

The history of the current situation begins with the Civil Rights Act of 1964, Title VII of which forbids employment discrimination on the basis of sex, race, color, religion, or national origin. The Tower amendment (Senator John G. Tower, D-Tex.) to that section specifically allows for the use of "professionally developed ability tests," so long as they are not used to discriminate against the groups named in Title VII.

Back in the 1960's, the abuses of employee selection procedures were so blatant that the means to eliminate them appeared to be fairly straightforward. The prevailing philosophy was simply that, if applicants were selected solely on the basis of their ability to do the job, the problem of disproportionate representation of minority groups and women would automatically be resolved. The assumption still holds, but it is complicated by the recognition that so long as minority groups continue to suffer from social, economic, and educational disadvantages the government's twin

goals—fair treatment and increased minority participation—are not entirely congruent. It is this discrepancy, and the attempts to devise a uniform approach to resolve it, that have made testing so complex and controversial.

Several government agencies are responsible for overseeing employee selection procedures in the public and private sectors: the Department of Labor's Office of Federal Contract Compliance (OFCC), which looks after federal contractors, the Civil Service Commission (CSC), which governs the federal government's employment practices, and the Equal Employment Opportunity Commission (EEOC). The EEOC has become increasingly prominent since 1972 when, in addition to responsibility for overseeing employment in private industry, it was given enforcement authority as well as responsibility for determining the appropriateness of employment standards in state and local governments.

A fairly well refined set of definitions

now exists for what constitutes discrimination under Title VII, and what measures should be taken to deal with it. The trouble begins when an employer's selection procedures are shown to have "adverse impact" on a group protected under Title VII. Adverse impact occurs when selection procedures act to disqualify a disproportionately high number of minority or female applicants. When adverse impact is shown in a job discrimination case, the burden of proof shifts to the employer to prove that this effect is not a result of illegally discriminatory procedures. Any standard for assessing an applicant that is not "job-related" is illegal. Therefore, "discrimination" equals "adverse impact" plus evidence that selection standards were not "job-related." While the EEOC defines "test" as almost any selection procedure (an interview, for example, is a "test" if it is scored), the big focus is on pencil-and-paper tests as being the most objective and, many say, the most reliable way to predict an individual's job performance.

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Finding NIH Institute Directors Is Not Easy to Do

After an interregnum of nearly one and a half years, the National Heart and Lung Institute (NHLI) has a new director. He is Robert I. Levy, who has been with the institute since 1963 and is an authority on lipoprotein metabolism. He has been coauthor on a number of papers with former NHLI director Donald S. Fredrickson, who is now director of the National Institutes of Health (NIH). Levy's appointment came after several attempts to recruit someone from outside NIH failed, pointing up the continuing problems of enticing scientific leaders away from universities to work in the federal bureaucracy for a maximum of \$36,000 a year.

Difficulties in getting someone to become the first director of the Institute of Aging, NIH's newest institute, parallel the problems in finding a director for NHLI. The Aging search has been going on for a year. There have been candidates from outside NIH but no takers.

To compound the recruiting problem, three other top NIH posts are also vacant. Ads are out for directors of the Clinical Center, the National Institute of Dental Research, and the National Institute of Allergy and Infectious Diseases. It is likely that the latter job will

go to Richard M. Krause of Rockefeller University, who will be one of the few new outsiders in a top NIH position if he takes the post.

NIH is not only having trouble recruiting for top jobs. The pool from which it chooses young research physicians known as "clinical associates" is also diminishing. During the days of the draft, some 600 young scientists applied every year for about 100 openings. Training at NIH was a way out of military service. Now, the number of applicants has dropped to about 200 and officials are worried that if the number goes down any more, they may be reduced to taking associates who are only second-best.—B.J.C.

World Firewood Shortage Examined

Worldwatch Institute, Lester Brown's new think tank, has produced its maiden paper, the first in a series of studies on matters of global import. "The Other Energy Crisis: Firewood," written by Erik P. Eckholm, highlights the plight of those who are too poor to be directly affected by the energy crisis as we know it. One-third of the world's population depends on wood for cooking (and, to a lesser extent, heating), and Eckholm estimates that half the wood harvested each year in the world goes

for this purpose. But population growth is outpacing growth of new trees. The demand for firewood is contributing heavily to deforestation, driving up prices, and forcing people to substitute manure for wood, which results in diversion of badly needed fertilizer. The "firewood crisis" is most intense in the semiarid regions of Africa and India, but is a problem throughout the Third World, turning many areas into dust bowls such as occurred in the United States during the Depression.

As for solutions, Eckholm asserts that new alternative means of generating heat, such as solar cookers and biogas plants, will not be financially or practically feasible for a long time. So, in addition to reduction of population growth, he sees massive tree-planting programs as the best way to retaliate.

—C.H.

Governor's Decision Kills Red River Dam

The proliferation of bloated environmental impact statements, some of them obviously designed merely to justify federal decisions reached a priori, frequently gives rise to the comment that the changes brought about by the National Environmental Policy Act (NEPA) of 1969 have been largely pro forma or cosmetic. Hard evidence that

When use of a test results in adverse impact, the employer is required to "validate" it, which means to prove that it is indeed job-related and, therefore, non-discriminatory. Test validation is very complicated and expensive. There are three commonly accepted validation strategies (and the validity of the strategies is also in dispute): criterion validation, content validation, and construct validation.

Criterion, or empirical, validation involves proving that the abilities, interests, and knowledge measured by the test are directly related to job performance, and the only way to do this is to match test scores of fairly large numbers of people with assessments of their job performances obtained through supervisory ratings and other measures of productivity.

Content validity is established by demonstrating that the test samples the specific knowledge, skills, and behaviors required for a particular job. This does not require a test population, and is of limited use because it does not firmly establish a signifi-

cant correlation between an individual's *performance* on test and job, as does criterion-related validity.

Construct validation is so complicated that most people don't want to (or can't) talk about it. But construct in this context means measurements of traits—such as verbal or mechanical aptitude—that are allegedly desirable for successful job performance.

In a culturally, racially, economically homogeneous population, devising good tests—that is, tests that accurately assess an applicant's qualifications—is not so difficult. But in a pluralistic society like the United States where there is intense pressure to bring disadvantaged groups into the economic mainstream, testing and test validation become a very loaded proposition.

The need to have sound and scientifically supportable tests is particularly urgent now that they are becoming crucial in court cases on employment discrimination. In addition to numerous lower court cases,

there have been two Supreme Court decisions where plaintiffs have won because the tests involved could not be shown to be valid to the court's satisfaction.

The landmark decision, in 1971, was the case of *Griggs v. Duke Power Company*. The court nailed down the job-relatedness issue by ruling that the company's requirement for a high school education or passing of a standard intelligence test operated to disqualify blacks and had not been shown to be a necessary qualification for the jobs in question. This year, in another case, *Moody v. Albermarle Paper Company*, the court ruled in favor of the plaintiff, saying that the company's validation study of its testing program was inadequate. The court also tightened the screws on employers by stating that when a test, even if valid, has adverse impact, every effort should be made to find an alternative, less adverse, selection device.

Both these decisions relied heavily on the "Guidelines on employee selection procedures," published by the EEOC in

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this is by no means altogether true can be seen, however, in the recent events that appear certain to have killed the Army Corps of Engineers Red River dam project in Kentucky.

Governor Julian Carroll of Kentucky announced on 11 September that he was withdrawing his support for the project, and subsequently Kentucky's two U.S. senators said that they intended to follow Carroll's lead in the matter. A controversy over the proposed dam, which was authorized by Congress in 1962, had been under way before NEPA was enacted and steps were taken by the Corps of Engineers in 1969 to modify the project to preserve part of the Red River gorge.

But, given the NEPA requirements for an environmental impact statement (EIS) first in draft, then in final form—plus the certainty of court challenges as to the adequacy of the EIS's—actual construction work on the revised project could not possibly begin before the mid-1970's at the earliest. What's more, the corps' findings as to costs and benefits, project impacts, and possible alternatives were indeed found to be faulty by the President's Council on Environmental Quality, the U.S. Environmental Protection Agency, and, at least with respect to the costs and benefits, by the General Accounting Office. As a consequence of this and other criticism, this project which was controversial to begin with has become too

heavy a political burden for either the governor or the two Kentucky senators to carry. And it is NEPA that has allowed the time for the critical second look.—L.J.C.

Comings and Goings

To follow a higher calling, so to speak, veteran astronaut **Alfred M. Worden** has left NASA to join the High Flight Foundation, a Christian evangelical organization in Colorado Springs, Colorado. Worden, an Air Force lieutenant colonel, is retiring to become a vice president of High Flight, which is headed by **James Irwin**, commander of the Apollo 15 lunar mission on which Worden was command module pilot. Another former astronaut, **William R. Pogue**, is also a High Flight v.p. . . . What have the following in common: **Thomas Andrews**, **Wilfred Beckerman**, **Hans Bethe**, **Wernher von Braun**, **Colin Clark**, **Buckminster Fuller**, **Philip Handler**, **John Maddox**, **Viscount Pirrie**, **Dixy Lee Ray**, **Edward Teller**, and **Alvin Weinberg**? There must be something, because all are acknowledged by **Paul R. Ehrlich**, in an article in the September *Bulletin of Atomic Scientists*, on the grounds that their "thinking on technology has been a constant inspiration to me in the writing of this paper." . . . **Maxine F. Singer**, a biochemist at the National Cancer Institute,

has been named to a 12-year term on the Yale Corporation. Singer, who has been in the news recently for her role in calling public attention to the potential hazards of recombinant DNA, is the third woman to serve as a trustee in Yale's 274-year history and currently is the corporation's only bench scientist. . . . **Gardner Lindzey**, author of the recently published *Race Differences in Intelligence*, has left Harvard to become director of the Center for Advanced Study in the Behavioral Sciences, a nonprofit organization based at Stanford University. Lindzey believes that "much of the recent criticism of social sciences [to wit, attacks by Senator William Proxmire] is based upon a naive expectation of what social science can contribute to solving the problems of society." . . . **Pat Perry**, armed with a degree in medieval history from Yale, is newly in charge of overseeing the NIH budget for the Office of Management and Budget (OMB). As such, she is keeping up the OMB tradition of naming a budget examiner with no training or special experience in science. Before going to OMB, Perry was an intern at the Food and Drug Administration, but she will not come out and say so. Citing a new privacy act and related OMB policy, she refused to disclose anything about her background to *Science* on the grounds that it would violate recently set OMB rules to do so. Thus fares our "open" government.