Letters

Exchange of Postdoctoral Students with Japan

The U.S.–Japan Cooperative Science Program appears likely to assume new significance with the support offered by the National Science Foundation to Americans who wish to undertake postdoctoral studies in Japan under the auspices of this joint venture. Some impressions formed and information gained during such a two-month postdoctoral visit to Y. Katsuki's laboratory (Department of Physiology, Tokyo Medical and Dental University) might be of interest.

Language, first of all, poses no very great problem, since most Japanese engaged in basic research, including the graduate students, speak English quite well. There is ample opportunity to familiarize oneself with Japanese viewpoints and to consider current research projects. Many exciting developments are taking place in Katsuki's laboratory alone: Y. Tanaka and K. Yanagisawa are gaining new insights into the cholinergic depression of the endocochlear potential, employing electrophoretic application of acetylcholine to the immediate region of the hair cells; T. Watanabe and Y. Kanno are finding that stimulation of the cat's auditory cortex can enhance or inhibit auditory responses recorded at the geniculate level; T. Hotta is mapping points of interaction of auditory and visual responses in the thalamus of the cat; in conjunction with the Olympus Company of Japan, Katsuki and Kanno are perfecting a "dip-prism" microscope which allows individual brain cells to be seen and selectively penetrated with a microelectrode; M. Nomoto is considering the possibility of cholinergic inhibition in the lateral line of the eel.

In the Department of Anatomy, H. Mannen has developed a technique for obtaining excellent photographs of Golgi-impregnated neurons, which is extremely useful in calculating cell volumes and surface areas. In the neighboring University of Tokyo, K. Uchizono is employing the electron microscope to analyze the frog's sympathetic system and its relation to the fine fibrils present in many capillaries of this animal; M. Ito is interested in inhibitory pathways from the cat's cortex to Deiter's nucleus and to the Purkinje cells of the cerebellum, employing an original ventral approach to expose the brain. In the University of Tokyo Department of Zoology, H. Kinosita is making new observations of melanophore physiology in the squid; Naito has made important findings concerning chemical sensitivity in *Opalina*; Takahashi has discovered an apparently nonmuscular effector which acts as the cog mechanism at the base of certain sea-urchin spines. Prince Yoshinomiya carries on an investigation of cell division in this department.

Research facilities were excellent in the several institutions I visited, particularly for the postdoctoral workers. Good electronic equipment is much in evidence, often having been designed and manufactured for use in a particular laboratory. Japanese graduate students do appear to suffer somewhat because of insufficient equipment and space, but the problem is being met by large-scale building programs. . . .

The hospitality of the Japanese people both in and out of the universities made this visit especially enjoyable . . . . The impression I got was that the Japanese were greatly interested in seeing that this type of exchange got off to a good start. They succeeded admirably so far as I am concerned.

It is to be hoped that cooperative programs such as this will continue to grow, eventually encompassing not only more postdoctoral students, but qualified graduate and undergraduate students as well. While there may be an inadequate representation in Japan of American students of the arts, there is a particularly obvious paucity of American students in science and engineering (with perhaps the reverse being true with respect to the flow of Japanese students to the United States). If there is any significant anti-American sentiment in the Japanese universities, one gets the impression that it must spring primarily from lower levels and not from among the postgraduates or the faculty. Greater opportunity for discussion between Japanese and Americans on the graduate and undergraduate levels would probably do much to cement good academic relations between the two countries. The Japanese students are generally both very competent and adaptable, and exhibit a type of exuberance for life and a closeness to nature which is peculiarly Japanese. Contact with them should have a profound effect on equally competent and adaptable American graduate and undergraduate students.

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More Than Hypochondria

In his article "One campus, two cultures" (21 Aug., p. 790) Laurence Lafore describes the concern about the alleged existence of two intellectual cultures as a hypochondriac's pain in the big toe. It is his thesis that the two-culture phenomenon, such as it is, is a passing phase in an inevitable progression to more multi-dimensional specialization.

To dwell exclusively on the fascinating cultural dichotomy within the intellectual community is to miss half of Snow's point, however. As I read it, Snow's major thesis in his 1959 Rede Lecture was quite similar to that of his *Science and Government*: that government-public political, economic, and social planning and decision-making were failing to take scientific-technical factors intelligently into account. In *Science and Government* he stressed wartime decisions, and in *Two Cultures* he stressed educational planning. The major points, however, were quite similar and amounted, at the time, to considerably more than an imagined toe pain. The situation has been partially corrected in the intervening years. In the United States, President Kennedy created the Office of Science and Technology to advise and inform the executive branch, and congressional committees have been formed which are intended to do the same for the legislature.

Snow did not do a convincing job of showing that the cultural gap between scientific and literary intellectuals was responsible for the informa-