

# Meetings

## Organization of Scientific Research in Latin America

A regional meeting to discuss the organization of scientific research in Latin America was held from 3 to 7 October 1960 in the Central University of Venezuela, Caracas. The meeting was arranged by the UNESCO Science Cooperation Office for Latin America, under the patronage of the Ministry of Education and the University of Venezuela. Heads of national research councils, rectors of universities, deans of science faculties, and senior scientists from Argentina, Bolivia, Brazil, Chile, Colombia, Cuba, Ecuador, Mexico, Peru, Uruguay, and Venezuela had been invited to attend, and the World Health Organization and the National Academy of Sciences (U.S.) sent observers. The meeting was held in the beautiful buildings of the Central University.

The President of the Republic, Rómulo Betancourt, spoke briefly at the opening ceremony, welcoming the delegates with the assurance that they would find in the Venezuela of today complete freedom for the development of scientific research. Other speeches were delivered by A. Establier, head of the UNESCO Science Cooperation Office for Latin America, Rafael Pizani, minister for education, and Francisco De Venanzi, rector of the Central University.

The meeting elected De Venanzi as its chairman. The working sessions were opened by a review of the general tendencies of scientific research in Latin America by Bernardo Houssay, president of the Council for Scientific and Technical Research of Argentina. This paper provoked a valuable discussion which formed a background for the other papers presented at the meeting.

The paper by David Stitchkin, rector of the University of Concepción, Chile, on funds available for scientific research, with special reference to equipment, was the one which caused least discussion, since the meeting was unanimous in concluding that the amounts presently available are notably insufficient. It was recommended that governments should accept as a target the allocation of 2 percent of the national budget for scientific research.

During the discussion of the paper by Mario Gonzalez (Cuba) on the basic and applied sciences, it became clear that the meeting did not wish to emphasize the distinction between the two and preferred to think of science as a whole, recommending that firms in industry and agriculture should strengthen their links with research and teaching institutions in view of the profound effect which science has on modern commercial life.

Houssay introduced the question of national research councils, which exist in only a very few Latin American countries. The meeting recommended that other governments of the region give serious thought to the advantages of establishing research councils, and UNESCO was asked to provide information to governments about the functions and possible types of organization of research councils.

Marcel Roche, director of the Venezuelan Institute of Scientific Research, presented a paper on the career of the research worker. He analyzed and compared the careers offered by the research councils of Argentina, France, and Venezuela. It was thought that the arrangements adopted by the Argentine and Venezuelan councils, whereby members of their staffs are able simultaneously to accept teaching posts, are valuable in the Latin American setup, since this makes maximum use of the small scientific manpower available and keeps the research worker in touch with universities and youth. This subject was very closely related to the next one discussed, the shortage of teaching and research personnel in Latin America, which was introduced by Rodolfo Talice, dean of the Faculty of Science at the University of Montevideo.

One of the highlights of the meeting was the paper by Paulo Sawaya, dean of the faculty of philosophy of the University of São Paulo, on the results of adopting in certain universities and institutions the full-time system. Most universities and research organizations permit their staffs to hold one or more posts outside the organization, and the virtues and vices of this system form one of the most hotly debated subjects in scientific circles in Latin America. The meeting recommended that govern-

ments and universities establish the full-time system as the ideal in research and higher teaching posts, and that they provide salaries and working conditions adequate for this purpose.

UNESCO has encouraged and assisted in the formation of regional research centers, such as that for mathematics in Buenos Aires, and of groupings of research centers, such as the Latin American Council for Cosmic Radiation. Ismael Escobar, head of the Cosmic Ray Physics Laboratory at Chacaltaya, Bolivia, introduced this topic. Discussion led the meeting to call on UNESCO to continue its efforts in this field, so that teams of research workers may be brought together, animated by the desire to achieve Latin American unity in research.

De Venanzi analyzed the attitudes of governments and of public opinion toward scientific research problems in Latin America. Though much improvement has occurred in the last few years, a great deal remains to be done. The meeting felt that the press, radio, and television have a paramount role to play and hoped that ways can be found to establish training in scientific journalism. In this connection, delegates were happy to note the complete and accurate coverage of the meeting in the Caracas press.

In Latin America, fellowships tenable in more scientifically developed areas will, for some time to come, provide the principal source of higher training for research workers in many fields. E. Beltran, under-secretary for forestry and game resources in Mexico, discussed the subject in all its aspects. An increase in the number of fellowships granted by governments and other agencies was recommended, as well as greater emphasis on instruction in foreign languages, since language deficiencies frequently make it impossible to derive full benefit from fellowships. The paper by M. A. Garrido Malo, dean of the science faculty at San Marcos University, Lima, was on a closely allied subject: exchange of scientists between Latin American countries. UNESCO was asked to publish its *Boletín* with greater frequency, so that news of courses, special facilities, visits of foreign scientists, and so on may be more rapidly disseminated, and all laboratories were urged to use to the utmost the possibilities offered.

The subject of scientific documentation in Latin America was introduced by Manuel Sadosky, vice-dean of the science faculty of the University of Buenos Aires. A lengthy discussion led to a series of recommendations: that UNESCO should make a survey of scientific journals in Latin America, with the object of formulating a plan for ra-



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tionalizing them; that the Mexican Scientific Documentation Center should make its services more easily available to scientists in other countries; that more national scientific documentation centers should be established; that governments should grant free postal services to scientific journals; and that financial help be given to a select number of journals.

The final subject on the agenda was a review of UNESCO's science programs, particularly that of the Latin American Science Cooperation Office in Montevideo. Establier described proposals which will be debated at the general conference of the organization to be held in Paris in November, and also outlined a series of long-term projects which might be undertaken by the Montevideo office. Among these was one for an International Andean Year, during which teams of specialists in different fields would attack the problems of this vast mountain chain which so profoundly affects living conditions in the countries through whose territories it runs. Another proposal was for a full-scale operation directed toward rationalizing scientific journals. A third would deal with the problems of the unproductive areas of the seas, lakes, and rivers of the continent. At the end of this discussion, Establier received the warm congratulations of the meeting, both for the way he has directed UNESCO's science activities in Latin America and for the organization of the Caracas meeting.

The final act of the meeting was the approval of a statement which it was hoped would come to be known as the "Caracas Charter," in which the delegates summed up their views on science organization in Latin America. The text is as follows.

The delegates attending the Seminar on the Organization of Scientific Research in Latin America, held in the City of Caracas from 3 to 7 October 1960, on the initiative of UNESCO and the Central University of Venezuela:

### Considering:

That although considerable progress has been achieved in the field of scientific organization in some countries of Latin America, nevertheless they are not on the same level as the most advanced countries, nor is there a sufficient number of research teams to cover the needs of Latin America;

That the experience of highly developed countries demonstrates that the most remunerative investment that can be made is in scientific and technical research;

That in order to overcome the situation of insufficient economic and cultural development, the encouragement of research, especially in the basic sciences, is indispensable;

That knowledge of science and its applications should be introduced and devel-

oped at all levels of education, and that it is at the secondary level that scientific vocations and talents can be detected;

That public opinion should be aware of the role and importance of science and of the achievements of Latin American research workers;

### Declare:

That a reevaluation of the organization of scientific research is indispensable, according to it due priority among the problems and prospects of Latin America:

That in order to carry out effective scientific activities not less than 2 percent of the national budget is required;

That special attention should be given to the achievement of high-level efficiency in the teaching of the basic sciences;

That encouragement should be given to research workers by means of the full-time system, with a salary able to provide a decent standard of living;

That many young students and graduates with gifts for research should be able to obtain fellowships, tenable within or outside of their countries, and working conditions which will allow them to develop their capabilities;

That the establishment of national scientific and technical research councils should be encouraged, in view of the success which these have had in the more developed countries and in several Latin American states;

That, similarly, assistance by the more advanced universities of Latin America to those less well developed should be encouraged;

That newspapers, and radio and television stations should give special attention to the diffusion of scientific knowledge and of information about scientific work in each country, for which purpose the training of specialized journalists, capable of informing the masses as part of their important mission, about the discoveries and the benefits obtained from high-level scientific and cultural activity should be encouraged;

That governments, members of parliament, business men and in general all citizens should, in one way or another, seek the opinion of scientists and technologists of good standing before they take fundamental decisions affecting the destinies of the countries of Latin America.

The hospitality shown by the Government and Central University of Venezuela was on a princely scale. The President of the Republic took a close personal interest in the meeting and accorded the members an audience in Miraflores Palace. We were given an opportunity to see the different departments of the university and the laboratories of the Venezuelan Institute of Scientific Research, magnificently installed at La Pipe near Caracas. We left Caracas firmly convinced that scientific research in Venezuela is at the dawn of a glorious future.

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