

Speech of Professor  
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Winner of King Faisal International Prize  
For Medicine 1983/1403H.

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The choice of "Malaria" as the topic for this year's King Faisal International Prize in Medicine was a very appropriate one. Of all the major communicable diseases that afflict mankind, malaria remains one of the most devastating and, at the same time, difficult diseases to eliminate. It poses one of the greatest challenges to workers in preventive medicine around the world. Even today over 1800 million people are exposed to the ravages of malaria. There are at least 150 million new cases of malaria every year with about one million deaths, especially among infants and young children.

Nature which is the hardest of all taskmasters, has endowed the malaria parasite with an extraordinary ability to overcome every new drug with which we attack it. Similarly, the mosquitoes that carry malaria show an equal ability to survive the best insecticides than man can devise. These problems have made the fight against malaria by drugs and insecticides a long, frustrating, and all too often fruitless exercise. The same adaptability is seen in many other microbes that cause suffering and death especially among the poorer peoples of the world.

In spite of such problems much has been achieved in the past decade. For example, powerful new antiparasitic and antibacterial drugs have been discovered. A new generation of insecticides has become available. The science of immunology, and technological advances in genetic engineering are helping to evolve potent new vaccines to protect against many viral, bacterial and parasitic diseases. For the first time real progress is being made towards developing vaccines against malaria in several laboratories, including our own at the London School of Hygiene and Tropical Medicine.

Not long ago the Director General of the World Health Organisation coined the ambitious slogan, "Health for all by the year 2000". Will we be able to turn this slogan into reality? I believe that we will have, for example, excellent new drugs, vaccines and insecticide with which to fight against malaria. Unfortunately I also believe it is very likely that only a few wealthy and far-sighted countries such as the Kingdom of Saudi Arabia will, in fact, profit significantly from new technological developments, and that the majority of developing countries will be in precisely the same situation as they are today, or worse. To compensate for the high infant and child mortality there will be a continuing high birth rate and the size of the World's population will go on expanding exponentially.

Why do I take this pessimistic, but I believe realistic view of the future? It is because the vast socio-economic problems that face these peoples and their governments pose insurmountable obstacles to improving health services unless major advances firstly in the production of cheap drugs and vaccines and secondly in their actual distribution are made in the very near future. Even apart from possible future scientific advances, many countries today lack both the economic

and administrative means to utilize even those simple measures that are already available to them, tools that would enable them even now to make enormous improvements in their own well-being and development.

Yet much could be achieved relatively easily. My compatriot David Morley who stood here before you last; year helped to establish primary health care clinics to teach simple ways of nurturing and immunizing our infants and young children, the adults of tomorrow. The Swiss scientist Paul Moiler, by his discovery of DDT long ago opened the road to the control not only of malaria-carrying mosquitoes but of other disease-carrying insects. The simple provision of clean water to a village, (a difficult problem here but very easy in countries blessed with good rainfall), can eliminate many of the bacteria and parasites that take a huge toll of health and life in so many countries. To date, however, only one major disease has ever been eradicated and that is smallpox. All the others remain.

The outstanding advances in preventive and curative medicine that have been achieved in this Kingdom, and the great success your medical authorities have had in guarding the health of the millions of Hajjis who make the pilgrimage to your Holy cities every year, show what can be achieved when the will and means are available.

Of course to resolve some diseases new scientific knowledge is required. Your new National Leishmaniasis Research programme, for instance, will help to control this parasitic infection which is especially serious in this and other countries of the Arab World.

The King Faisal International Prize gives a new stimulus to the fight against tropical diseases, and next year's topic of "DIARRHEAL DISEASES" is a superb one for this purpose. It is the only international award of this magnitude that is specifically designed to recognise research directed towards advancing the health of the underprivileged peoples of the World.

As the physician and scientist selected for the great honour of receiving the 1983 King Faisal International Prize for Medicine, I am conscious that my role is to represent the many people in different countries of the developing world and those of the West with whom I have had the good fortune to work during the past 35 years in the field and in the laboratory.

In expressing my heartfelt gratitude to the members of the Prize Committee I would like to leave you with this message. To fight disease it is not enough only to improve our tools by scientific research. We must also use them. This requires money and social organisation. To get rid of malaria we must use all the weapons at our disposal including not only new drugs and insecticides but also vaccines. To develop these in the laboratory is now relatively easy, but to produce vaccines on the massive scale required to control malaria and to build an effective organisation to apply these and other control measures to the millions of people who need them is another, infinitely more difficult, and costly problem.

Financial considerations at the present time are proving a barrier to

research and development of antimalarial drugs and vaccines. I believe that a special international fund is needed urgently to support this work. New drugs together with malaria vaccines would provide immensely powerful weapons with which to eliminate malaria. They are within our reach.

Dr. Jonas Salk of poliomyelitis vaccine fame, and former US Secretary of State, Robert MacNamara, have formed an international committee to support an ambitious programme to vaccinate all the children of the World against several other killing diseases. The inclusion in this campaign of an effective malaria vaccine would give a tremendous boost to the health and survival of millions of children in the Third World. A significant reduction in infant mortality would, paradoxically, be followed in time by a halt to the current insupportable rise in overpopulation, to a reduction in malnutrition, and hence to an overall improvement in global health.

Once more I thank you for the great honour that you have bestowed on me, and through me to my colleagues in many lands who devote their lives to the fight against malaria.