

Science and Technology Agency. And a new national university (Tsukuba University), based on various new attempts to break with university tradition, has just started activities there.

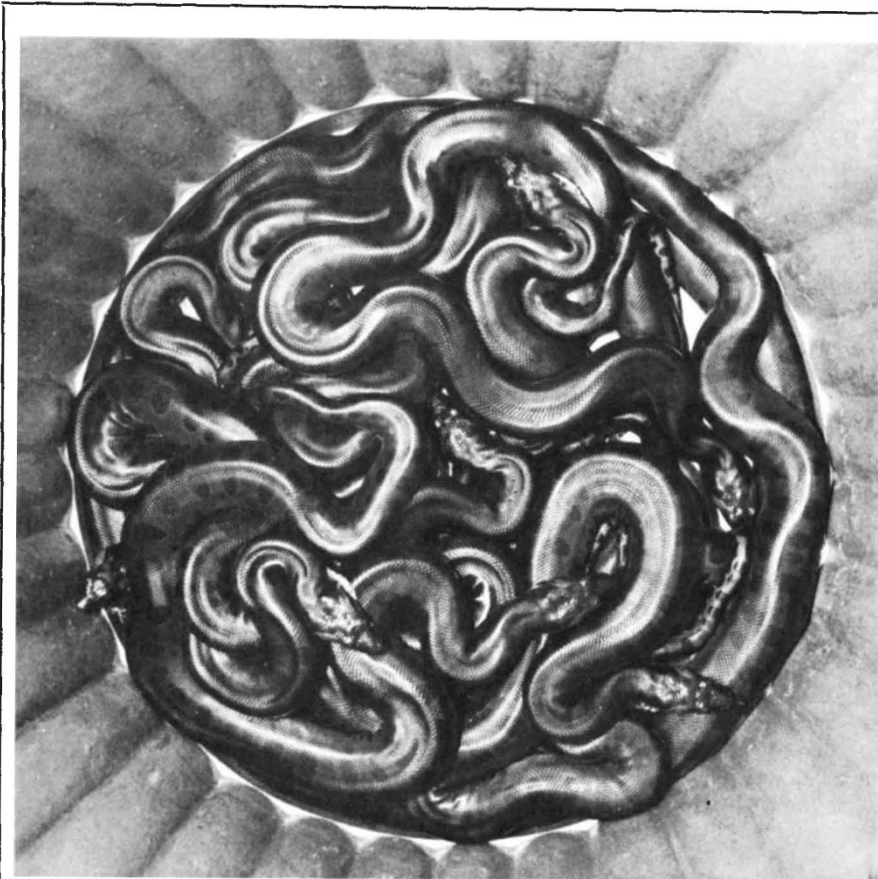
The Institute for Molecular Science is to be located at Okazaki 190 miles to the west of Tokyo, where it is also planned to build two other new institutes devoted to the life sciences.

The idea of the inter-university institute has been nurtured in Japan for some time. Soon after the Second World War, Japanese scientists began to think of establishing forums where they could exchange their ideas and cooperate in research of common interest. Nuclear scientists, for example, wanted to build an accelerator for nuclear research, but the cost seemed too large to be borne by a single university at that time. Therefore, the facility was supposed to be shared by researchers all over Japan. Traditionally, however, the national universities receive money from the government individually, which made it rather difficult to set up facilities to be shared on an entirely equal basis by several of them. The compromise was that institutes should be affiliated to a particular university, which is made responsible for its operation; but the facilities are available to the research scientists outside that university. At present there are more than a dozen of these so-called "institutes for joint use".

The establishment of these institutes raises a series of interesting issues, and naturally there are some difficulties. Universities in the main remain rather closed in structure, and the institutes for joint use are no exception. They usually open their doors only to scientists closely related to the research they cover, and this often causes friction. Of course, it is not impossible to promote inter-institutional joint projects, as is exemplified by the joint programme set up by the Institute for Nuclear Study and the Institute for Solid State Physics, both of which are affiliated to the University of Tokyo. There had been a good deal of spectroscopic work with electron synchrotron radiation in the past, but the spectroscopists involved wanted to build a storage ring to provide increased energy and radiation intensity. The ring has been successfully tested under the supervision of Professor Taizo Sasaki, of the University of Tokyo.

To escape more completely from the university strait-jacket, the idea of inter-university research institutes on a national basis, completely detached from the existing universities but still keeping a university's essential characteristics, were developed.

The Institute for High Energy Physics, for example, was established in 1971, at the recommendation of the



THE picture of young anacondas is taken from the Annual Report of the Zoological Society of London for 1974. In its annual report the Zoo records a rise of expenditure of 16% over last year, mainly on salaries and animal feeding stuffs. Unfortunately this coincided in

1974 with a fall in the number of visitors to both London and Whipsnade. But the numbers picked up again, apparently, after the arrival of the two giant pandas from Peking as a gift from the Chinese government; they arrived last September in a blaze of publicity.

Science Council of Japan, the advisory body to the Prime Minister's Office on scientific affairs. The recommendation was originally made as early as 1962, on the basis of extensive studies of a possible proton synchrotron. The project was investigated in detail and was finally authorised by the Ministry of Education. This synchrotron produces energetic protons in two steps—the booster ring accelerates them to 500 MeV and the main ring (108 m in diameter) brings them up to 8~12 GeV. The five-year plan presented to start with is to be modified to a seven-year plan, with an increase in the total budget from about £10 million to about £15 million.

According to Professor Shigeki Suwa, the director of the institute, there has been plenty of cooperation between scientists and engineers in the design and the construction of the accelerator. He also says that the institute is keen to open the way for technicians to achieve better positions in the institute through promotion. A storage ring of the colliding beam type, equipped with

super-conducting electromagnets, is still on the drawing board, but is being designed to produce a 70-GeV proton beam. Preliminary testing of the super-conducting wires is progressing satisfactorily.

The building of The Institute for Molecular Science has just been started, and Professor Hiroo Inokuchi, of the University of Tokyo, is now responsible for supervising the preparation of its activities. The setting up of this institute was also recommended by the Science Council of Japan (in 1965) and it is scheduled to cover five major fields of research, ranging from molecular theory to cooperative molecular phenomena.

This institute will be administered along similar lines to the Institute for High Energy Physics, and a development worth mentioning is the establishment of a "technical development section", responsible for the design and development of new research instruments. The original five-year plan for the institute is covered by a total budget of some £6 million. □