APA

Anastasi: Keeping out personal views.

significant science." He accused graduate departments of stifling creativity in doctoral dissertations.

He said licensing of professional psychologists has been a failure. Criteria for certification are not kept up to date, and he said there are as many certified charlatans and exploiters of people as there are unqualified.

The American physician, he went on, "has acquired the image of being a dollar-seeking reactionary, a member of the tightest union in the country, opposed to all progress and change, and especially opposed to giving health care where it is most needed." This image, says Rogers, has come about as an unintentional result of the American Medical Association's licensing of physicians.

"It hurts me," he said, "to see psychologists beginning to follow the same path."

In conclusion Rogers asked "whether psychology will remain a narrow technological fragment of a science, tied to an outdated philosophical conception of itself, clinging to a security blanket of observable behaviors only; or whether it can possibly become a truly broad and creative science, rooted in subjective vision, open to all aspects of the human condition, worthy of the name of a mature science."

Not in response to Rogers, but in a speech representing a somewhat different point of view, APA President Anne Anastasi of Fordham University said in her presidential address that it is important that a psychologist distinguish truthfully between those assertions or recommendations that derive from his work as a psychologist and those that stem from his individual values, beliefs and preferences. "Psychology cannot be employed to justify one's entire personal value system . . . such a state of affairs diminishes credulity, arouses public skepticism and weakens the potential contribution of psychology to the solution of social problems."

Throughout her paper she proposed that psychologists recognize and cultivate diversity within their fields, but that they differentiate between the contributions psychologists are best equipped to make and the contributions more appropriate to other disciplines. "To present personal values in the guises of science," she warned, "is both ineffective and misleading." □

How well do agencies assess technology?

"Technology assessment" has become a common phrase since it was coined in 1966 by Rep. Emilio Daddario, then chairman of the House Subcommittee on Science, Research and Development. In the years since, awareness that new technologies have societal and environmental impacts that go far beyond simple cost-benefit analyses has been widely recognized by scientists and Government officials. According to a report from George Washington University's program of policy studies in science and technology, the new awareness has resulted in meaningful reforms in the way Federal agencies plan and evaluate new technological programs. But the report also stresses that many agencies have a long way to go before the process is anywhere near foolproof.

The need for technology assessment is abundantly clear in retrospect. A number of new technologies have been adopted over the decades without comprehensive prior evaluation, and the results have sometimes been disastrous. DDT, hailed as a panacea for widespread agricultural and public health problems, turned out to have major environmental drawbacks. The boom in automobile ownership and freeway construction turned out to cause more problems than it solved in many cities.

It is unlikely today that a new agricultural chemical would receive such wide use as DDT has before extensive studies of second- and third-order effects were made, and the same is true of most proposed new technologies. But, according to the new report by GW's Vary T. Coates, issued last week, much more needs to be done before the public is assured of full consideration of all the potential impacts of new projects. Coates' study of Federal agency technology assessment, supported in part by the National Science Foundation, is based on 110 interviews with officials in the 86 civilian agencies involved with new technologies or projects. Although the general picture is one of great improvement over the past five to ten years, there are still immense gaps.

A major gap is the low priority given to assigning social scientists to multidisciplinary technology assessment teams. This results in a general conservatism in considering social aspects of proposed programs. According to Coates, these are particularly glaring deficiencies in the U.S. Department of Agriculture and in the National Institutes of Health and other biomedical agencies. The USDA, she says, produces assessments of high technical quality, but limits them to environmental or economic questions. USDA "tends to avoid, ignore, or suppress assessments dealing with controversial or sensitive social changes. . . . The chief factors [in this avoidance] are fear of constituency pressure and congressional reaction, stemming from the incompatibility of two primary departmental mandates: service to industrialized agriculture and protection of the small farmer."

Similar influences are at work in the National Institutes of Health and the Food and Drug Administration, claims Coates. These agencies "take a narrow view of technology assessment, concerning themselves almost solely with the safety and efficacy of drugs and medical devices, and to a lesser extent with costs of delivery and impact on medical training and practice. . . . In large part the explanation . . . is the prevailing American view of the private and privileged relationship between doctor and patient." New developments, especially in psychotropic drugs, contraception, genetic manipulation and organ transplants make a broader concern "an urgent need."

Another area of failure, according to the GW researcher, is in agencies that have conflicting roles as promoters and as regulators of a technology. The Atomic Energy Commission and the National Aeronautics and Space Administration are, she says, the two largest offenders. "NASA," she says, "has not only failed to develop a capability for technology assessment but has consistently taken an aggressively promotional stance toward the technology which after all provides its *raison d'etre*." She

Coates: A lag in gauging technology.

says the AEC should do more careful analyses not only of peaceful nuclear technology but also of the entire electric power industry. "A comprehensive technology assessment which considers all the implications of a power-intensive technology is urgently needed."

But the picture is not all dark. Ten years ago, water project agencies were notoriously careless in their preparation of cost-benefit analyses. They usually did not even bother to look at social and environmental aspects of their projects. This has changed substantially, says Coates. Largely because of environmentalist demands and the National Environmental Policy Act, assessment of new water projects "has been broadened and improved over the past five years" and the outlook is for even greater improvement.

The best technology assessment is accomplished, says Coates, when it is done by an agency not directly responsible for the program or project being assessed. She names NSF and the Executive Office of the President as two examples of such independent—and thus generally objective—agencies. Likewise, independent research groups or university groups "which value their reputation for objectivity as a chief stock in trade" make the best contractors for technology assessment. Frequently, the worst assessments get done in-house by self-interested agencies or by contractors under pressure by such agencies to come up with the "right" answers.

The sheer number of technology assessments has proliferated greatly due to the requirement for all Government agencies to provide environmental impact statements on any proposed program or project. But the quality of the statements varies greatly, says Coates, even though, in general, the new requirement is "a strong stimulus to the development of the technology assessment process." □

DDT, health and the 3rd World: Delicate balance

Now that DDT has been indicted for impairing the reproduction of certain bird species and for working its way up the food chain, the United States has banned virtually all use of DDT in this country (SN: 6/24/72, p. 404). The next question is what is being done about DDT in the developing countries. Several authorities on pesticides tackled the question at the meeting of the American Chemical Society last week in New York City.

The discussion made clear that DDT usage in the developing countries is not about to abate. As James W. Wright of the World Health Organization in Geneva stressed, the lives of millions of people there depend on disease control and food production, which in turn stem from use of pesticides that are effective, cheap and minimally toxic to mammals and man. DDT is usually the pesticide of choice. WHO sets the safety levels of application, but the developing countries do not always adhere to them. Meanwhile WHO is trying to find alternatives to DDT that are just as effective and safe but less persistent in the environment. The problem, noted Wayland J. Hayes Jr., a toxicologist at Vanderbilt University, is that compounds as effective as DDT are usually more toxic to mammals and man. WHO has examined 1,300 compounds since 1960, he said. Of those, only 12 made it to field trials in 1969, and today only three of the 12 are being used as substitutes for DDT.

Jesse L. Steinfeld, Surgeon General of the United States, asserted that as long as biodegradable compounds cost a lot more than DDT, the United States should continue to provide the developing countries with DDT. In view of insect-caused diseases and food needs in the developing countries, Wright concluded, "DDT will be used there for an indefinite period of time." Hayes and Steinfeld agreed.

The scientists also touched upon the effects of DDT on human health. Hayes declared, "It is one of the wonders of the age that it [DDT] is so safe for humans." Wright said that WHO called upon 10 scientists from throughout the world for their opinions, and they concurred that DDT represents no harm to man. Steinfeld added that DDT has been fed to people without producing any problems. Such cavalier endorsements of "DDT as safe for humans" are puzzling, however, especially as Steinfeld noted that DDT research is uncovering increasingly more complex problems. Neither he, nor Hayes, nor Wright, ventured to mention that scientists are beginning to probe the effects of chronic, low-level doses of DDT on man, and the picture that is emerging is a complex one indeed.

In 1965, for example, the United States Community Pesticide Studies were launched, to examine the effects of low, chronic levels of pesticides upon man. The CPS examined 1,200 persons in 14 states, and all were found to have residues of DDT or DDE (the breakdown product of DDT) in their bodies. DDT and DDE have been found in the blood, umbilical cord and amniotic fluid of pregnant women. If mother or fetus encounters stress, maternal fat could be used up rapidly, with DDT becoming abruptly (and possibly hazardously) available to the fetus. Mothers' milk contains DDT. A newborn's liver enzymes might not be functional enough to detoxify the compound. High levels of DDT have been detected in premature babies.

Obviously such findings must be put in perspective. DDT may indeed be "safe for humans," but scientists have yet to confirm it. □

NCI seeks Soviet leukemia virus

Since the United States and the Soviet Union signed their agreement on scientific cooperation in May (SN: 6/3/72, p. 357), American cancer researchers have visited the U.S.S.R. and Soviet cancer researchers have visited the United States. Last week the National Cancer Institute announced it will probably be soon receiving, from the Soviet Union, samples of a virus that may cause leukemia in humans. Boris Lapin, director of the Institute of Experimental Pathology and Therapy at Sukhumia, Georgia, and a chief investigator on the Soviet leukemia project, attended the NCI news conference.

As long ago as 1967, Lapin and his colleagues inoculated blood samples from leukemia patients into an apparently susceptible species of baboon. About a third of the inoculated animals came down with leukemia or sarcomas (connective tissue cancers). The researchers subsequently detected a C-type (RNA) virus—one of the major human cancer virus candidates—in the baboons that developed cancer, and also in some of the blood samples from the leukemia patients.

"We have been trying to get the virus from the Soviets for several years now," says John Maloney, associate scientific director of NCI. "I think the agreement has strengthened our chances. We are anxious to determine whether the origin of the virus is cat, mouse, elephant, human or whatever."

If NCI scientists or Russian scientists should confirm that the virus is indeed of human origin, "It would be very exciting," notes Maloney. It would more or less confirm, at last, that a virus can cause cancer in humans, as it can in many experimental animals. Even if the virus turns out to be a baboon virus, which Maloney concedes he personally thinks it is, he says it should serve as an "excellent test system" for the development of cancer vaccines and biochemical preventatives against cancer in humans, because primates are close to humans phylogentically.