

its divisions. He was vice president of the AAAS. He was co-president of the International Congress of Psychology. He was elected to the National Academy of Sciences, the Society of Experimental Psychologists, and the American Philosophical Society, of which he was also Penrose lecturer. He received many awards, including the Kurt Lewin Memorial Award and the Distinguished Scientific Contribution Award of the American Psychological Association. A number of honorary degrees were bestowed on him.

But these honors cannot convey a proper sense of the affectionate place Tolman occupied in the minds and hearts of his students and colleagues and of psychologists everywhere. He was a rare teacher, gentle and humane, capable of instilling permanent scientific enthusiasms in his students. Yet the enduring imprint of his ideas on his students made them not into disciples (this would have been the antithesis of all that Tolman stood for as a teacher) but into independent thinkers, who spread into fields of psychology far removed from the animal laboratory. He was generous of aid and faithfully supportive in his relations with his students and colleagues. His wit, warmth, and wisdom in departmental affairs helped,

over the years, to build the department at Berkeley into one of the world's foremost, a reputation inseparable from the name of Edward Tolman. No description of the growth of the department can, however, be complete without reference to his wife, Kathleen Drew Tolman, whose grace and charm contributed so much to the camaraderie of the department.

Tolman the respected scientist, Tolman the beloved teacher, and Tolman the citizen were one and the same. As one of his colleagues at the university has put it, "No man was ever less divisible." His steady faith in the scientific method led him to regard all major problems of human behavior as properly susceptible to rational study by psychological means. Thus, his life-long abhorrence of war led him as a scientist to seek to contribute something to our understanding of the psychological sources of warlike behavior. His book *Drives Toward War* (1942) was the significant result.

His firm belief in the responsibility of the scientist to participate in the affairs of the human community is manifested in his long record of dedicated liberalism in the service of civil rights and individual justice. He served for many years on the national board

of the American Civil Liberties Union. Most widely known to those in academic life was his effective leadership in the loyalty oath controversy at the University of California in 1950-52. Tolman never wavered in this fight for academic freedom, and the partial victory won at Berkeley benefited the cause of academic freedom everywhere. For, as the *Washington Post* pointed out in its editorial published on his death, "The fight led by Dr. Tolman challenged and helped to arrest a dangerous trend toward forcing a stultifying conformity on teachers." Despite his difficult role Tolman retained the respect of the university as a whole. Only last year the regents of the university bestowed upon him the honorary LL.D. degree.

In Edward Tolman's own behavior at significant choice-points in life there was little evidence of the vacillation that he often found in his rats in a maze. His own behavior at such choice-points was cognitively clear and purposefully directed toward the goal of truth and humanity.

RICHARD S. CRUTCHFIELD

DAVID KRECH

ROBERT C. TRYON

*Department of Psychology,
University of California, Berkeley*

Science in the News

Committee Assesses Dangers That Accompany Government Support of University Research

The American Civil Liberties Union called recently for a nationwide review of the effect on college and university freedom of private and governmental grants for research projects. The question posed by the union in a report of its Academic Freedom Committee was this: "Is it in the interest of society to permit the universities to lose a large measure of their authority in shaping

the development of their own affairs?" The report emphasizes that this is a question "of the first importance to the nation and to society, and that developments rendering difficult a wise decision are multiplying at such a rate that no time should be lost in instituting an objective review of the situation on a nationwide scale."

The ACLU committee estimates that at present two-thirds of the expenditures for all research and development performed by colleges and universities comes from the federal government and

that in certain fields, such as physics and chemistry, 90 percent or even more of research budget funds are provided by government and private foundation or industry sources.

Some of the Problems

These are some of the problems touching on academic freedom that are discussed in the Civil Liberties Union statement:

1) "... The application of government security procedures in universities in which classified research is conducted on campus under contracts with federal agencies can lead to situations in conflict with the personal rights of faculty members, including even those who are not engaged in classified research, and can effectively limit the freedom of the university in applying its own proper criteria in the selection of its staff."

2) "Funds for sponsored research are more readily available in some fields of knowledge than in others, so that important areas of scholarship may be neglected." Continuation of emphasis

on the natural sciences could lead to "a relative impoverishment to the humanities and social sciences which would certainly not occur if the universities and university scholars were permitted free exercise of their own judgments."

3) "Granting agencies are frequently favorably inclined toward ambitious proposals for so-called programmatic research. . . . It is becoming increasingly difficult to develop support and appreciation for the highly individualistic investigator who contemplatively follows the paths into which his idle curiosity directs him. It is from such unplanned efforts that the fundamental advances in scholarship have always sprung. . . . Universities bear a heavy responsibility for fostering the creation of basic knowledge, and we can ill afford to have their staffs and facilities lured by financial inducements into the study of matters of immediacy."

4) The bulk of research funds from nonacademic sources are allotted to institutions with strongly developed research activities and with outstanding scientists who have well-established reputations. This makes it more difficult for other schools to meet competition for staff, students, and financial aid, and more difficult for younger, less known scientists, "who are actually more apt to come forward with original ideas," to obtain sponsors.

Need for Subsidy Recognized

The Union's statement points out that institutions of higher learning already have surrendered a degree of independence by accepting the terms of certain grants, and that these terms, in turn, affect teachers, study, and administration. However, the report recognizes the importance of research subsidy. "Our colleges and universities are irrevocably dependent on the support they have been receiving in the form of sponsorship of research, and indeed this support must continue to increase rapidly in the years ahead." But the dangers of control through subsidy are imminent, the report contends.

"It must be clearly recognized that if outside financing of university research and graduate education, particularly in the natural sciences, continues to follow present patterns, it will inevitably lead to a very serious erosion of university control of university activities. We should face squarely the question as to whether we are prepared to break with the long-established tradition which en-

trusts to universities a large measure of autonomy in their proper functions of education and research—whether we are prepared to replace a significant fraction of this autonomy by a patchwork control exerted by a variety of bureaus with widely differing aims and interests."

The ACLU report appears in full in the current issue of the American Association of University Professors' *Bulletin*, where it is reprinted not as a statement of policy but rather to call attention to the important problems raised, with the suggestion that large-scale foundation support be given to a study of the situation.

Kitt Peak National Observatory To Be Dedicated Next Week

The Kitt Peak National Observatory near Tucson, Ariz., will be dedicated on 15 March, according to Alan T. Waterman, director of the National Science Foundation, which supports the new installation. The dedication will mark the opening of an optical observatory that will be available to all qualified United States astronomers. It is the equivalent for optical astronomy of the

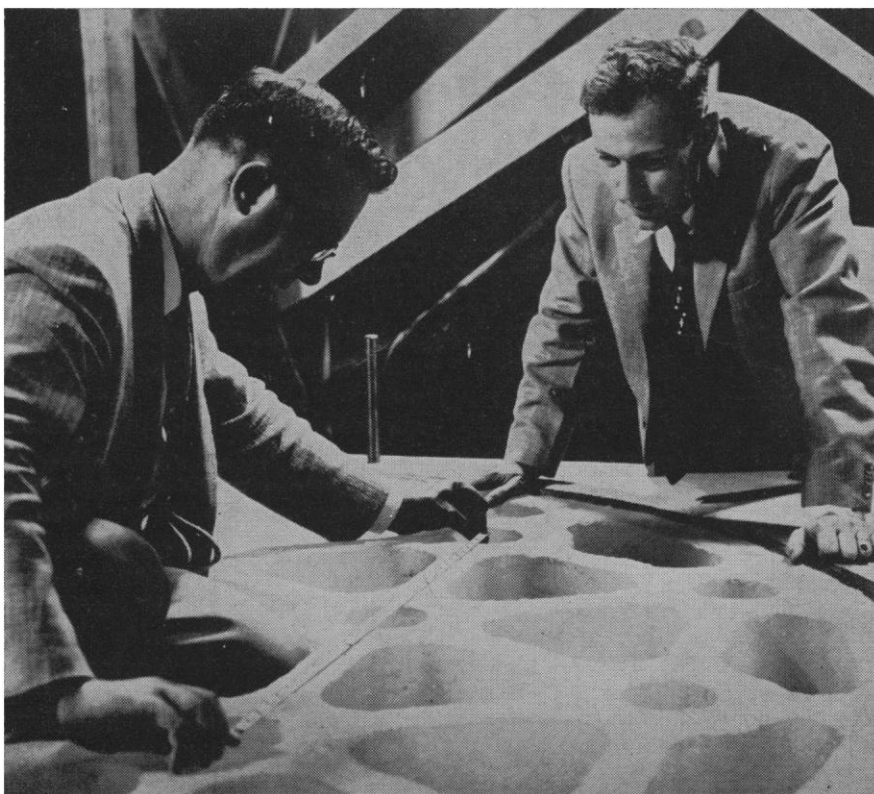
National Radio Astronomy Observatory at Green Bank, W. Va., the other national observatory maintained by the National Science Foundation.

Dedication

Prominent scientists and officials of the federal, state, and local governments and representatives of the Papago Indian Tribe, on whose reservation the observatory is located, will take part in the dedication ceremony. Participants will include the National Science Board as well as the Board of the Association of Universities for Research in Astronomy, Inc., which operates the observatory for NSF. Member universities of AURA now include California, Chicago, Harvard, Indiana, Michigan, Ohio State, Princeton, Wisconsin, and Yale.

The dedicatory address will be delivered by W. W. Morgan of Yerkes Observatory. Waterman, Kitt Peak director Aden P. Meinel, R. R. McMath of AURA, and other guests will also give brief addresses. C. D. Shane of Lick Observatory and president of AURA will preside.

The appointment of Meinel as director of the observatory was announced by NSF in January 1958. He was formerly with the department of astro-



A. B. Meinel (left), director of the Kitt Peak National Observatory, and Arthur Code, of the Association of Universities for Research in Astronomy, Inc., inspect the 84-inch telescope mirror blank cast by Corning Glass Works for the observatory.