How to Transplant Biomedical Research

Small countries are showing increasing interest in buying into the anticipated biotechnology bonanza, but in many cases it is necessary for them to first develop capabilities in biomedical research that provide the scientific basis for biotechnology. The inducements include both opportunities for commercial applications and the possibility of solving indigenous health problems.

The difficulties that small countries with limited resources face in establishing serious research efforts in molecular biology and biotechnology came up for discussion at a recent weekend meeting at the National Institutes of Health (NIH). The sponsors of the meeting were a group of research scientists with ties to Greece, now working at NIH and other institutions in the Washington area.

Prospects in Greece for creation of a serious biomedical research effort have been strengthened by the action of the government of Prime Minister Andreas Papandreou in increasing research funding and espousing plans to create centers of excellence in research. A focus of the discussion at the meeting was the establishment of an institute of molecular biology and biotechnology in a research center associated with the new University of Crete. The initiative is regarded as crucial by the reform minded because of the special treatment by the government and the presence of a more flexible institutional structure than the traditional one. Some success has been achieved in attracting Greek scientists from abroad to work there.

The role of expatriate scientists in Europe and the United States in fostering such projects is regarded as essential. At the meeting, P. C. Huang and Ru Chih Huang, husband and wife who are both professors at Johns Hopkins, described their involvement in an effort to establish a molecular biology laboratory in Taiwan. The projected lab is to be on the site of the Academica Sinica near Taipei. It will be a subbranch of the academy and have a scientific staff of about 80.

A common difficulty faced by advocates of such projects, says P. C. Huang, is in persuading the prospective patron government to make the unaccustomed investment in basic research when the governm nt typically, requires guarantees of participation by able scientists before providing funds. This creates a "chicken or the egg" situation, he says, because the scientists want to be assured that the funding is there before committing themselves. Apparently, the feat of simultaneous persuasion has been accomplished. The list of scientists with Chinese backgrounds or Chinese "in laws" who have pledged participation is impressive. And prospects look favorable for an opening targeted for 1986, with funding from the Taiwan government and private sources.

Israel provides an example for small countries interested in research but may be a difficult model to imitate. At the meeting, Professor N. Sharon of the Weizmann Institute noted that the foundations for research were set well before Israel became a state. Hebrew University, the Haifa Technion, and Weizmann Institute were all established in the 1920's and 1930's.

Israel maintains a high rating per capita on the usual indices of scientific productivity. And it is working hard to translate its science into technology. Sharon noted that in jocular allusion to Route 128 outside Boston, the road to a science park near the institute is called "route one point twenty eight."

The secret of success of Israeli science, says Sharon, is the recognition that the country is "a small one, a poor one, and the major resource is the human mind." And by and large, the guiding principle of research administration is "give them the money, and let them alone." The remark drew vigorous applause from the other researchers in the audience.

—JOHN WALSH

Business to Boost R & D

Private industry plans to boost its outlays on research and development next year to $48 billion, an 11 percent increase over current expenditures, according to a projection by the National Science Foundation. The projection is based on a survey of some 90 industry officials, who said that the expected economic recovery coupled with increasing foreign competition would stimulate the anticipated rise in R & D expenditures.—COLIN NORMAN

Sag in the Market for Scientists, Engineers

A softer job market for scientists and engineers is indicated by data from more than 50 recent surveys. The Scientific Manpower Commission's biennial report,* which is essentially a survey of surveys, suggests that economic conditions apparently caught up with the groups covered in the survey. The change of fortune for engineering graduates was particularly pronounced after several years in which there were rapid increases in both levels of salaries offered and the number of jobs available despite the recession.

In general, salaries offered new graduates in science and engineering disciplines this year changed little from last year and the volume of job offers was down sharply in most disciplines. Among new graduates, petroleum engineers continued to command the highest average starting salaries—about $30,000—but the number of job offers in the field dropped substantially. Salaries offered graduates in chemical, geological, and mechanical engineering actually were lower this year than last.

Much the same pattern applied in respect to experienced scientists and engineers moving to different jobs. Bucking the trend among scientists and engineers employed in research and development jobs are the biologists, who last year received an 11.1 percent increase in salary, tops among professions surveyed. Median salary for biologists in industry went up to $34,380 this year from $30,950 last year.

While the change is not dramatic, there are indications that the trend of rapid salary increases in the data processing field is ending.

Data for 1983 show no signs that salary differentials between men and women in technical professions are being banished. Salary offers and reported earnings continue to be lower for women than for men in most fields. An exception is engineering where there was no significant difference in starting salary offers made to male and female engineering graduates.

—JOHN WALSH

* "Salaries of Scientists, Engineers and Technicians." 184 pages. $30.