

### Scientific Development in Africa

Judging from the responses I have received, my article "A scientific safari to Africa" (7 Aug. 1970, p. 554) did what it was supposed to do. It succeeded in arousing interest in the need for increased action in scientific development in Africa and encouraging more direct contact between African and American organizations and individuals in our respective scientific communities.

The article also brought to light what various U.S. universities are already accomplishing in the way of a wide range of cooperative activities with counterpart African institutions and African scientists. Some of the universities which have informed me of their involvement in such cooperation are Columbia, the University of Kansas, the University of California at Los Angeles, Oklahoma State University, California Institute of Technology, Cornell, Syracuse, New York State College of Agriculture, the University of Illinois, the University of Pittsburgh, the University of Miami, and New York University. In addition, many other universities have written to explain their plans for or interest in pursuing cooperative activities. I have also read a very interesting report to the Ford Foundation prepared by John Ross of M.I.T., covering his and John Hunt's visits to Ghana, Kenya, and Ethiopia. In these countries they visited universities, technical institutes, and Ford Foundation programs where they gave lectures and discussed problems with staff and students.

I have received a heartening number of inquiries from individuals and organizations pertaining to such matters as working or teaching in Africa, the feasibility of establishing a technical purchasing service to obtain spare parts for scientific instruments at institutions in developing countries, and ways of cooperating in the establishment of documentation centers. I have supplied to each correspondent whatever pertinent information was available and suggested individuals and organizations, both in Africa and the United States, that are likely sources of further information.

Several national societies, including the American Medical Association, the

American Institute of Physics, the American Association of Physics Teachers, the American Institute of Chemical Engineers, and the American Physical Society, have generously provided subscriptions to scientific, technical and medical journals to African institutions.

Many individual scientists have also made meaningful contributions. For example, William R. Atkinson of Boulder, Colorado, has purchased, at his own expense, a subscription to *Science* for an African university. Also the efforts of William T. Golden were instrumental in securing private foundation funding for subscriptions to *Science* for nine African institutions.

As I indicated in the article, U.S. government agencies are operating under very stringent budgetary limitations; however, it is encouraging to note that Glenn E. Schweitzer, of the U.S. Agency for International Development (AID), recently carried out a 3-week visit to Ethiopia and East Africa which included the exploration of suggestions contained in my article. In addition, AID is, in concert with the National Academy of Sciences, investigating the possibility of sponsoring workshops in several African countries on the problems of science and technology. This is being undertaken in addition to other scientific development programs which AID is presently carrying out in Africa and which hopefully may be expanded.

With respect to my own agency, I am pleased to note that the Atomic Energy Commission's Brookhaven and Oak Ridge National Laboratories are providing, under a loan arrangement, a neutron pulse generator, a scintillation spectrometer, two rate meters, and two decade scalars to Ethiopia's Haile Selassie I University.

Henry J. Gomberg, Director of the AEC's Puerto Rico Nuclear Center (PRNC), recently visited the United Kingdom's Tropical Products Institute in London, which is carrying out research and development in support of developing countries. The institute is keenly interested in PRNC's experience in applying nuclear energy to the solution of problems in the tropics, one of which is the control of parasitic diseases. In this context, Jorge Chiriboga, of PRNC, has visited Ethiopia and Tanzania to study schistosomiasis. PRNC

has had much experience and success in developing programs for countries in Latin America, and we believe that this experience can be readily transferred to the African situation.

I was especially pleased to receive distinguished visitors from some of the countries we toured on our scientific safari. Among them, Alexander Kwabong, Vice Chancellor of the University of Ghana, told me about a series of five lectures that Clark Kerr gave at the University of Ghana during March 1970 and how well received they were. I also had a very interesting discussion with a Tunisian delegation headed by Ali El Hili, Director of Higher Education and Science Research. Also included in the party, all from the University of Tunis, were Mohammed Skouri, Dean of the College of Agriculture; Mongi Chemli, Dean of the College of Education; and Mokhtar Latiri, Dean of the College of Engineering.

Taken together, the responses that I have received to my article have strongly reinforced my belief in the need for a focal point in the United States for promoting and coordinating cooperative activities designed to further scientific advancement in the developing nations. One of the functions of such an organization would be to serve as a clearinghouse for requests for assistance and information regarding available sources of all types of aid, whether governmental or private.

Finally, it is clear that one visit and one article are only a small contribution toward bringing to bear the full weight of modern science and technology on scientific development in Africa. We need more knowledge and, most importantly, more cooperative effort. I hope that my experience will be reviewed as an encouragement for further action by those who read my article.

GLENN T. SEABORG

*United States Atomic Energy Commission, Washington, D.C. 20545*

### La Porte Anomaly

Through use of a rather tenuous reference to the recent article by Landsberg (1), Holzman (Letters, 5 Mar.) has reissued his previously published views on the La Porte precipitation anomaly (2). A reply rebutting these same points was published in the *Bulletin of the American Meteorological Society* (3). It appears wasteful to re-