

ACADEMIA SINICA OF THE REPUBLIC OF CHINA

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I

THE ACADEMIA SINICA OF THE REPUBLIC OF CHINA WAS FOUNDED at Nanking in 1928. In view of the past existence of old traditional academic institutions in China, such as the *Han Lin Yuan*, the Academia Sinica, a Chinese counterpart of the modern academy of science, was modeled after the European scientific institutions. It is an operational academy with its own research institutes. The status of the Academia Sinica was laid down in a law passed by the National Assembly of the Republic. This law accords to Academy high powers as well as extensive responsibilities in public life. According to this law, the Academy is the supreme scientific institution of the country, responsible for the growth of science in all its branches; the highest representative body of the nation's research and educational institutes. It is independent in formulating its research policies and directing its own works. Thus it holds a unique position in the governmental fabric of the Republic of China.

The basic structure of the Academia Sinica is the Assembly of Academicians composed of members of the Academia Sinica who are elected from the most highly qualified Chinese scholars and the most distinguished scientists of the country. In the mainland days, the Academia Sinica had eighty-one members; its present membership is forty-three. Their duties include active participation in many activities of the Academy, in addition to such functional performances as electing new members and organizing the Council of the Academia Sinica.

The Council of the Academia Sinica is the supreme governing body of the Academy. It is headed by the President of the Academia Sinica and is composed of thirty to fifty members elected by the Academicians. The membership is made up of academicians, senior fellows from the Academy's institutes, and of outstanding representatives of the universities who are organized into three sections: mathematics and physical sciences, biological sciences, as well as social sciences and humanities. The Council delineates

broad scientific policy, not only for the Academy's institutes but also for scientific cooperation with foreign countries. When the office of President of the Academia Sinica is vacant, the Council elects three candidates, one of whom is appointed to the office by the President of the Republic of China. The Director General, who is the executive officer of the Academy, is also one of the two secretaries of the Council.

According to its organic law, the Academia Sinica has two basic functions. First, it is to conduct scientific researches in its own institutes. Second, it is charged with responsibilities of coordinating and assisting in their scientific pursuits other research institutes and universities in China.

II

The first and most important task of the Academy is to carry out fundamental research. This is being done in the Academy's institutes established during the first twenty years of its existence: thirteen institutes ranging from natural and social sciences to humanities. During the government evacuation from the Chinese mainland in 1949, the Academia Sinica left behind (or lost) all but two of these institutes. The Academy has since reactivated seven more institutes. Now, it has nine institutes in Taiwan: Mathematics, Physics, Chemistry, Botany, Zoology, History and Philology, Modern History, Ethnology, and Economics. These institutes have some 140 research fellows and associate fellows, whose qualifications correspond to those of university professors and associate professors, in addition to their assistants and part-time researchers. Each of the institutes is headed by a director who is appointed from among the senior research fellows by the president of the Academia Sinica.

The main part of the work of the Academy is devoted to the natural sciences and the social sciences. Particular attention is paid to mathematics, physics, chemistry and biology. The Institute of Mathematics undertakes applied as well as pure mathematical research. Under a cooperative program with the Institute of Nuclear Science of Tsinghua University, the Institute of Physics concentrates researches on low energy nuclear physics, neutron diffraction studies of solids and some fields of theoretical physics, such as physics of plasmas. The Institute of Chemistry has in the past completed a number of research projects in the fields of bio-

chemistry and organic chemistry, and is now under contract to investigate the various processes of making Chinese cheese by the fermentation of soybean curd. For the past several years, the Institute of Botany has done a great deal of research work on sugarcane and rice — the two main staple crops in Taiwan. The work with sugarcane is chiefly concerned with the cytological studies of sugarcane and its relatives as well as the improvement of sugarcane varieties. More recently, the research work of the Institute has shifted exclusively to the study of rice plant from the standpoint of basic as well as applied phases. The Institute of Zoology is primarily engaged in the study of various aspects of growth phenomenon which includes the problem of wound healing, tissue transplantation and malignant neoplasma. The scope of work of the Institute of History and Philology covers all branches of historical studies ranging from the compilation, classification, editing and publishing of state archives of the Ching Dynasty, to the critical study of ancient classics, as well as historical materials of ancient, medieval and modern periods; from field works in philology, archeology and anthropology to the study of general linguistics, cultural and ethnological problems on comparative and historical bases. The institute is now undertaking a rather ambitious project of writing the general history of China. It will be a scholarly work similar to the Cambridge work on the history of England. The main lines of research of the Institute of Ethology include programs of cultural history of the Chinese people, primitive cultures of the aboriginal tribes in Taiwan and those of Southeast Asia and the Pacific, social survey and study of folklore among the Chinese in Taiwan and overseas Chinese societies in Southeast Asia. The Institute of Modern History is mainly engaged in the research of Chinese history since the nineteenth century, with special emphasis on the impact of Western influence in China. The Institute of Economics — the youngest among the institutes of the Academia Sinica — centers around problems relating to economic development and programing with particular reference to Taiwan.

III

To appreciate the second function of the Academia Sinica, namely assisting science research in the universities and other research institutions, one must keep in mind that the principal task of the institutes of the Academy is to conduct fundamental re-

search. In this sense, it is much closer to the universities than to the research institutions of the industries. The contact between the university institutes and the laboratories of the Academy is very close and may take various forms. Many of the senior workers of the Academy hold external teaching appointments in the universities or, to take another example, many of the graduate students come and learn special techniques or even work on their theses in the Academy institutes. However, in recent years, the Academia Sinica has established — in cooperation with the Ministry of Education — a National Council on Science Development, which is designed primarily to encourage research works by individual scholars and scientists in universities and other institutions. The successful operation of the science council is taken by many as a positive evidence that assistance to educational and research organ is even more important in this critical period in Free China. A step further is now taken by the Academia Sinica to organize Summer Institute on sciences (in cooperation with the National Taiwan University and Tsinghua University) to improve teaching in universities and to raise the standard of research in these institutions. This will also be, to some extent, a remedial measure to help solve the shortage of teaching and research personnel in the institutes of higher learning, a difficult situation we are facing at this moment.

IV

The Academia Sinica is also designated by the government as the sole representative to the International Council of Scientific Unions (ICSU). Thus, the Academy is the coordinating center of the various Chinese National Committees adhering to the international scientific unions. Out of fourteen unions adhering to ICSU, the Academia Sinica has already joined ten unions: Astronomical Union, Union of Geodesy and Geophysics, Union of Pure and Applied Chemistry, Union of Biological Sciences, Geographical Union, Union of the History and Philosophy of Sciences, Mathematical Union, Union of Biochemistry, and Union of Geological Sciences. Furthermore, the Academy has participated in the special scientific programs sponsored by the ICSU, such as the International Geophysical Year (IGY), the Special Committee on Oceanic Research (SCOR), the International Years of Quiet Sun (IYQS) and the Upper Mantle project (UMP). No efforts have been spared by

the Academy to encourage international scientific activity and to maintain close relations with international organizations and agencies.

In conclusion, it can be said that during its thirty-five years of existence, the Academia Sinica has made notable contributions to the economic and cultural growth of the country and has gained world-wide recognition in a number of fields.