

WORLD ACADEMY OF ART AND SCIENCE

WAAS-Newsletter

NOVEMBER 1966

TRANSNATIONAL FORUM:

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WAAS-NEWS:

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New Year's Message

On the threshold of the year 1967 I extend to you, in my own name as well as in the name of the Presidium of the World Academy of Art and Science and the Council of the World University our warmest greetings and wishes.

This is the seventh year since the World Academy was declared founded in the Manifesto of the 24th of December, 1960.*

Great strides forward could be achieved during that short period and still greater tasks are before us. The World Academy and the World University are on their way to become an internationally well acknowledged factor in the shaping of a peaceful future for mankind, by means outside of the traditional political and emotional paths.

We know that we have a long way to go, but we are confident that it leads in the right direction and that, in the long run, it is probably the only way.

We greet all our Fellows, co-workers and friends in all corners of the globe who know of our work and helped to keep it going.

We also greet those Millions and Billions who as yet are unaware of the fact that our numerically very small but intellectually and spiritually very strong group is steadily working for the opening of the gate to a new and better world, being gradually built up by science and technology, and who are also unaware of the fact that we are already standing on its threshold.

We wish each of you a successful and happy year, but we wish all of us that the year 1967 may accelerate our progress.

HUGO BOYKO
President

* See pages 267-374 in "Science and the Future of Mankind," Vol. I of the WAAS Series, The Hague, 1961.

Transnational Forum

EDITORIAL REMARKS :

a) Our Fellow Professor W. TAYLOR THOM JR., Trenton, New Jersey, proposed to change the title of this part of the WAAS NEWSLETTER from "Transnational" to "Transglobal Forum".

His suggestion is presented here for discussion. All Fellows are invited to express their opinion on this matter as well as on all other items of the content of our NEWSLETTER.

b) Contributors to the "Transnational Forum" will receive 30 reprints of their articles free of cost. Additional copies may be ordered at cost price.

CARL-GÖRAN HEDEN*:

Constructive or Destructive Science, a Question of Choice

My engineering colleagues might assume that I am a decent biologist, and perhaps the biologists think that I am a fair engineer, but few people have reason to believe that I have much ability as a doctor. However, my basic training was actually medical, so I have decided to approach my topic as a clinical study.

Perhaps the case report might start like this: the patient is an elderly Society, confused by the tempo of our time and living in a state of fear which

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tends to generate paranoic daydreams. She fails to realize the seriousness of her condition and tends to prefer the advice of quacks to the bitter medicine offered by doctors. However, she has now reached a state where only a series of major operations, performed with the double-edged knife of science seem to offer a hope for complete recovery.

Science has been characterized as neutral so many times that most people regard this as an established fact. They tend to forget that science is neutral only in the same sense as a high-powered gun. Both will certainly score occasional hits even if fired randomly in all directions, but in some cases (the social sciences) aiming is actually a prerequisite for use.

In former days scientists took a very minor part in choosing social aims, but during the last couple of decades there has been an interesting change in attitude : scientists now frequently emphasize their social responsibility. Their part in political action is however normally indirect, as when they give advice to engineers and administrators, who transform their results into useful products. But even the course of direct political action is now becoming respectable, so we can assume that the scientists will take a very active part in the surgery needed.

Before a doctor can do anything he must however have a basic training in physiology : a sound knowledge of the life-processes.

The life of a society presupposes a cooperation of individuals just like the function of a tissue requires a coordination of cells. Both systems are based on a delicate balance between different levels of organization. In society we have the family unit as the fundamental basis for genetic survival, the economic institution as a means to provide food and shelter, and finally the political institution as a mechanism for the defence of territories. In a living organism the cells must fit into similar patterns in order to survive.

Effective control systems are required both in society and in biological systems but control requires a clear definition of goals, and this is where Man faces his major problem.

Suppose for instance that the psychologists and social scientists find that the family unit is essential for approaching a goal of self-expression and self-fulfilment and that the progress towards this goal is severely threatened not only by the elimination of traditional functions like caring for the sick and the old, but also by fertility control by pills, by ready-made foods and by the highly artificial environment in the big cities. Such a finding would probably indicate more fundamental corrective measures than we could handle.

Technology kills profession after profession. In a modern society those who delivered water, ice and wood are now gone and the lift operator is on the way out. At the moment the filing clerk is being replaced by computers, and they will eventually take over all the routine information-processing in science, medicine, law, transport and commerce. This will give us other problems, problems where education would seem to offer a solution, but don't we normally choose to forget that even the best education has a limit beyond which

only genetic improvement of our stock will lead—and are we ripe for that step? If we choose to disregard this fact it is, however, conceivable that we may force upon ourselves a later choice in favour of a science which must not only supply tranquilizers, but also hallucinogens that could provide artificial motivation, or perhaps electric stimulation of specific areas of the brain might be considered for the same purpose since we know that such stimulation can produce an overwhelming sense of happiness and well-being.

I am sure that we all hope that knowledge of this kind will never have to be systematically applied to our society, and I guess that the individual is comparatively safe as long as the technical development does not assume the character of an autonomous growth. If it does become malignant, however, we must operate.

After learning the elementary "physiology" we must now find a proper method for diagnosing, and in this case we should use ecology, which is that branch of biology which deals with the interactions between organisms and their environment.

In the case of humans the environment is characterized by its material and enjoyment resources. The first diagrams (Fig. 1a, b, c) shows the material situation as seen through the eyes of the biologist. It illustrates how energy and matter are projected via photosynthesis and food chains into the delicate balance which is now threatened by a single species that happened to "develop conceptual thought and a symbolic language as a system for cumulative transmission of experience by tradition." Those faculties, and in particular the capability to tap energy sources have proved to be such a selective advantage to this species that it could easily become a pathogen, "a disease of Nature."

It is most unfortunate that even the most modern men are reluctant to accept their own species as just another form of animal, because their arrogance reduces their wisdom. For this reason I would personally like to see human ecology being taught as an important area in an expanded biology curriculum. This might change our approach to many problems. Take juvenile delinquency for example. Here I guess that a biological background might pave the way for a causal therapy as an alternative to the common symptomatic treatment.

The loss, or even temporary withdrawal of a mother, has a severely upsetting effect on a young child, who seems to suffer a reduction in the capacity to give and receive love in later life. This has been found to be a feature in psychopaths and is illuminated by experiments performed by H. F. HARLOW and his colleagues on monkeys. When such animals are reared during their first few months without other monkeys, they behave abnormally upon release in the colony, they attack and injure others. A few females of this type could eventually be mated and were found to be very brutal mothers, rebuffing their young ones when they tried to cling. It is particularly interesting to note that such maltreated young were sexually over-active and abnormally aggressive when they grew up.

Let us now suppose that we have found the method for diagnosis but we also need an instrument for probing, and this I call bio-engineering. I have tried to illustrate the relation of this subject to ecology in the next figure, Fig. 2, where you see the different segments of biology drawn as pieces of a cake. Any biologist can be located at an intersection of a horizontal layer with a vertical cut. At the top we have the pure scientist who is swimming in a crystal clear water of "know-why", which is so deep that he cannot reach the solid bottom of applications. There, on the other hand, we have the men of practice, who don't realize that "know-how" may be quite dangerous if it is not a part of a development pattern which takes the powers of basic research into account.

Bio-engineering is multidisciplinary, just as ecology, a fact which I have tried to illustrate by entering the two areas as hubs in the center. They meet out of sight, somewhere in the middle, where environmental science and control are located. This is a most appropriate position, because the area of contact is fundamentally important to Man. Here new scientific facts settle out in a code which tells the bioengineer which biological systems he may harvest, whether microorganisms, plants or animals, in order to satisfy Man's needs, and how to do it without jeopardizing his future.

In order to lead the development in the proper channels the bioengineer must always have a multidisciplinary approach because integration of different techniques often change the economic picture. The bioengineer must also be competent to watch out for undesirable effects. Take for instance an area like food technology, which serves innumerable agents, beside the food we order: preservatives, growth stimulants, pesticides and antibiotics, not to mention taste and smell substances which separate palatability from nutrient value and tempt us into overeating. Obviously such contributions from science may involve dangers if they are not properly checked.

Having a diagnostic instrument is not enough, we must also know where to point it, and this requires some knowledge of pathology. The next picture can serve as an illustration of where disease might appear (Fig. 3). We assume that science provides fuel to our economic growth, which generates social security and to our centralized technological development which yields military security and public utilities. The political leadership acts as a very important valve on the feedback lines because it controls the flow in the two circuits. I will not go into "psychiatry", that is to discuss faulty valves, which show an irrational preference for particular loops, but I can't help pointing out that the general failure of the bottom drain (to the "Have-nots") might be taken as an indication that something may be drastically wrong with the central nervous system. However, the everyday problem is weak or contradictory signals, shown particularly in the management of the natural resources. Their handling frequently leads to toxic effects on the human resources, where the state of environmental hygiene is the significant "clinical sign". This is parti-

cularly bad in the very big cities, which in fact show many of the symptoms we normally associate with cancer.

First let us consider the overexploitation of our natural resource capital caused by an increase in the number and in the product appetite of the consumers. I will leave the metals out of the picture, even if the easily available sources of some will be drained within a few generations. Let us instead consider the biological resources, which man has been estimated to use at a rate of 250 kg dryweight per person and year as food and another 250 kg as cellulose. Those figures are quite disturbing, because they are mean values which hide enormous variations. In Western countries we have a food surplus, but the semistarvation in large areas of the world is wellknown, and most educated people know that the developing countries must increase their food production by a factor of four in the next thirty-five years in order to avoid disaster. On the other hand few people seem to ponder Borgstrom's statement that the production of cellulose would have to be doubled or tripled merely to give every inhabitant of the world toilet paper, a newspaper and one book.

Of course biological productivity can be increased, but the price becomes successively higher. Not only will the landscape become more and more domesticated, but the variety of species will be reduced and this increases the vulnerability to pests and changes in the climate. I realized the speed of this process, when I recently heard a FOA-expert mention the number of potato-varieties which had been brought back by an expedition. This was only ten per cent of the number a similar expedition yielded ten years earlier.

However, let us leave the specific resource capital, because science and technology can often offer substitutes, and let us instead consider the basic resources like topsoil, water and air.

Unwise management of the soil is certainly nothing new, as illustrated by many areas, where soilerosion can be traced back to the middle ages and earlier. This is understandable, because the relation between cause and effect was probably not realized. The problem of our own time is not that we lack the knowledge about many long-range effects, but rather that we gear our measures to a traditional short-range planning, which is often sadly inadequate when it comes to the integration of different activities.

Water is a resource in high demand, and it presents a good case for government control because of its many uses. Consider for instance a private enterprise selling kilowatt hours. Obviously the owner can hardly charge for his dam's irrigation possibilities or for the improvement it might cause to navigation, fishing and recreation. It is for his government to evaluate such uses in relation to the needs of the region in question.

Also the return of the water from the different uses, as illustrated in the next figure (Fig. 5), requires integrated governmental planning, which is often lacking as illustrated by reforms being delayed until they become a matter of desperate necessity. In 1953 we for instance only had about a dozen high

efficiency sewage plants in Sweden. That year we also had a gigantic paratyphoid epidemic and a drastic and very costly improvement programme was started, so that 500 plants could be counted 10 years later. Already some 15 years ago the New York City Board of Water Supply characterized the Hudson River as an open running sewer. When it will now have to be relied on as a supply of drinking water the closing of the gap between the end of sewage treatment and the beginning of water supply will get another drastic illustration, as will also the costs of short-range planning.

Fortunately we can see the day when most detergents will be of a type which can be handled by the sewage plants, but we often choose to forget that those plants were not designed to hold back chemicals like bleachers, insecticides, petrochemicals- and metallurgical wastematerials etc. I wonder if anybody is prepared to make a prediction about the long-range ecological effects of such compounds. Of course most of the 400-500 new chemicals that are marketed each year (plastics and their additives, detergents, solvents, cosmetics, pharmaceuticals) have been shown to lack acute toxicity, but our ignorance about long-term toxicity and possible potentiating influences is considerable. I fail to see how a comprehensive testing could be done on anything but an international basis, but different countries of course have different problems. In the lower Mississippi, from which New Orleans draws its water, so high concentrations of particular pesticides have been found, that they have been implicated in massive destruction of fish, not only in that river but also in the Gulf of Mexico. In Sweden we have been particularly worried about widespread mercury poisoning of fish and birds. It could be tracked down to certain industrial uses and to seed disinfectants employed in agriculture.

In the big cities the pollution problems are aggravated and the human ecologist would like to approach them by a long-range planning aimed at reducing the concentration of industries and of people below the level where the ecological balance tends to be upset. The optimum for cultural and material needs as well as for productivity might lie well below 100.000 inhabitants if modern technology were fully utilized. This would for instance involve the use of advanced telecommunications to "project" the individual in order to reduce the load on the transport system. I am sure that our descendants will be amazed by our waste of time in travelling to meetings and conferences and at the ancient tradition to make a personal appearance in order to participate in the political machinery. Personally I feel that modern high speed information transfer is even more significant for proving that the big city is an absurdity than the many possibilities for energy and material transfer which modern technology now offers.

Planning the urban environment is of course a major challenge, and it does not seem to have been met, if we judge the situation on the basis of the state of air pollution. This must obviously reach preposterous levels before powerplants burning oil or coal are located with due regard to their pollution

capacity. Replacing taxis with superabundant horsepower by smaller vehicles and garbage incinerators by composting plants would also seem to be within the framework of intelligent legislation. Much honest soulsearching is also going on all over the world, as can be exemplified by a statement earlier this year by Mayor John V. Lindsay's Task Force on Air Pollution. This found that the average New Yorker has to contend with more than five times his own weight each year, in noxious materials. Actually this figure is not too astonishing, when you consider that 1000 cars moving about in a big city generate 3 tons of carbon monoxide per day, 200-400 kg of hydrocarbons and 50-150 kg of other products. Perhaps the lead in car exhaust, derived from additions to petrol, attracts more attention for the moment than the carcinogens from the same sources. Its concentration in the air seems to bear a relation to the size of cities, but you also find lead in the grass near the highways, tailing off towards the sides. What happens to this metal is largely unknown, but in Stockholm we have reason to believe that it causes a peculiar type of poisoning in birds exposed to the dust washed off our streets.

I have now spent a lot of time on "pathology" and could leave it to the Council of Europe to fill in the "therapy" because I have found that the document "Man in a European Society" spells out that the Council has set out to make the physical environment of Europeans "balanced, wholesome and enjoyable" and also to prevent the natural resources of the continent from being "wasted, misused or destroyed".

In this effort, earlier trial- and error methods of development will certainly have to be replaced by comprehensive planning and by systems engineering, which is the technique and administrative process which integrates concepts, resources and technologies into the development of total systems. A network model, analysed by a computer is an important feature of such an approach, which is now the rule for complex military projects like for instance the Polaris rocket, which required the coordination of 11.000 subcontractors.

The planning for building a rocket or an atombomb must obviously be meticulous, and the choice of the critical path for the development is rarely permitted to be clouded by political issues. Isn't it strange and somewhat sinister that the planning in other areas, like for instance foreign aid in many countries, is not rated important enough to require a similar planning effort, in spite of the fact that we face operational problems as soon as the political goal has been defined? As the situation now looks I must frequently ask myself which is regarded as the more important: that the aid is efficient or that it is popular. However, judged from the trends towards scientific data handling in governments, ranging from the efforts in manpower handling and education, like in the French *Commisariat du Plan*, to ambitious plans aimed at trying out changes in policy on information-flow models like the "Social Accounting Matrix" developed by STONE and his co-workers in Cambridge, it is safe to predict that areas like foreign aid will eventually follow. One day we may

even reach the stage when the power of nations is not judged in terms of their population size but rather in terms of their total information handling efficiency.

According to J. FORD of the American University, the USSR is now engaged in a major effort to establish a communications- and decision-making lattice ultimately calling for approximately 1000 computers linked with each other on three different levels. The Council of Europe ought to consider if this might not be an even more important factor in achieving environmental control than traditional political doctrines. The Council should also take note of one particular aspect of environmental control, which might be highly relevant to our continent. It is the simple fact that the normal producer is hardly more willing than the normal consumer to pay for the negative aspects of a commodity, in spite of the fact that this would often seem to be the logical solution. Once the basic human requirements with regard to adequate nutrition, clean air and clean water have been established it should be feasible to meet the standards by means of "ecological return tariffs" imposed on products and services, private as well as governmental. Trying to improve the human environment in this way would however tend to reduce the economic competitive power of any nation, and this would seem to make a strong case for inter-governmental agreements and planning.

Suppose for instance that the Council of Europe established a "European Institute for Applied Science and Comprehensive Planning" and let us further assume that this made an unbiased analysis of the ecological significance of the automobile, this monster of bad engineering as far as society is concerned. I am sure that we can all guess what the outcome might be and suggest that one considers the reaction of the automobile industry if for instance certain minimum safety features were required by 1970, exhaust purification by 1975 and constructional features in 1980, that would make it possible to eliminate copper and other undesirable alloying elements before cars were scrapped and melted.

Let us take the supersonic jet transport as another example of autonomous growth of a technology which does not seem to have been properly integrated socially. Here hundred of millions of dollars have been spent on a development which will force a new noise, the bangs, on countless people who feel that an increase in the speed of intercontinental transport is ridiculous as long as we cannot do away with the time-shift, solve the problems of local transportation, or provide adequate radiation protection in case of solar flares.

Of course we could make the planes so small that people won't complain about their sleep, or we could use them for transatlantic flights only. However it is most likely that the whole project would then become economically disastrous. Suppose now that a recognized "European Institute on Applied Science and Comprehensive Planning" would arrive at the same result and recommended prohibition as far as Europe is concerned of any airtransport

rising the noise level beyond a specific level for a fixed percentage of the population. What would be the reaction of the airplane industry? Perhaps it would be forced into developing even greater strength as an aerospace industry, which might be desirable, as long as there was an emphasis on satellites for communication, weather-forecasting and navigation rather than on prestige space probes. Or perhaps it would emphasize the "jumbo jets" which could offer so cheap transportation that it might lead to a vacation period spread stimulating productivity in many countries and to the establishment of a tourist industry in many developing countries. The "spin off" would be cultural crossfertilization and a feeling of responsibility for distant regions.

A European initiative to establish an institute of the type outlined would seem to be logical if there exist any ambitions about cultural leadership. It would be an instrument for simplifying the decisions with regard to the number of CERN's, ESRO's, EMBO's, EURATOM's, ENEA's, HALDEN's and DRAGON's that are needed, but it might also offer the first recognized platform for scientific ethics.

Personally I am a member of international panels officially charged with evaluating the potentially harmful effects of space experiments and the hazards of biological warfare, and there are actually a number of organizations created by scientists with an ethical aim: the Pugwash Groups, the World Academy of Art and Science, the Society for Social Responsibility in Science, the Council for a Liveable World and many others. Besides the aim they have a second common attribute: they are homeless and invisible, just as the Royal Society was initially.

The Council of Europe would certainly take a very important initiative if it established a home and provided optimal working conditions and coordination of those many bodies. This would give us a powerful means to prepare for the social impacts of science, for instance in areas like biology and medicine, where we now really need to brace ourselves.

We know the structure of the molecule which carries our genetic content and we even know how its 5000 millions elementary units are grouped to give the information code we share with bacteria and viruses. Even the capital letter and the full stop of the code have recently been identified, and this brings the day near when we can start to think about grafting on the molecular level. Our ageing and memory processes are also under an active biochemical study, the social consequences of which are very hard to predict. In addition the advances in medicine need ethical and social considerations. We can for instance now keep a patient with kidney failure alive and active by plugging him into a machine at regular intervals, but how does one choose the candidates for this expensive treatment? Some 3600 patients have been estimated to die yearly only in the US because of the lack of this facility. Within less than a decade we probably face a similar situation with regard to mechanical heart pumps, but we obviously give as little forethought to this problem as to the

ethical and legal problems involved in the supply of medical spare parts, like the organs required for transplantation surgery.

To end this paper I will now say a few words about the prognosis for our patient. As I see it this depends on three factors : the handling of the gene pool, the management of education and the establishment of a consistent research policy.

Most people of course realize that our type of society must interfere with biological evolution, because the latter presupposes much waste, suffering and extinction. To balance the negative effects of this interference, for instance the accumulation of genes for a number of diseases, eugenic practices may be needed. They are not yet acceptable, but I have no doubts that, if we improved the biological education of the public, genetic improvement would be possible and lead to outstanding results.

With regard to the second factor : education, possibly both the goals and the methods have to be modified if our future is going to be reasonably bright. The biology teaching should be improved as I indicated earlier, but also the content of the history and geography teaching will have to be re-oriented in order to give a perspective of our global problems.

Education is of course much more than the imparting of information, but as far as that particular function is concerned I guess that we must soon have to admit that teaching machines are more successful than teachers.

Many interesting devices are now being tested, but I will only mention the IBM-computer, which is now tried out on first-graders in Palo Alto. Here each station provides four different modes of pupil-computer communication: First there is a TV-tube on which the computer writes information and questions and on which the pupil marks the right answers with the aid of a light pen. Secondly there is a teletypewriter, thirdly a headset for recorded commands, and finally there is a screen on which any of 1000 slides can be flashed. The performance of the pupil is of course recorded and available for analysis by the teacher. The machine has quite a personal touch, and when the pupil answers correctly it proceeds with the lesson. If the answer is incorrect a recorded gentle voice informs him of his error and suggests another approach. The computer thus patiently guides the pupil to the correct answers, but if he tries a smart circumvention he will be curtly admonished. The cost for this particular machine is between 250.000 and 450.000 dollars, but possibilities to economize exist, and in England a computer has been set up for communication with the pupil by means of a keyboard, the questions and answers appearing on the same sheet of paper. In this system there is nothing which prevents a large number of students from being linked simultaneously to a single computer, each working through a different lesson at his own individual speed.

With regard to the third factor determining our prognosis, the research policy, I would only like to stress that our most difficult problem is not to

stimulate science and technology but rather to decide where and when the brakes must be applied. In many countries we still have a long way to go before a level of adequate support is reached, but with present growth rates we should start to feel for the brake handle if our society's racing car will not eventually come off the road. The current methods of braking: preparing an administrative squirrel-cage for the scientist or letting him do jobs which a trained secretary does better represent a dangerous misallocation of intellectual resources. Personally I would like to advocate methods designed to take the scientists motivation into account. A braking effect can for instance be achieved by offering attractive alternative roles, like providing the unbiased analysis in the comprehensive planning, which society needs so badly.

However a positive control, that is stimulation of specific areas, will certainly also be required, and in such cases I would suggest the use of Awards besides the normal methods. The Nobel Prizes for instance are certainly important for giving prestige to scientific achievements, but they are retrospective. What we need now is a similar type of prize, involving even larger sums of money and announced for specific targets to be reached, five or even ten years later. Such prizes, which are actually being discussed by the World Academy of Art and Science, would not only reach a worthy laureate, but they would also steer the efforts of large numbers of scientists in desired directions.

Theodore Roosevelt once coined the phrase : 9/10 of all wisdom is to be wise in time. Join this to the fact that the essence of science is forecasting, and you will have a good reason why there must be a good contact between scientists, governmental officials and parliamentarians.

The fear of so-called technocrats, which this necessity seems to generate is both very old and very unfortunate. The Queen Christina, who is commemorated in Sweden this year, said many centuries ago :

"Il faut savoir de se servir de gens de lettre comme des bibliothèques vivantes, les estimer, user envers eux de libéralités, les employer, les consulter sur ce qu'il savent; mais il faut être persuadé que hors de là ce sont pour l'ordinaire de fort pauvres gens dans la pratique du monde et des affaires".

From "Les Sentiments"

This can very simple be translated into the modern English expression : "scientists must always be on tap but never on top". There is much wisdom in this saying, but the government officials who handle the tap should never forget that it can be set for either warm or cold water. Perhaps the warm water, that is advice tempered by political considerations, is more pleasant, but the cold water, the unpleasant hard facts, ought to be more refreshing at the start of a long and difficult day. If the parliamentarians make it a habit to take such showers they will find that the world is full of scientists who

feel as strongly about the future of our society as they do themselves, and who will do their very best to assist in a task which gives the impression of becoming impossible very rapidly indeed.

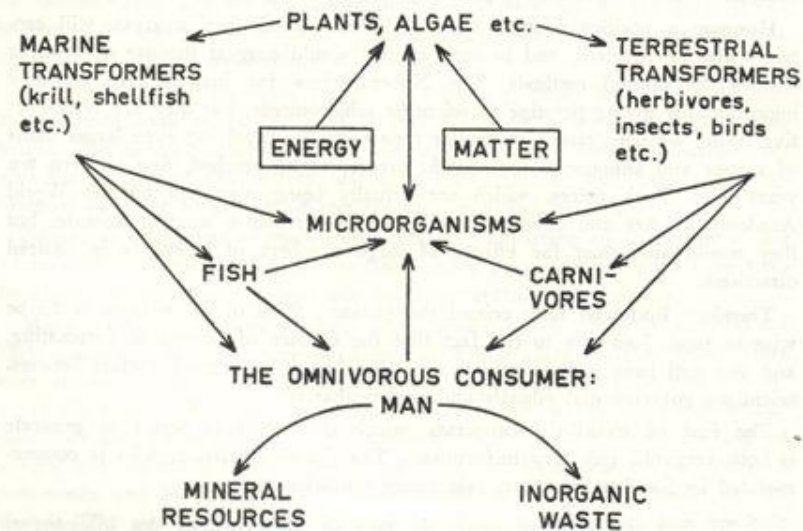


FIG. 1A

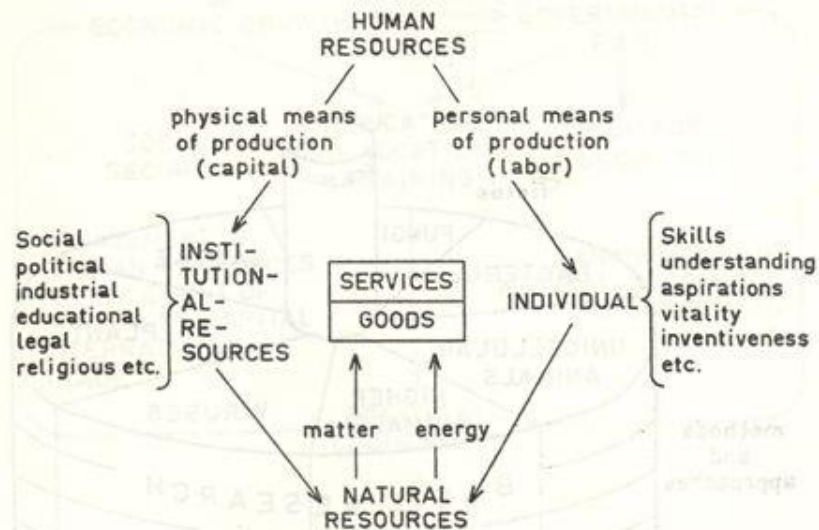


FIG. 1b

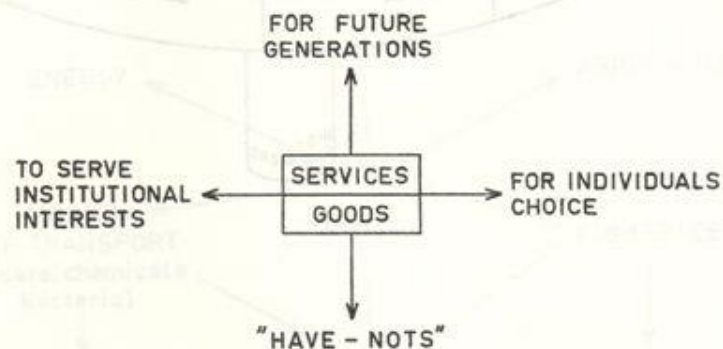


FIG. 1c

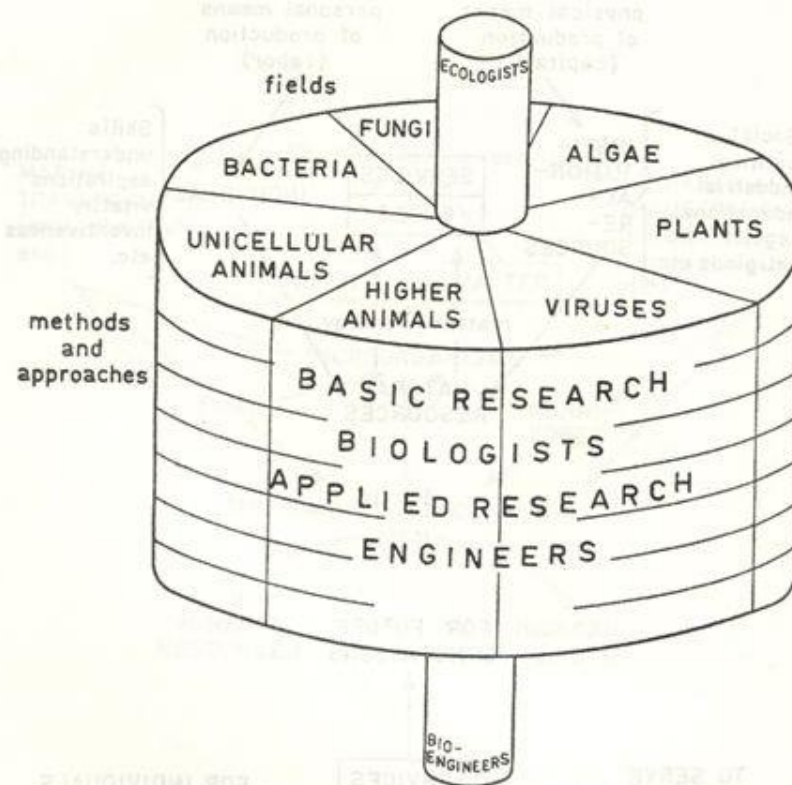


FIG. 2

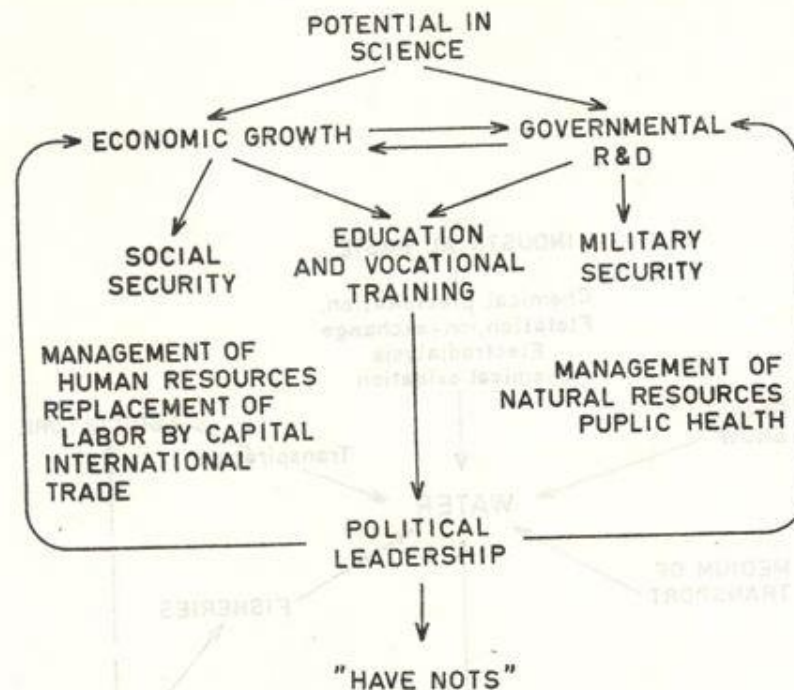


FIG. 3

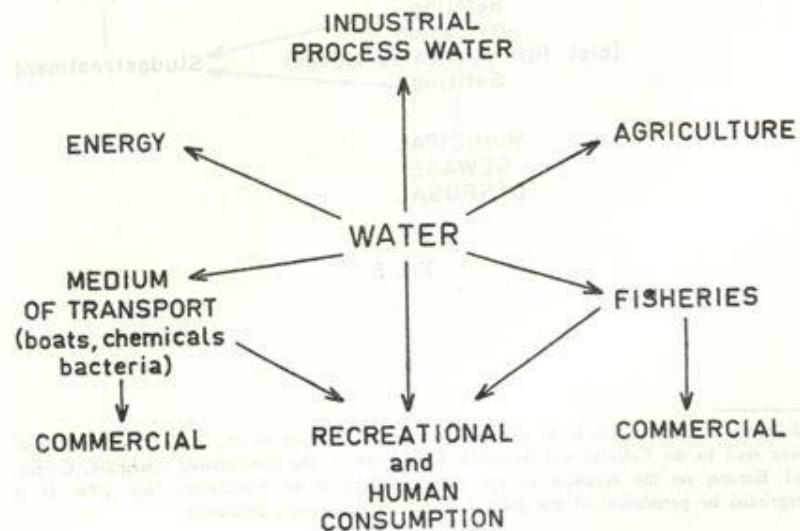


FIG. 4

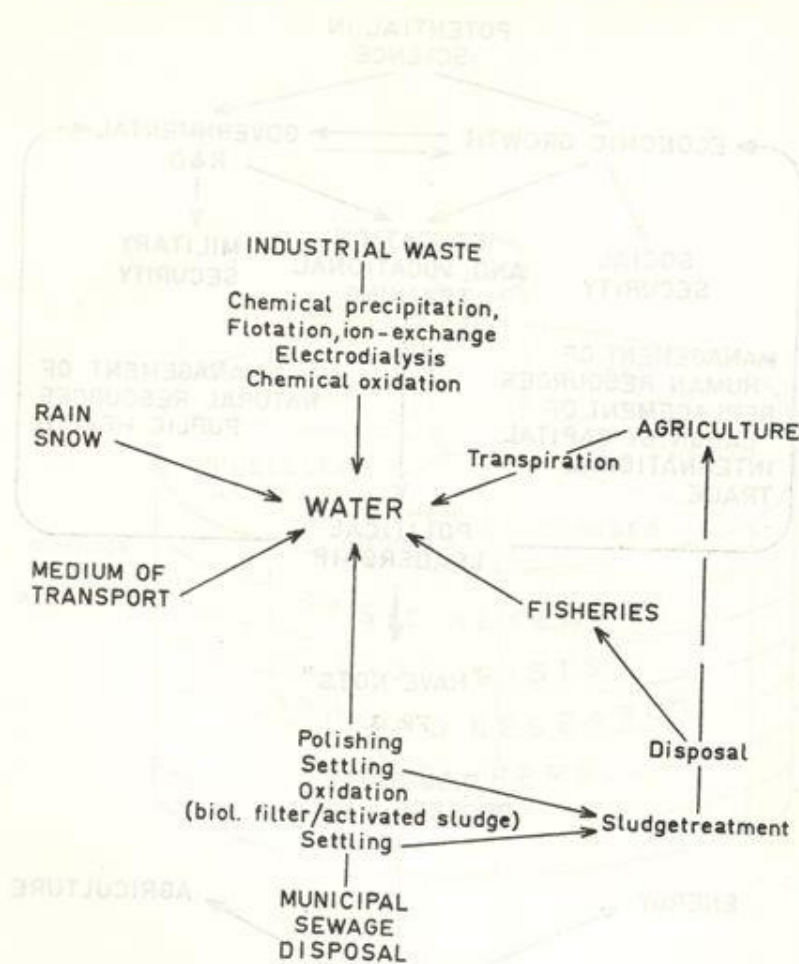


FIG. 5

Editorial Remark : This is an abridged version of a paper which, in its original version, was read to the Cultural and Scientific Committee of the Consultative Assembly, Council of Europe, on the occasion of the Committee's visit to Stockholm, June 1966. It is reprinted by permission of the Journal "Featuring Sweden", Stockholm.

Editorial Remark : In the foregoing paper, a leader in *Science* has presented before a most distinguished forum, the Cultural Committee of the Council of Europe, his view on the task of science in our changing society.

In the following article, another of our Fellows, one of the most prominent leaders in the field of *Arts* presents his view on the subject as an artist and educationist. His article is an abridged version of his Chuter Ede lecture, delivered on March 30, 1965, at Hamilton House, London.

YEHUDI MENUHIN*:

The New Morality

As by definition, the Chuter Ede lecturers are drawn from outside the ranks of educationalists per se, so do I propose to consider the art of education in its widest implications, implications of knowledge and superstition, of fact, fancy and reason, as of God and morality.

It took a long time for man to relate facts to each other; facts were isolated phenomena explained only by the most daring feats of fantasy; each man was isolated to his God and it was only common fantasy which joined people and not common knowledge. Today, along with common knowledge and I should add common doubt, which have both cast a pall on fantasy, we need to build a common morality as well as to release myriad new worlds of fantasy. For liberating fancy, imagination, dreams, abandon—these are man's lifeline to the infinite and man's greatest privilege. Born to seek light, unlike the tireless black ant, he is also as the peacock to the sun; fancy was man's reason before his reason built himself a prison. It is a very old habit born of our senses and our intellect, the legitimate offspring of both. Thus in the past facts did not explain themselves—fancy came to the rescue, and reason served fancy. Even today when a fact is supposed to be a fact, it is still meaningless except for what we can bring to it.

At one time every fact had to be interpreted as an isolated phenomenon and any hypothesis, however childish or wild, was apparently better than none. But at least, we as human beings were involved with body and soul, committed in life and death; we interpreted and we assumed, quite understandably, that the piece was composed for us, and in a sense perhaps it was... Now one

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fact is explained by another, and this other by a third, and so on, but we are left out of it. The facts, as it were, speak for themselves and except for revealing the fact in the words and the numeral, we are ourselves no more or less than any lump of clay; or then, as any comparison goes, why not than any lyrebird, dolphin, or for that matter any illiterate but heartrending tenor, proverbially mindless?

The great question is: Are we no more than clay plus intellect? What lies in between? What about that fancy which clothed the most trivial fact in the most richly ornamented and embroidered cloak? What went into that cloak? Fear and sorrow, yes, but also joy, hope and pride and all the ecstasies of the infinite; of infinite love, infinite space and time, infinite beauty, and in absolute contrast, infinite pain, torture and anguish. For life is born of the infinite and yearns for it at every turn.

Morality and faith too are born of the infinite. Man does himself a great injustice when he lives only in terms of measurable—for the measurable will never yield the infinite and it is, therefore, partly untrue. Here is where imagination and fancy, art and morality come in. These come into play automatically with and in proportion to the time-space factor and infinity. Morality exists as soon as we feel for others, every kind of others, and so soon as we think of our future and the future of mankind. Morality can be built back into reality, not as a superstition, but as the inevitable attitude to life when seen in a certain perspective. What is this perspective? Science has explained so many of our phenomena—that, for instance, the fear of castigation by some Deity in the form of disease, earthquake etc. no longer holds water. We can indeed live a "godless life" within a very narrow compound: within these limits we can do that with impunity and a clear conscience, but it still remains a prison compound. Infinity is present at all times and it can be proved only in the more subtle ways; just as science today has discovered that infinity must enter into reckoning, so do these subtleties enter into the infinity within ourselves, into that depth of perception, into the intensity and quality of sensation, into the breadth of our horizon, of our vision. Whoever doubts that we are driven by the infinite should contemplate the sheer dimensions of power dreams, of pyramids and palaces which at their mightiest were never big enough for their makers. We must rather build in depth and in time what we seek to achieve in the immediate present in matter: actually, this means working even harder than we are.

Today, unfortunately, eternity is no longer represented: the mysteries of death as the subtleties of life are to a large measure ignored.

I would like to envisage morality as simply the unseen senior partner presiding at every transaction between a human being and his environment, as within a human being, between himself and his person. Morality could be described as that attitude or approach essential to achieve maximum joy, satisfaction, ecstasy, security and health—mental and physical, over the longest possible period for oneself and other creatures.

Man has always known that the reality in terms of the evidence of his senses was only half the story and that however enjoyable or painful this half was, the evidence was untrustworthy. He has always allowed for this second half, the so-called superfluous, and clothed it in ritual, symbol and all the colourful trappings of his imagination. This second half of our life—invisible, inaudible, intangible—is still with us. That fact has remained. Ever since thousands of years ago, perhaps even before man rode a horse, when he lived under the stars in a clear warm climate, by sheer dint of reasoning he was able to discover that the earth was round, and since then we have learned—and, alas, also forgotten—more and more facts not immediately apparent. This learning process grows in direct proportion to our humility, to our capacity for objectively subtracting ourselves as individual little vicars of God on earth, in direct proportion to the breadth of the concept wherein we figure as only one part, however essential and eternal, of the evolving whole. The success, the diversity, the survival strength of a civilisation has always been in proportion to its fund of knowledge, its wide distribution among its people, as well as to the physical and mental health of its people and their willingness to sacrifice themselves individually and collectively for a great object.

In those terms our learning, therefore, leaves much to be desired. We have, as it were, lost one compass; it was found wanting, as all first compasses must eventually be. It has been repeatedly redesigned to guide us in widening dimensions and we have not yet distributed the new models. We will not even begin to achieve the new morality which is required today unless we respect the milestones and the repositories of the morality and of the wisdom of the past. Furthermore, some of these ancient and inspiring institutions are yet capable of new vigour and leadership—witness the inspired call of the late Pope. We should, therefore, favour the inductive processes of learning, the inductive processes of education, rather than drill only the end-products and facts into the classroom.

Thus to sharpen the mind and stimulate the processes of logical thought you might ask the child "If you were a shepherd, awake most nights gazing at the horizon and the stars, how many observations, and which ones would you have to make before being convinced the earth was round and that it spun?" Merely to stimulate fancy, a different question might be posed as "Given certain conditions of environment, what kind of social order, what kind of religion, what purpose of life would you imagine would take form?" Then the child's answer could be compared with the actual description of a particular civilisation representing such conditions.

Once a belief is held as of a particular kind of God, it takes a very long time to die and usually its death carries its civilisation with it, together often with much that is useful and beautiful. I remember how moved I was to hear when I last was in New Mexico about the sacred Lake of the Red Indians, to which they make an annual pilgrimage and which they would never consider

desecrating in any way whatsoever, and the tremendous fight that they had, and still have to put up to protect that lake against the real estate prospectors who, of course, saw it as an ideal place for hot-dogs and stands and camps. Although I hold no brief for their cruelty, I respect and admire the Red Indian's inscrutable pride. They cannot understand the concept of private property that we have; they believe that land is very much like air and water, that you cannot tie it down, cut it up and apportion it—that it belongs to everybody.

Today our lives are as much as ever determined by the impalpable, as for instance radiation of many kinds, chemical food additives, while in the meanwhile our finest senses are being ever more blunted. We almost refuse to accept the testimony of our own taste and smell and thus we further coarsen our five senses. Is it not another duty of the new education to re-awaken lost subtleties of apprehension, for I am convinced that we have hidden natural gifts and capacities which correspond to and anticipate every new realm rediscovered, as it were, by science?

I believe we are on the threshold of a subtler age. Ours has been a rather coarse history all in all — from the Testament eye-for-an-eye to the darkest ages of "applied" Christianity. Today we have the means of making living sense of aesthetics and of morality, of God and of Faith. I would say that Faith is as essential to ensure continuity and to overcome setbacks and disappointments, as credit is in a capitalist economy. In a capitalist economy we have to assume that every customer entering the store can, in fact, pay for what he buys; for the good of the system, this act of faith is essential. Therefore, for practical purposes and failing any previous knowledge of the customer, and very often in spite of such knowledge, every person must a priori be credited with good intentions, even though every person may fail by the same token. Obviously, where basic incompatibility with society exists, separation of the individual from the group is indicated, but we must never give up the battle for the health of body and soul, any more than the Early Christians gave up the battle for men's souls.

The teacher's responsibilities are, therefore, enormous. They go from the earliest origins of life to the projection of the future and they must, of course, take in the present and living reality and not as some textbook pattern. We must, therefore, teach not only isolated or comparative facts, but critical capacity to make wide choice. We cannot build the new world alone, for that we depend on succeeding generations, but at least to them must we transmit reliable materials and good tools, not merely facts.

Children who have shown a special inclination for a particular field must be given the opportunity of creating their own world and their own climate. This is unfortunately no longer possible in a world where both the home and the streets have become inimical to a child's climate: the apartments are too cramped, the parents too busy, the streets polluted. In fact, allow me to make

a plea for the inclusion in every apartment house of rooms where children can play, where they can make music, where they can practise the trombone and the violin, where they can use mud and clay, where they can get together, and also where their parents can get together. This is essential today because the ordinary apartment represents only off-time to parents; it is when they have stopped working that they go back to their apartments and children return when they have finished school-hours.

It is a curious fact that the emancipation of women has meant so far that we have fewer teachers and nurses, rather than more; fewer mothers and grandmothers than before, as they turn their backs determinedly on everything which remotely smacks of "Kinder, Kirche and Küche", and they become astronauts and secretaries, foremen and, to my delight, ministers. But without these small islands of intimacy, or privacy, of the fanciful children's world, our schools and our apartment blocks are simply huge, faceless factories out of which no individual can emerge, only the mass, blind and brutal. Children, for instance, love cuddling together in mystery and twilight; children love other living things as dogs, butterflies, trees, lawns and flowers. Where do they find these in our glass boxes, in our asphalt playing grounds? Are these asphalted so that they may be turned into paying car parks?

The child will not have its birthright until it enjoys more space, more scope, more privilege than the motor car. In fact, although always grateful for help, I look upon the tie-up of industry and education with some misgiving because it is dangerous unless it is balanced with the building of independent minds and with the cultivation of crafts.

In music we can follow the same development as in all other forms of culture, i.e. from the God-given to the man-made; pre-theme, when music was symbol and ritual in the service of God, the individual almost non-existent in terms of his own life theme, and then theme music, when pure music became an end in itself and wrapped itself around its own theme. Today there are more and more themes. We live in a world which finds itself between the God-given theme and its own theme, as it were, and every man, woman and child, every group must evolve its own theme and build—it's rather corny—a symphony on it. For myself, I don't think symphony is always the best form! A centralised authority supplying one theme is today inconceivable, for as soon as a man-made theme is available, different men can make it. Even Utopia has different faces: some have their Heaven inhabited by angels and others by various other creatures, but on earth the only things, sadly, that can still unite us at present would seem to be fear, hate, ignorance, war and, finally, sorrow, grief and guilt.

We return to the need for a new morality as the one binding thought among a mankind as variegated as each imagination can possibly make it. Morality, therefore, must exist as a climate; it cannot be legislated.

Therefore, when we speak of real life, i.e. where ability and achievement

are measured in actual pain or progress, we must allow the schools to encourage individual inclinations which are at odds with the main streams of national life. I mean, for instance, that where ability and achievement usually carry financial tags, we must all the more encourage achievement and knowledge, service, beauty, craft and sport, which draw upon other well-springs.

An overwhelmingly military nation would, for instance, apply the one criterion of automatic integration, absolute reliability and subservience to rank in preference to any other value. As we have seen in the case of Germany, this one-sided excess can prove a nation's downfall.

We realise today that however essential one or two specifications may be in times of crisis, no civilisation can survive without all, each and every tribute. I fear, for instance, that commerce and money, as basically democratic and unprejudiced as their exercise is in an industrial, mass-produced, mass-credit society, are hardly in themselves sufficient to offer a reliable indication of every value. Knowledge of history, artistic excellence, readiness to sacrifice, aesthetic judgments, inspirational goals, as well as the gipsy, the tramp, the poet, the dreamer—these are all multi-shaped pegs that will not all grind down to regulation holes.

The young delinquent too escapes the criteria of commercial and financial value. There is incidentally a good deal of blindness, self-delusion and unconscious hypocrisy in the adult attitude to these "delinquents". They are, in fact, precocious adults. For the first time on such a vast scale has adulthood been available in terms of freedom of choice, time money, energy, example and stimulus; adulthood with all its privileges and none of its penalties, adulthood without responsibility and, therefore, requiring only daring, but no courage—never has such adulthood been available to so young a section of the community.

Their behaviour is entirely patterned on the principles and simplified choice the adult world offers them—at home, at school, on the street, on the screen, in the newspapers, and unfortunately in the current events of the world at large. The choices appear to be only relative to each other, not to a third larger purpose which I am trying to define in this lecture. The choices are on the one hand a "good" life offered them—drab, monotonous, unadventurous, stretching ahead indefinitely with nothing new, not even sex to lure them on; a life of facts, some dry as dust, others sordid and cynical—a "good" life without vision, guaranteed unto death (what a pretence! — We know that where there is no vision, a people perish); a life they are expected to accept passively and docilely and, on the other hand: the "bad" life in which the initiative, the planning, the decisions rest with them. Although far from behaving with originality, they are surely only imitating the chief forms of adventure, excitement, violence and destruction, in a search for release and ecstasy, provided by their elder's fictitious models as exposed on the screen, the printed page, coloured advertisements and in the predatory design of their fast motorcars.

If we cannot provide a wholesome environment for infants, children and adolescents within the stream of our daily adult lives, we owe it to them, or at least to the most promising, talented and best of them, if we cannot afford to do better, to take these out of the stream into special, quiet lakes where they can develop beyond such corrupting influences in the time-honoured English way.

But even more important is the quality of adults, the teachers serving such groups of children, for they must be of the brightest quality. It is nonsense to assert in one breath the need for a higher general average of education, which it is officially admitted cannot be accomplished without depriving the better schools of their teachers, and in the next breath to demand more scientists, more astronomers, more of the first-class in every walk of life. I am afraid that, by the sheer force of mathematics, and until we can train many more teachers of the very highest calibre and imagination, we are committed to unequal education. A simultaneous two-pronged drive is the only answer—the highest standards must be defended, even improved, undiluted as much as possible, and the lowest standards raised, broadened and improved as much as possible.

Although I realise that the demands of industry and commerce are justified, I fear somewhat when I see how heavily indebted our culture and our values are both to new wealth and new government. For instance, when we reiterate every day the overwhelming importance of a nation's economy, its industrial capacity, financial credit, technical standards, nuclear knowledge and so on, do we really mean to imply that a country's moral and physical health, its attitude to family, other people, sickness, famine, death and birth are either of negligible importance, or utterly dependent upon the aforementioned items, and do we mean that without these items we ourselves, or the inhabitants of any country, would automatically revert to cannibalism and savagery, filth and desperation? When I look upon the Hindu civilisation, I for one refuse to believe this, but it is nonetheless important to be reasonably sure. I know that humility (e.g. the conviction that we are but one little link in the chain of life), and such terms as knowledge, beauty, love of one's fellow men, the need to act upon faith, reference for a Higher Power, the will to fight and sacrifice for one's loves, virtue and honour, all sound corny and old-fashioned, but they sound hollow only because they have so often been misused and because they carry hypocritical, dark overtones. Yet in a world bereft of all those things we produce today, it would become of supreme importance to know who would be trustworthy, who would nurse the sick and teach the young... wife, mother, husband, father and friend, all somewhat dusty appellations, these would come back into their own.

We need all these people desperately, all these wives and mothers and teachers, but it is most particularly the less gifted children, those who otherwise would adhere to the nameless mass who, even more than the gifted, need

social opportunities, practical experience and service, craftwork and games. They must have their senses stimulated : our senses were given us to guide us, to delight and to warn us. These children most of all could enjoy stimulation of their senses; yet children in the cities are herded into conditions that are shocking to our five senses, from the foods they are given to the noise they must suffer. They spend most of their day, especially if they spend their free time on the street instead of in your beautiful parks, in an aesthetically repulsive environment. How can they be expected to become self-expressive and creative if their own senses that might lead them are blunted and starved ?

We must preserve the balance between the world of our senses and all its works from music to architecture, from sculpture to the culinary, and from poetry to mathematics, works of fancy and imagination, and that other partitioned world of knowledge and fact which has found its way into the printed page, the blueprint, the computer, the bomb and the satellite.

I would like to dwell shortly upon the teacher's attitude to children. Children are much quicker than adults in their perception of the vain and pompous, the unsympathetic, the ungenerous, the fraud and the fraudulent—these they all recognise instantly. For my own part I believe there is no shame in owning up to one's own ignorance, to ask a child quite honestly a matter of information about which the child may well be more informed than the adult, or to admit the stupidity, the tragic idiocies and arrogance of adults since creation. We must always be prepared to recognise superiority and pay respect wherever it is due, even if it crosses the line or runs against the stream of established strata of respect and rank. In these admissions there is no shame, for the pompous pretence of being all-knowing is worse than useless. Of course, a teacher must be able to guide and to impart ability, technique and knowledge in an absorbable way; he must also be able, however, to live every moment of his task as if it were his first and his last. His routine must merely serve him to understand the particular moment, the particular child, the particular need and condition; he must not lazily barricade himself behind his position of authority or the text book, not to speak of the cane, however useful these may be at times.

But for the purposes of education, this frozen kind of instruction is dead and, to the extent it may still be applied, it lays the cold hand of death on children's fancy, talent and, eventually, their souls and creative intellect as well. Thus not only should the teacher teach, but every person in the swim of life, as he never abandons learning, should also give part of his time to teaching. Surely a principal justification of early retirement of able people from Government or industry should be to enable such men and women to teach; and the teaching profession must be prepared to welcome assistance from every quarter and every age. I can think of nothing more degrading and humiliating in the human sense than the closed-shop mentality among teachers.

The position on the ladder, the hierarchy, as it were, of the teaching pro-

fession, or of any other social ladder, should merely be a skeleton on which the living flesh and blood—on which life itself must be hung. The teacher must have something on the one hand of the nursing mother, and on the other of course of the dignity of his rank and his task.

It was the superstitions we shared which have hitherto bound human beings into groups; it was the God that they had in common, the God covering all the unknowns and all the unspecified. He was there not to explain; He was there to punish. As He also had sometimes to prove His own free will, He, therefore, had to be arbitrary and wilful, like those Red Indian gods of volcanic origin, placated only by live sacrifice. He had always to be available to support us and if possible, to uphold and justify as many of our immediate urges, appetites, survival exigencies and all of our meaner impulses and this was only by proclaiming His superiority over the gods of all our chosen enemies. Thus belief as such is as ready to serve the wicked as the good; it certainly does not of itself resolve the conflict of good and bad. Even the pardoning, forgiving God who, in the long run in spite of our best efforts, even forgives our enemies, does not quite achieve this. No, I firmly believe our new morality, our new faith, can and must be based on foundations far more solid than have ever before existed. As our teachers change, so will our Gods and vice versa.

Morality may be divine, but it is not dependent upon God. It is by no means the preserve of any one church or "ism". But it is a formula for the highest kind of success.

The test of success in life is a happy and healthy old age, as well as the happiness of those one has lived with, and beyond that, of one's own people and all the peoples of all the earth. Again they are other limited fields of success depending upon criteria: the highest is self-sacrifice to others, as well as for knowledge and achievement in art and science. Somewhere in the middle there is success in finance and other forms of wordly success; in security and various forms of privilege, such as that of being able to order one's life more or less as one would like to. And, lowest of all, is success gained by cunning, flattery or brutality, all of which lead to very pitiful ends.

And finally, the words of a poet who saw more than we can explain :

All nature is but art unknown to thee,
All chance, direction which thou canst not see,
All discord, harmony, not understood,
All partial evil, universal good.

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WAAS-News

1. General Development

During the last few months the rising prestige of WAAS manifested itself in a number of highly important events. Because of the high political level at which they occurred, the following three events may be summarized here in chronological order (comments on them are most welcome!).

A) WAAS RECOMMENDED IN US CONGRESS

In June 1966 the following recommendation of the US Committee on Foreign Affairs was submitted by the Subcommittee on International Organizations and Movements and was printed as Committee Print as follows:

Activities of the International Cooperation Year

60. That we recognize that the world is being made one, not through political or other ideological notions, but by scientific and technological fact; and that encouragement should be given to advance-guard agencies in this area (e.g., World Academy of Art and Science; the proposed International City of Science).

61. That the architectural departments of all the universities around the world be encouraged to invest the next 10 years in a continuing problem of how to make total world's resources serve 100 percent of humanity through competent design (e.g., World Students' Design Science Decade 1965-75).

This recommendation may prove of practical significance for our work, since the American Division of WAAS is now established and is officially

incorporated as an "Educational Corporation" in the State of New York. We hope that with the full assistance of our American Fellows and Members it will constitute a strong means to further development of the World Academy as well as of the World University.

B) WAAS REFERRED TO AT CULTURAL CTTEE, Ccl. OF EUROPE

The Member of our Presidium, Professor CARL-GORAN HEDEN was invited to hold a lecture before the Cultural Committee of the Council of Europe on July 7, 1966. He spoke about "Constructive or Destructive Science, a Question of Choice" and he used this opportunity to mention WAAS as one of the recent organizations created by scientists with an ethical aim. He appealed to the Council of Europe to create homes for these organizations and to provide them with optimal working conditions. His lecture met with a very sympathetic response and appears in our "Transnational Forum" in the present issue of the WAAS NEWSLETTER (see pp. 5-20).

C) OFFER OF EXTERRITORIAL AREA FOR WAAS IN CYPRUS

His Beatitude, Archbishop MAKARIOS III, President of Cyprus, has offered to the World Academy of Art and Science the Trusteeship for 50 years of a neutral Meeting Place for planning and creating a "One Man World" This offer was made by means of an official Statement issued at the Presidential Palace in Nicosia, Cyprus, on July 7, 1966. The Statement, repeated in the world press, reads as follows :

"The President of Cyprus, Archbishop MAKARIOS, announced at Nicosia, that he is willing to undertake at the earliest possible moment to cede to a world authority a 200 acre property in the vicinity of the ancient Abbey of Peace known as Belle Pais in the district of Kyrenia, provided others cooperate with him in making such a start towards accommodation of the inexorable social trend towards world oneness.

Archbishop MAKARIOS says that the negative factors today are so powerful that it will undoubtedly have to be one world or none. Posting his offer to the world he will require that the world man area be operated for 50 years under a trusteeship of the highest order of intellectual and scientific capability—as for instance, the World Academy of Art and Science which includes among its governing body a number of Nobel Prize winners. The World Academy of Art and Science has signified its interest in the Cyprus event. The World Academy of Art and Science Manifesto states that :

"The World Academy of Art and Science will function as an informal 'world university' at the highest scientific and ethical level, in which deep human understanding and the fullest sense of responsibility will meet... and this forum is international, or more truly trans-national."

Archbishop MAKARIOS says he will also require others provide monies to

build a structure on the land suitable for the housing of World Congresses of the many organizations now working towards or actually operating under full world responsibility as did for instance the International Geophysical Year.

Archbishop MAKARIOS has already received substantial offers support."

On the initiative of Mrs. CARESSE CROSBY, an American art maecenas and organizer of a movement in the direction of a "One Man World", and our Fellow Professor BUCKMINSTER FULLER, it is planned to erect a building on this area at the cost of one million dollars. President MAKARIOS promised to contribute 200,000 dollars to this purpose. Negotiations are now in full swing.

More detailed information on this generous and important offer and the subsequent documentary correspondence is presented on page 43 of this issue.

D) FORMATION OF EASTERN EUROPEAN DIVISION OF WAAS

At the International Congress for Microbiology in Moscow (July 1966) and subsequently at a Group Meeting in Poland, four Members of our Presidium (two of them from communist countries) and several Fellows had the opportunity to discuss the steps necessary for the formation of an Eastern European Division of WAAS. They were (in alphabetical order) :

Professor JULIAN ALEKSANDROWICZ (Poland)
Professor CARL-GORAN HEDEN (Sweden)
Academician V. A. KOVDA (USSR)
Academician IVAN MALEK (Czechoslovakia)
Professor STUART MUDD and Professor EMILY MUDD (USA)
Academician V. M. ZHDANOV (USSR).

We wish our colleagues in the respective Eastern countries all success in their efforts.

E) WORLD UNIVERSITY

The organizational work for the disseminated World University of WAAS makes very good progress and we shall probably be able to announce already in the near future the start of the first units.

Our efforts in this direction constitute also one of our main contributions to the "Year of International Cooperation" and to the 20th Anniversary of UNESCO, as a lasting spiritual memorial for both events.

2. The Cyprus Project

Mrs. CARESSE CROSBY and our Fellow Professor BUCKMINSTER FULLER were present when the Statement (see page 32) was presented by the highest authority of Cyprus to an international press conference. At the request of Archbishop MAKARIOS, Professor FULLER enlarged upon this Statement and stressed the necessity of such a neutral meeting place. He also pointed out that what is historically significant about Archbishop MAKARIOS' announcement, is that he is the first political head of a sovereign government to cede a piece of the sovereign land not to another nation or the United Nations, but to World Man with the housekeeping of the ceded land to be provided by a body of competent world scientists and scholars rather than by politicians. He emphasized also that Cyprus is at the geographical center of an earth hemisphere containing 90% of the world's population.

In view of the great responsibility involved, our President, immediately after having received the official statement, tried to meet as many members of the Presidium as possible in order to discuss orally with them this important offer from all points of view. Furthermore, all members of the Presidium and the Council of the World University were informed by correspondence.

The following meetings took place (in chronological order) :

August 7: In Rome (present: Dr. HUGO BOYKO, Dr. ELISABETH BOYKO and our Legal Adviser and Member of the Presidium, Dr. MAX HABICHT);

August 8. and 9 : in Rome, and at Mrs. CROSBY's invitation at her castle Roccasinibalda, with the same participants as on Aug. 7 and Mrs. CROSBY as well as her advisers. There Mrs. CROSBY presented a draft agreement written by H. E. Dr. ZENON ROSSIDES, Permanent Representative of Cyprus to the United Nations in New York and Ambassador of Cyprus to the USA in Washington.

Dr. ROSSIDES took an active part already in the preparation and organization of the Cyprus manifestation.

August 10-12 : the next meeting was convened in Brussels, where the following Fellows met : HUGO BOYKO, ELISABETH BOYKO, STUART MUDD, EMILY MUDD, BORIS PREGEL. Contact with the Chairman of our Committee on Organization, Professor CARL-GORAN HEDEN, Stockholm, was maintained by telephone.

August 13-14 : again in Castle Roccasinibalda (present : H. BOYKO, Mrs. CROSBY, M. HABICHT).

The official correspondence presented below in chronological order shows the development up to now (November 1st, 1966) :

a) *First Draft Agreement presented to us at the Meeting in Rome*

July 10, 1966

Archbishop Makarios, President of Cyprus, agrees to cede to a world authority 200 donums of land in the district of Kyrenia in the vicinity of the ancient abbey of Bella Pais, to be created as a One World meeting place in order to study ways for peace free from national tensions. This land is to be held as neutral territory in trust for a united world for the next fifty years by the World Academy of Art and Science.

(to be) (Signed by :)

ARCHBISHOP MAKARIOS,
President of Cyprus

(to be) (Signed for the Trusteeship by :)

*President of the World Academy
of Art and Science*

b) *Second Draft Agreement*

After extensive discussion by the enlarged Executive Committee, it was decided that before we can finally accept such a generous offer, we have to study it in order to know what to do with it. It must also be coordinated with other similar ideas. WAAS is prepared to organize an extensive trans-national study for this purpose in order to investigate the legal, administrative and financial questions involved. The duration of such a study is estimated at one year. Furthermore, WAAS does not dispose of financial means for the establishment and continued operation of such a Center. Therefore, funds not only for the building itself but also for its maintenance must be secured.

Accordingly, we drafted an adequate Agreement, the first para of which was taken from the original offer drafted by H. E. Dr. ZENON ROSSIDES, together with Mrs. CROSBY. The additional paragraphs dealing with the need for a detailed preliminary study were drafted by the members of the Presidium on the basis of the above decisions. The second draft agreement was then discussed with Mrs. CROSBY, signed in Castle Roccasinibalda by H. BOYKO and M. HABICHT and sent by Mrs. CROSBY to Cyprus, together with the following coverletter :

August 14th, 1966

His Beatitude, Makarios III,
President of Cyprus
Nicosia, Cyprus

Your Beatitude :

Mrs. Caresse Crosby has been kind enough to invite me as President of the World Academy of Art and Science, assisted by our Legal Adviser, Dr. Max Habicht, to Castello Roccasinibalda and I had an occasion to discuss with her the statement according to which you agreed to cede to a world authority two hundred donums of land in the district of Kyrenia for the

creation of a one world meeting place in order to study ways for peace. You added that this land should be held in trust for the next fifty years by the World Academy of Art and Science.

First, let me express to you the deep gratitude of the World Academy of Art and Science for your generous offer and the spirit in which it was made as a contribution to world peace. Our Academy is a transnational forum for the same aims and it was a great satisfaction for us that you have chosen the World Academy of Art and Science as a future Trustee to hold land in Cyprus for a World Peace Center.

After discussion with several members of the Presidium of our Academy, we have redrafted the declaration concerning such a World Peace Center in Cyprus and I take great pleasure in sending you here enclosed, the new text of this declaration already signed by two members of the Presidium of the World Academy of Art and Science. You will see from this declaration in what way we have decided to cooperate in this scheme and I would be much obliged if you could let me know whether it would be possible for you to sign the enclosed and return a copy thereof for my file.

Please accept, your Beatitude, the assurance of my highest consideration.

(sgnd) Dr. HUGO BOYKO,
President

c) *The subsequent correspondence reads:*

15 September, 1966

Dear Dr. Boyko,

Upon the request of my President Archbishop MAKARIOS I write on his behalf to thank you warmly for your letter of August 14, 1966 and to express his profound appreciation of the contents thereof. Please forgive the delay in answering which is due to my absence from New York for the last three weeks on a tour of South America from which I returned to the States only yesterday.

Archbishop Makarios is basically in agreement with the contents of your letter. There are, however, certain details that have to be discussed between us previous to signature. As compelling duties in the General Assembly prevent me from being absent from New York during the coming months it would be most helpful if we could meet together in New York, whenever convenient to you. Dr. B. Fuller and Mrs. Crosby, who will also be in the

States at that time, will join us. I shall, therefore, be grateful if you will kindly let me know the time most convenient to you for such a meeting.

Please accept, Sir, the expression of my highest consideration and regard.

ZENON ROSSIDES

*Permanent Representative of Cyprus
to the United Nations*

Dr. HUGO N. BOYKO,
President of the World Academy of Art and Science, Rehovot

September 20, 1966

His Excellency

Dr. ZENON ROSSIDES

Permanent Representative of Cyprus to the United Nations,
New York, USA.

Dear Dr. Rossides,

Many thanks for your friendly letter of September 15, 1966. I read it with great pleasure and should like also to express my deepfelt thanks to Archbishop Makarios, President of Cyprus, for his kind appreciation of our response to his generous offer.

I am sending these lines through our Vice President and elected Stand-by President Professor Stuart Mudd. He is also co-author of the draft agreement and well acquainted with all relevant details. Professor Mudd has his residence not too far from New York, and since it is not possible for me to be in the United States before April 1967, he has my *plein pouvoir* to finalize the agreement.

I have asked him to get in touch with you in connection with this letter and to discuss with you the necessary steps.

I hope very much indeed to make your personal acquaintance in the not too distant future. In the meantime, I remain, with the expression of my best regards and highest consideration.

Yours sincerely

Dr. HUGO BOYKO
President

The final results of the negotiations now being held in New York between our Vice President STUART MUDD and BORIS PREGEL, as well as the Secretary of the American Division of WAAS, JOHN McHALE, on one hand and Ambassador Rossides and Mrs. Caresse Crosby on the other, will be reported in a following issue of the NEWSLETTER. Our Fellow BUCKMINSTER FULLER also takes an active part in these proceedings.

3. Committees and Working Groups:

a) *Report on the "Committee on Publications"* (Chairman STUART MUDD):

Vol. III of the WAAS Series "Conflict Resolution and World Education" is now in the last stage of printing and will appear in the immediate future (approximately in the first half of December, 1966).

The list of distinguished authors and the content of their contributions beginning with the introductory papers by U Thant and Gaetano Martino, promise a success similar to that of Volumes I and II as well as the paperback edition of Vol. II. We repeat the table of contents:

CONTENTS OF VOL. III CONFLICT RESOLUTION AND WORLD EDUCATION

Preface: Editor.

Foreword: Education in Our Changing Times. U THANT.

Introduction: GAETANO MARTINO.

Part I: Causes of Conflict

1. Pax Mundi. GEORGE E. G. CATLIN.
2. The Struggle for Identity. MORRIS L. WEST.
3. Preventive Psychiatry and World Problems. LEON J. SAUL.
4. Youth: Fidelity and Diversity. ERIK H. ERIKSON.
5. Conflict and Conflict Resolution in Families. EMILY H. MUDD.
6. Ideas for Social Change. GEORGE W. TAYLOR.
7. The United Nations in a Changing World. U THANT.
8. Conflict Between Nations. ABBA EBAN.
9. The Historical Unreality of the Cold War. JOHN U. NEF.
10. Towards a Theory of the Dynamics of Conflict. ROGER L. SISSON and RUSSEL L. ACKOFF.
11. The Christian's Rôle in Transforming Society. W. A. VISSER T'HOOFT.
12. Animal Conflict and Adaptation in Relation to Human Conflict. J. L. CLOUDSLEY-THOMPSON.
13. Features of a World Capable of Achieving Peace Under Law. STUART MUDD.

Part II: Conflict Resolutions

A. The Idea of a World University

1. Some Comments on the Idea of a World University. HAROLD TAYLOR.
2. Thoughts on World Education. MORRIS R. MITCHELL.

3. Towards a Dynamic "World" Education, JOHN McHALE.
 4. Educational Problems of Gifted Children in South-East Asia. RUTH WONG.
 5. Existing International Institutions which Approximate, or Might Become World Universities. HAROLD TAYLOR.
- B. *Transnational Projects Practically Contributing to Conflict Resolution.*
1. The World Academy of Art and Science and the Creation of the World University. H. BOYKO.
 2. Some Thoughts on Megabiological Research. W. TAYLOR THOM, JR.
 3. Interindividual, International Conflicts and Cooperation. MIKAEL M. HOFFMAN.
 4. The Significance of the Sociology of Cooperation for the Planning of a World University. HENRIK F. INFELD.
 5. The Problem of the Health of the International Community in the Light of Research on the Causes of Conflict. JULIAN ALEKSANDROWICZ.
 6. The Fundamental Importance of Brain Research. SIR JOHN ECCLES.
 7. Certain Criteria for Application to Large-Scale Irrigation Projects in the Developing Countries. JOHN F. V. PHILLIPS.

Appendices

1. Problems of Research on Social Conflict in the Area of International Relations. M. JANE STROUP.
2. A Selection of Organizations and Associations Interested in Concepts of World Education. HAROLD TAYLOR.

Vol. IV is dealing with the Conquest of Deserts by saline and seawater irrigation with and without desalination (ed. HUGO BOYKO). It will mainly contain the Proceedings of the UNESCO-WAAS-ITALY Symposium on this subject (Rome, Sept. 5-9, 1965) with some additional contributions. This Volume will also contain the latest list of all Fellows with short biographical notes to each name.

All lectures are already translated into English and the entire book will soon be in press.

Preparatory steps have already begun for Vol. V.

b) *Report on the Working Group on the Productivization of Deserts* (Chairman HUGO BOYKO)

Activities in 1965 and 1966 were concentrated on :

- (i) the organization of the International Symposium in Rome (Sept. 5-9, 1965) with close cooperation and support of UNESCO, the Italian Academy of Agriculture and the National Research Council of Italy. Also FAO, the

Food and Agriculture Organization of UNO, actively participated in this Symposium. The Proceedings will appear as Vol. IV of our book series (see para above);

(ii) A complementary volume to Vol. IV of the WAAS-Series, the book "Salinity and Aridity—New Approaches to Old Problems" has already left the press (in August 1966) and is in great demand. (A prospectus of the Publishers, Dr. W. JUNK, The Hague, Netherlands, is attached);

(iii) Organizational steps have been started for a coordinated research scheme along a climatic profile from the Tropics to the cool temperate regions. The scheme is conceived for interdisciplinary research on the use of saline and seawater for plantgrowing, based on the principles and experiments described in the two volumes mentioned above.

c) *Report on the Working Group on "Conflict, War and Peace"*
(Chairman GEORGE E. G. CATLIN).

This Working Group was concerned in 1965 mainly with the preparation of the International Symposium on "Causes of Conflicts" (Rome, Sept. 10-11, 1965). The Proceedings of this Symposium, together with a number of additional contributions, will form part of Vol. III of the WAAS-Series "Conflict Resolution and World Education" (ed. STUART MUDD), to appear shortly.

As a sequence to this Symposium, a similar one was organized by our Vice President JULIAN ALEKSANDROWICZ on the subject "Problems of Conflict" (Cracow, Oct. 12, 1965).

Efforts are under way to link the research work carried by this Working Group to similar efforts elsewhere. Our Vice President George E. G. CATLIN, in his address to the American Political Science Association of Sept. 8, 1966, urged this Association to put its influence behind Conflict Research.

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4. Meetings, Conferences

a) IV. *Plenary Meeting of WAAS and the International Convention on "Energy, Environment and Society in Transition."* This Convention will be organized jointly by WAAS and the American Geographical Society. The planned pattern of this important scientific manifestation is described in our NEWSLETTER of June 1966 (p. 27-28).

The great interest also in European and other circles made it necessary to organize it on a much larger scale as originally intended. In order to ensure an adequate preparation on this scale, the convention will probably have to be postponed to spring 1969. Final decisions will be made in the next few weeks.

The Convention will take place at the New York Academy of Science and at the large premises of the Hotel Waldorf Astoria in New York.

All Fellows are kindly requested to submit ideas, suggestions and proposals with regard to subjects for the Convention, with regard to sections, sub-sections etc., and also with regard to candidates for Lectures and Chairmanships of the various sections. All such proposals are to be sent to the American Division of WAAS (630 Fifth Avenue, Suite 627, New York, N.Y. 10020, USA).

b) On October 12, 1966 the solemn dedication of land was feted for the Temple of Understanding near Washington, D.C. This Temple will be a meeting place for Representatives of all main religions. The originator of this grand idea, Mrs. JUDITH HOLLISTER, was most actively supported in her efforts by the late Mrs. ELEANOR ROOSEVELT.

Among the distinguished Guests of Honour was, as Representative of WAAS, our Vice President STUART MUDD who delivered the following Message to the participants in the Land Dedication Ceremony :

MESSAGE AT LAND DEDICATION CEREMONY FOR TEMPLE OF UNDERSTANDING

By STUART MUDD

Since Man first evolved to become Man, he has aspired to achieve meaningful relationships with the great and mysterious forces of his Universe. These aspirations have been expressed in many idioms : in the religions of the world, the philosophies, the arts and more recently in science. The very least that can be asked of man is to respect, and, if possible, to understand the

manifold expressions of human aspiration. It is to this respect and understanding that this Temple is to be dedicated. May it fulfill its high purpose!

As a scientist, I express an earnest hope for the Temple of Understanding: that this Temple shall become a place where persons of responsibility can meet together, away from the desperate pressures of immediate, crucial problems; where they can consider the great long-term currents of world trends; where they can share their concern for human problems, realizing their universality. In the climate of such a place, understanding and cooperation could more easily reach across political, national, racial and religious frontiers.

The intellectual basis for all of this, I hope will include a library whose focus would be "the Social Relevance of the Great Religions in the Modern World"; that representatives of the world religions should meet this challenge by providing the basic scriptures and all relevant literature, historical and current, that could make this library unique in the world; and would attract serious students of religion, philosophy and current affairs for study and communion.

Supplementing this great library one hopes there will be a lecture hall and adequate conference rooms to serve appropriate seminars, colloquia and conferences; guest facilities including a truly comfortable and intimate living room; cloister or a garden where men can sit and walk together amid beauty and in quiet, and a place for meditation and worship.

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5. Membership News

A) EXECUTIVE COMMITTEE :

The growing work and the occasional urgency of quick decisions makes it necessary to elect a small permanently working Committee for the World Academy and the World University together, as an Executive Committee until the next Plenary Meeting. As some of the most active, and in view of more frequent meetings, mobile members, the following have been proposed by the Presidium and the Council :

HUGO BOYKO
CARL-GORAN HEDEN
JOHN McHALE
EMILY MUDD
STUART MUDD
BORIS PREGEL
HAROLD TAYLOR

The Executive Committee will have the right to co-opt additional Members according to necessity.

The next Meeting is intended for April 1967 in Philadelphia.

B) FOR EMERGENCIES :

Professor STUART MUDD has been elected Stand-by President. Dr. JOHN McHALE has been appointed Stand-by Chairman of the Publication Committee.

C) IMPORTANT :

We repeat that the procedure of voting on proposals by correspondence includes the stipulation that answers are valid for voting by the plenum within two months from the date of the proposal and for the Presidium and the Council within two weeks. No answer during this time means no objection and is taken as "yes". Suggestions for amendments of this procedure are always welcome and will be discussed at the next Plenary Meeting.

D) EXPENDITURE :

In view of the high expenditure of our work and the great tasks ahead we shall be grateful if *all* Fellows who are in a position to make financial contributions will do so.

E) NEWLY ELECTED FELLOWS :

Professor GEORG BORGSTROM, Professor of Food Science; address :
College of Agriculture, Department of Food Science, Anthony Hall,
Michigan State University, East Lansing, Michigan 48823, USA.

Professor DR. ENG. CONSTANTINOS A. DOXIADIS, Professor of town-planning.
address : Doxiadis Associates, 24 Strat. Syndesmou Str. Athens 136, Greece.

Professor R. BUCKMINSTER FULLER, Research Professor, Architecture, World
Resources Inventory, Southern Illinois University;
address : Box 909, Carbondale, Illinois 62901, USA.

Professor WALTER ISARD, Professor of Regional Science, Head Regional
Science Department, Wharton School of Finance and Commerce, University
of Pennsylvania.
Philadelphia 19104, USA.

Professor LORD RICHARD LLEWELYN-DAVIS, Professor of Architecture and
Head, Bartlett School of Architecture, University of London.
address : 141 Suston Road, London NW1, England.

Professor G. S. PURI, until 1962 Director, Central Botanical Laboratory,
India; since 1962 teaching and organizing ecological and agricultural re-
search in Nigeria and Ghana.
address : University of Science and Technology, Kumasi, Ghana.

Academician Professor ELEMÉR SZADECZKY-KARDOSS, Professor of Geology,
Director, Petrological and Geochemical Institute, University of Budapest;
address : Hungarian Academy of Sciences Laboratory for Geochemical
Research, Múzeum Korut 4/A, Budapest VIII, Hungary.

Academician Professor ANTAL TÁRCZY-HORNOCH, Director, Geodetical and
Geophysical Laboratories of the Hungarian Academy of Sciences;
Museum utca 6, Sopron, Hungary.

Academician Professor V. M. ZHDANOV (USSR) Director, Ivanovsky Institute
of Virology, USSR Academy of Medical Sciences;
1st Shchukenskiy Proezd 24, Moscow, USSR.

Professor HERMANN ZONDEK (Israel), Endocrinologist.
address : 8 Maimon Street, Jerusalem, Israel.

F) PROPOSED NEW FELLOWS :

This (alphabetical) list is presented here for voting by correspondence.

Professor KENNETH E. APPEL, M.D., Ph.D., SC.D., Professor Emeritus,
Department of Psychiatry, School of Medicine, University of Pennsyl-
vania.

address : 206 Glenn Road, Ardmore, Pa. 19003, USA.

proposed by : STUART MUDD, EMILY MUDD and the Presidium.

Professor CAREI CRONEIS, Professor of Geology, Chancellor, Rice University,
Houston, Texas, U.S.A.

proposed by : TAYLOR THOM, HUGO BOYKO, ELISABETH BOYKO.

Professor LAURENCE M. GOULD, LL.D., SC.D., L.H.D., Litt.D., Sc.D.h.c.,
Professor of Geology, University of Arizona, Director of the US Antarctic
Programme for the International Geophysical Year; Past President, American
Association for the Advancement of Science, etc.
address : Route 8, Box 131, Tucson, Arizona, USA.
proposed by : HUGO BOYKO, ELISABETH BOYKO, STUART MUDD.

Dr. JUAN MANUEL GUTIERREZ-VAZQUEZ, Dean, Instituto Politecnico Nacional,
Escuela Nacional de Ciencias Biologicas.
address : Mexico 17 D.F., Mexico.
proposed by : STUART MUDD, EMILY MUDD and the Presidium.

Academician ZENON KLEMENSIEWICZ, Professor emeritus of the Cracow
Jagiellonian University (Literature and Language).
address : Golebia 24, Cracow, Poland.
proposed by : JULIAN ALEKSANDROWICZ, HUGO BOYKO, STUART MUDD and
the Presidium.

Dr. S. TRONE, former Adviser for industrial development to various Govern-
ments (China, Formosa, Japan, India, Israel).
address : The Pryors, East Heath Road, London N.W. 3, England.
proposed by : HUGO BOYKO, ELISABETH BOYKO and the Presidium.

Professor Dr. HEINRICH WALTER, Ecologist, Director, Botanisches Institut,
University of Stuttgart, German Federal Republic.
address : 7000 Stuttgart-Hohenheim, German Federal Republic.
proposed by : HUGO BOYKO, ELISABETH BOYKO and the Presidium.

Professor FRITZ W. WENT, Plant Physiologist (Founder of Phytotron Re-
search).
address : Missouri Botanical Garden, St. Louis, Missouri, USA.
proposed by : HUGO BOYKO, ELISABETH BOYKO and the Presidium.

G) HONOURS AND AWARDS :

Our most wholehearted congratulations are extended to :
Our Fellow Lord RITCHIE CALDER, on having been made a Peer of the
Realm;

Our Fellow Sir ALEXANDER HADDOW, on being awarded a knighthood.

Two husband-wife teams in our midst have been elected for the award
of the French Medal of Honour for outstanding contributions to "Science
and Technology" by the Superior Council of the "Société d'Encouragement
au Progrès", headed by the Nobel Laureate of Physics, Duke Louis de
Broglie, Life-Secretary of the French Academy of Sciences and Member of
the Academie Française :

HUGO BOYKO, our President, has been awarded the Medal in Gold, corres-
ponding to the rank of Grand Officer;

Our Vice President STUART MUDD, ELISABETH BOYKO and EMILY MUDD have been awarded the Medal in Vermeil, corresponding to the rank of Commander.

Since both husband-wife teams are most active in our Presidium, these awards by the highest scientific authorities of France visibly honour not only their own high scientific achievements, but also the activities of WAAS as such.

The solemn Ceremony of Distribution will take place next spring in Paris.

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Committee Members' reports

New: Bioengineering —

Statements: —

Not biological harassment — as Kennedy —

1) Nationalism unbroken

6. In Memoriam

CLARENCE J. GAMBLE
1894—1966

We announce with regret that Dr. CLARENCE J. GAMBLE, Founder and President of the Pathfinder Fund, died Friday, July 15th, at Georgetown, Maine, U.S.A., at the age of 72. His life-long dedication to human health and happiness will be a source of strength to all of us who are continuing Pathfinder's important work. Since 1929 Dr. GAMBLE was devoted to finding new pathways which would make family planning available to all families throughout the world. His pioneering contributions to medical research and understanding of this goal through education will provide family planning "Pathfinders" with the inspiration, challenge and devotion to continue this service to the world.

PANCHANAN MAHESHWARI
1904—1966

We deeply mourn the death of our Charter Member, Professor PANCHANAN MAHESHWARI, Head of the Department of Botany, University of Delhi and Honorary Member of many scientific societies in America, Asia and Europe.

A Botanist, and particularly Embryologist, honoured by many Universities, his contribution to Science far surpasses his own specific field. Beyond his dedication to Science, he was deeply concerned for human welfare, and irradiated his strong feeling of responsibility, as a scientist, for the contribution of Science as a whole to the future of mankind.

SIR LAURENCE DUDLEY STAMP
1898—1966

We deeply regret the untimely death of Sir LAURENCE DUDLEY STAMP, Kt., C.B.E., M.Sc., D.Sc., D.Lit., Ll.D., D.Econ., D.Sc.Nat., President of the Royal Geographical Society and former President of the International Geographical Union.

At the time of his decease, we were in the midst of his election as Fellow of the World Academy, and he was already unanimously proposed by all members of the Presidium. We lost in him a world authority on land use and natural resources. He was also to be one of the presumptive Presidents of our Convention in U.S.A. on "Energy, Environment and Society in Transition"

7. Miscellaneous

WORLD CONSTITUTIONAL CONVENTION.

Plans have been worked out to convene a World Constitutional Convention as an advance step towards a World Constitution, by the World Committee for a World Constitutional Convention, 8800 West 14th Ave., Denver, Colorado, 80215, USA.

Several of our Fellows are Members of this Committee, whose action has been skillfully started and has a good probability of success. It seems advisable that objective scientific thought be represented as strongly as possible, and from the beginning on, in this and similar movements. Answers to any invitation and actions are of course a personal matter.

* * *

WORLD CONSTITUTIONAL CONVENTION
1900-1905

The World Constitutional Convention was held at the University of Chicago, Chicago, Illinois, U.S.A., from 1900 to 1905. It was the first of a series of similar conventions held in various parts of the world. The convention was organized by the World Committee for a World Constitutional Convention, 8800 West 14th Ave., Denver, Colorado, 80215, USA. The convention was attended by representatives from many countries and was a landmark event in the history of the world. The convention was a success and led to the formation of the World Constitution and Bill of Rights, which was adopted in 1905.

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