

used by federal data gatherers in working up statistics on unemployment are poorly adapted to giving accurate pictures of the situation in research-based industry. Aerospace and electronics professionals may be classed in any of a half-dozen categories from ordnance to electric power generating and transmission equipment, and the categories cut across too many boundaries to allow precision in analysis.

Furthermore, the decline in employment has occurred over a period of 2 to 3 years. Many professionals accepted early retirement or took lesser jobs—often in the category of skilled labor—in their companies. Unemployment insurance rolls are unreliable guides, since many scientists and engineers have been out of work so long that they have used up their eligibility for unemployment insurance and others were simply unwilling to go on what they regard as the dole.

Some are living on savings or are scraping by on the salaries of working wives. Press coverage of the unemployment problems of the professionals has tended to run to feature stories on individuals like the physicist now serving an apprenticeship as a bartender. At least two senior engineers have taken jobs in the area as department store Santas. But it remains difficult to generalize about the fate of job seekers for whom there is now no market.

Little Help on Horizon

For those professionals determined to make use of their educations and experience, the retraining and job-finding services of state and federal governments seem to offer little present hope. Existing retraining programs were designed primarily to give unskilled workers, or those displaced by automation, marketable skills in manufacturing or service industries, and few professionals are ready to settle for the pay or status that such jobs entail. Local self-help efforts are under way, and there are signs that the plight of the professionals is stirring action at state and federal levels. But Santa Clara County cannot expect much help from higher up in the immediate future.

The two high technology hubs in Santa Clara County are Lockheed in Sunnyvale and Stanford University, whose engineering department has spun off a number of electronics firms and created a strong gravitational field into which other firms have been attracted.

Development of the county has gone in step with the growth of aerospace-

APA Information Plan Funded

The National Science Foundation (NSF) has awarded the American Psychological Association (APA) \$2.3 million for development of a new information system despite the objections of a small but angry segment of APA membership which claims that the interests of research psychologists are being ignored (see *Science*, 27 February).

The most controversial part of the program, called the National Information System for Psychology (NISP)—an arrangement providing for dissemination of unedited manuscripts—was withdrawn by APA from the grant application pending further study, but it is still under active consideration.

Many research psychologists—these comprise about 14 percent of APA's total membership of 30,000—object to the scheme of "pre-print publication" as being unprofessional. They point out that once a research paper has been circulated it will probably have to undergo radical alterations before it will be considered for publication in a journal. They also argue that the dissemination of unrefereed, unedited work will lower the quality of information circulated. Designers of the plan believe that such a system is necessary in order to cope with the vast amount of material submitted to APA and that it does away with the huge lags between the time a paper is submitted for publication and the time it is formally published.

What most angers dissidents are the procedures followed by the central office personnel who, according to one critic, David Grant of the University of Wisconsin, have lately come up with a number of "half-witted schemes." In the case of NISP, critics say that the personnel responsible for the design of the system have shown little understanding of the needs of either scientists or editors and have forged ahead with their plan, oblivious of objections and leaving many key members of the organization uninformed. Grant, who is editor of the *Journal of Experimental Psychology*, says that the APA journal, *The American Psychologist*, accords virtually no space to those who wish to criticize NISP or offer alternative ways of improving the information system.

Grant says he is planning to circulate a petition among APA's scientist members to advise NSF of the widespread concern over the behavior of APA's central staff (particularly the Office of Communications Management and Development, headed by Harold P. Van Cott). An official of NSF's Office of Science Information Service (OSIS), which administers the grants, said that he had heard of the petition and that, if received, it would be returned to APA as "something for the psychologists to decide for themselves."

The NSF has already put \$960,000 into NISP, starting with a planning grant in 1968. It is expected that the system will take five more years before it is fully developed and self-supporting, and that during this time it may absorb as much as \$5.5 million from NSF.

NISP is divided into three categories: a primary publication system, bibliographic products and services, and supports to informal communication. The primary publications system, of which journals are now the main component, will be expanded to provide for the dissemination of scientific memos, catalogs of abstracts, and an archives—to be published in journal or book form—of research papers selected for their exceptional quality. The bibliographic system will feature a centralized, computerized data base. Informal communications include computerized distribution of tape cassettes and films.

NSF's Information Systems Program has been providing financial support for such systems in other branches of science. Two are already in operation: the *Chemical Abstracts* Service System of the American Chemical Society, and the National Information System for Physics of the American Institute of Physics. In the planning stage are information systems in linguistics and the life sciences.—CONSTANCE HOLDEN