1 March

The "Barefoot Technologist"

Essential to development is a highly developed technological sector manned by trained specialists and professionals. Asia has attempted, with marked success, to develop the technological excellence of the developed world, but has tended to dismiss the contribution to modernization that could be made by those who, unlike themselves, have neither the advanced degrees nor access to sophisticated equipment. Is it possible that in the effort to create their own advanced technologies, Asian leaders have failed to see the potential in developing human resources in specific technical fields at lower levels? Is it both possible and desirable to train people to provide lower levels of technology in medicine, engineering, agricultural engineering, sanitation and water purification, and others?

Developing such lower level or "barefoot" technologies may provide an important part of the answer to the vexing problems that have arisen in Asia during the last few years, and that are now threatening the course of Asian development. Despite the extraordinary growth since 1950 in the number of highly qualified Asian specialists, there is serious question as to whether Asian nations are responding adequately to the demands for education and to the size of national budgets devoted to it.

For example, even with the most optimistic results from efforts to limit population growth, Asian governments face increases in population two or three times the present population size over the next few decades. They must anticipate and prepare for the needs and demands of these massive increases, while still attempting to press on toward a modernization they cannot avoid. More people will mean demands for more places in the educational system, more teachers, schools, and books. Asian resources, however, are scarce. As Asian demands for education press against limited funds, something will have to give, and it is likely that it will be the educational system.

Current Asian educational policies, dervied from the West, are based on the capital needs of an industry and agriculture in conditions of labor shortage. Yet in most Asian countries the problem is one of labor surplus. Despite rapid growth in national product, Asian unemployment and underemployment has grown at an unanticipated rate. Development programs have failed to absorb young people flowing into Asian labor markets. One of the reasons for this has been the mismatch between education and employment needs.

Asian systems are turning out more specialized technologists than the economies can absorb, or in a few cases, as in medicine, too few because of the high costs. Too often, skilled professionals and technologists are unwilling to move to the provincial or rural areas where the need for trained personnel is the greatest, or they are overtrained for the jobs that need to be done in agriculture and industry.

Between 50 and 90 percent of the Asian people are engaged in agriculture. Modernization of agriculture, however, is proceeding slowly, and the struggle to produce adequate amounts of food and to raise the income levels of the rising populations of rural poor is far from being won. New methods and policies are still needed to change rural behavior.

A continuing problem in modernization has been the transfer of technology from the developed to the developing nations. Many times the technology transferred has been capital intensive, when what the developing countries need is a technology that demands more concentration on human labor. Spurred by growing unemployment, an intensive search is under way to find ways of encouraging the development of labor-intensive technologies appropriate to local resource capabilities.

In almost every developing country, development has tended to increase income inequality. This disparity slows down the growth process. But the problem is not one of economics or ethics alone. It threatens political survival, for Asian populations in the 1970's are no longer docile. There are more young people, better fed and better educated than ever before, who are no longer ignorant of the possibilities of change or willing to wait until change reaches them. The poor are demanding and are liable to be a volatile force. Asian governments that ignore or seek to postpone these demands do so at their own risk.

The delegation of the Committee on Scholarly Communication with the People's Republic of China on the Great Wall.

This new set of Asian problems threatening development suggests a role for lower level technologies and skills, and for a lower level of technician trained to provide them.

There are precedents that can be followed. In both the People's Republic of China and the Republic of China, Western technology has been successfully diluted. In the Philippines there is interest in a program for so-called "barefoot managers." This means managers of small- or moderate-scale plants who would live and work in their own provincial areas.

Yet there are many problems. Which advanced technologies if so diluted would be most likely to yield the best use of human and natural resources of the given Asian nation? What are the essential elements of the technology most relevant to local, rural, and urban needs? Who is to teach the skill and how are the "teachers" to be trained? What are the likely costs?

These questions, and many others, will be examined intensively in Asia during the winter of 1973 by a group of distinguished Asian and Western specialists. Findings of that group as well as several papers on the subject will be presented at a symposium entitled "The 'Barefoot Technologist,' " arranged by Edith Coliver and Louis Lazaroff, both of the Asia Foundation.

28 February

Science and the People's Republic of China

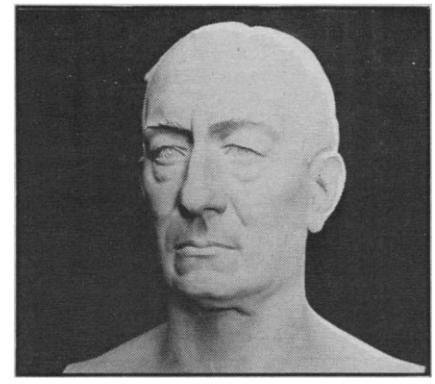
Travel by scientists between the United States and the People's Republic of China has steadily increased during the last 2½ years. Initially characterized as "academic tourism," these visits have developed into intensive and substantive exchanges in fields that are of great interest to both countries, including earthquake research, agriculture, high energy physics, population studies, archeology, acupuncture, and many others.

American scientists have returned from China with admittedly incomplete, but nevertheless fascinating, reports of work in their field. Although superficial in many respects, these first visits are a foundation for future scientific cooperation between the two countries.

A symposium entitled "Science and the People's Republic of China," arranged by Anne Keatley, staff director of the Committee on Scholarly Communication with the People's Republic of China, will survey general topics such as China's interest and participation in international scientific activities, recent developments in scientific exchanges between China and the United States, and political and social trends affecting China's science planning. The symposium will also include surveys, by recent visitors to China, of fields of particular interest for cooperation. In addition, extensive information will be made available on how to establish communication with China's scientific institutions, who has been traveling to China, what Chinese scientific groups are visiting the United States, what published materials on China's science are available, and what U.S. organizations are actively engaged in promoting such exchanges.

25 February

The Marconi Centenary



The 100th anniversary of the birth of Guglielmo Marconi, the father of radio, will be honored at a half-day symposium entitled "The Marconi Centenary."

The intent of the symposium arranged by Wilmot N. Hess, director of NOAA's Environmental and Research Laboratory, Walter Orr Roberts of the University Corporation for Atmospheric Research, and H. W. Leverenz of RCA Laboratories at Princeton, will be to discuss Marconi's contributions to the subject of radio. The symposium will also cover the evolution of radio into a multibillion-dollar-a-year enterprise, and the many new fields of science that have been opened up by Marconi's work.

Marconi's daughter, Mrs. Braga, will introduce the subject with personal reminiscences of her father. The program will then continue with discussion of the technological developments that have emerged from early radio, such as transistors, computers, satellite communications, navigation systems, radio astronomy, and remote sensing of the atmosphere—achievements emerging largely from the work of Marconi.

The San Francisco Symphony

Tickets are now available for a performance by the San Francisco Symphony at the Opera House on 1 March 1974 at 8 p.m. Guest conductor for the evening will be Edo De Waart; piano soloist: Philippe Entremont.

Program:—Mendelssohn—"Ruy Blas" Overture
Prokofiev—Piano Concerto #3
Dvorak—Symphony #6

Prices: $4.50 or $7.00 (All tickets must be ordered before 1 February)

Requests for tickets should be sent, with remittance, to:
Miss Jane Kingston, Room 70A-3307
Lawrence Berkeley Laboratory
University of California
Berkeley, California 94720

Note: Checks should be made payable to the San Francisco Symphony Association. Please enclose stamped self-addressed envelope with your remittance.