to the neglect of more fundamental but more distant problems. The result is succession of crises. (2) In view of the interactions of the problematique, means are required for better understanding of how individual policy decisions are likely to have impacts on other areas. In most cases national policies are the summation and not the integration of the separate sectoral policies. There is a lack of coherence. (3) Growing interdependence between the nations, involving a de facto loss of sovereignty to each (which is seldom admitted) and the emergence of global problems of economic, environmental and other natures, which cannot be solved by individual countries in isolation, demand fundamental reform of the international mechanisms.

In conclusion I return to the beginning of this short paper. The vast accumulation of human knowledge has been applied predominately to the extension of the physical capacities of man and too little as yet to the understanding of his own nature, his motivations and his behaviour. There is little evidence that human wisdom has improved over the last five millenia. Yet with this limited capacity, living in a world of six or even ten billion people, we have to master the forces we have generated, which are of many orders of magnitude greater than those, for example, of Hellenic times when phi-

losophers were striving to understand human nature and to devise systems of government much as they do today. Certainly much progress has been made in social organization and in the sharing of efforts as a matter of common self-interest, but primitive instincts of egoism, greed, power and dominance still persist in individuals and are projected in their societies. In cultivation of the humanism which is necessary for the survival of a livable world, priority must be given to the creation of knowledge of our nature and that of our societies. The conceptual nature of science itself is changing; new paradigms are appearing in many fields of science, leading away from mechanistic determinacy, there is increasing diffusion between the disciplines and the new biology holds promise for significant exploration of brain and behaviour. Perhaps it is here that we should put the main emphasis during the transition.

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Deceased WAAS Fellows

Professor Reuben Hill, Minnesota Family Study Center, 1014B Social Science Building, University of Minnesota, MN 55455 USA — Professor H. E. Alva Myrdal, Vasterlanggatan 31, Stockholm S 111 29, SWEDEN — Professor Racheal C. Wasserman, 1435 Drummond Street, Montreal, P.Q., Canada.

New WAAS Fellows

Prof. Octavio Carpena Artes, Madrid, Spain — Prof. Agustin Albarracin-Teulón, Santiago de Chile, South America — Prof. Upendra Baxi, New Delhi, India — Stafford Beer, Dyfed, United Kingdom — Prof. John Buchanan Black, Ontario, Canada — Dr. Tore Browaldh, Stockholm, Sweden — Prof. Leland S. Burns, Santa Monica, CA, USA — Mr. John Cohen, Manchester, England — Prof. Dr. Karl-Erik Eriksson, Stockholm, Sweden — Prof. Henryk Kierzkowski, Geneva, Switzerland — Lennart Levi, M.D., Sollentuna, Sweden — Hans Nordenstrom, Gothenburg, Sweden — A.E. Pannenberg, Eindhoven, Holland — Juan F. Rada, Ph.D., Geneva, Switzerland — Prof. Paul Reuter, Paris, France — Dr. Paul J. Rosch, Yonkers, NY, USA — Sergio C. Trindade, Ph.D., Rio de Janeiro, Brazil — Prof. Anne V.T. Whyte, Toronto, Canada.