ment relationship, the new organization looks like the unanimously chosen administrative device for handling the big machine. Present at the first organization meeting last January were Donald F. Hornig, the White House science adviser, and Glenn T. Seaborg, chairman of the AEC, which is the exclusive source of funds for the $350-million accelerator. Seitz is a member of the President's Science Advisory Committee, of which Hornig is chairman; Hornig and Seaborg are members of the Academy; and many of the 34 university presidents are well interlocked with the federal science advisory system, or would like to be.*

In any case, it seems probable that URAI will get the job. If there are any objections they are likely to come from smaller institutions which, as things work out, carry little weight in Washington and virtually none at all in high-energy physics. Furthermore, with politicians throughout the land lobbying for the machine and high-energy physicists having nightmares about being excluded from it, it would be hard to develop support for turning the accelerator over to a single institution or even a regional alliance. URAI is Seitz's answer, and, as the saying goes, you can't beat something with nothing.

URAI is expected to function in the style of Associated Universities, Inc., the nine-university compact that runs the Brookhaven National Laboratory for the AEC and the National Radio Astronomy Observatory at Green Bank, W.Va., for the National Science Foundation.

Meanwhile, the site selection process goes on. AEC teams have visited all of the 85 sites that are considered to meet the basic criteria, and their reports are being forwarded to the Academy's site selection committe for evaluation. AEC officials say the committee may possibly send its recommendations to them toward the end of January. What happens then can only be guessed. The Academy committee will probably pick as many as five sites, and the AEC will presumably then pick the winner.

But it is difficult to conceive of the White House permitting a $350-million decision to be made purely in terms of the personal preferences of a relative handful of high-energy physicists. Undoubtedly at least some of the politicians will reason that, if the high-energy physicists think this machine is so important, they should be willing to put up with some of the less charming locales that are clamoring for a slice of federal science largesse. Berkeley, where the machine is being designed, has not been ruled out, but one gets the impression that Berkeley is viewed as having the best case technically and the worst politically. It is now a thriving and productive high-energy center, and, as far as one can see in the unpredictable high-energy field, the capacity of its present machine will have been pretty well exploited by the time the 200-Bev is operating, in about 7 or 8 years. But, with virtually every state now clamoring for what it conceives to be its fair share of federal research funds, California—the leader in R&D receipts—is handicapped by its own success. And it probably isn't helped by having two Republican senators.

Berkeley supporters argue that, if the Lawrence Radiation Laboratory is to maintain its preeminence, it needs a commitment soon. One answer is that the Berkeley group can commute, just as droves of other physicists do. But it is unquestionably more pleasant to have your machine within walking distance, and there is no doubt that an accelerator is better than an airport for recruiting and holding a superior staff of physicists. It is possible, of course, that pure science rather than pure politics will determine the answer, but, if the price of advancing science, technology, and prosperity in some have-not region of the nation is a delay in attaining maximum productivity of the machine, who can say with certainty that that price is not worth paying?

Whether URAI can suppress the combative inclinations of the high-energy physicists remains to be seen. Partly as the result of a process of professional selection, they are an ingenious, energetic bunch, and they are stirred to battle by the realization that, in addition to highly charged particles, the big machine also turns out Nobel prizes and other glory. "Time on the machine" is the issue underlying much of the strife. Who gets the time, when there isn't enough for all the ambitious applicants, is never going to be a courteously settled question, no matter what the organization. When the Academy announcement made reference to "the unity of purpose that once characterized the scientific community," it was talking about another age of science. Today, ironically, the number of high-energy physicists is increasing and the number of machines for "frontier" research is declining, simply because the older machines become played out and the new ones cost so much. A scarcity economy prevails, and scarcity is not conducive to peace.

High-energy physics is, of course, not the only field where this problem of "big science" is manifesting itself. URAI has not specifically indicated any other areas in which it might take an interest, but Gaylord P. Harnwell, who is president of the University of Pennsylvania and president of the URAI Council of Presidents, left the way open. He stated, "We would not deem it inappropriate at a later date to extend the offer of our services to other scientific agencies of the government for the conduct of such other national facilities or programs as lay within our fields of competence."—D.S.G.

Vietnam: Growing War and Campus Protests Threaten Student Deferments

One domestic casualty of the widening war in Vietnam is the liberal student-deferment policy in force since the early 1950's. Obtaining accurate information on the number of students actually inducted or reclassified I-A would tax even a very patient computer, since such data exist only in the files of the more than 4000 local draft boards that actually implement the Selective Service System. But the Scientific Manpower Commission*, an independent agency which, among other functions, helps students, scientists, and engineers obtain deferments, believes that California draft boards, for example, have reclassified nearly all students registered with them I-A—a surmise confirmed by the experience of the physics department in one major eastern university, which is reported to have had 19 of its students,

* 2101 Constitution Ave., NW, Washington, D.C. SMC is a nonprofit organization, supported by several scientific societies.

Selective Service: The 10-Day Rule

One of the peculiarities of the Selective Service system of which many registrants may be unaware is the need to appeal for change in classification to a deferred status within 10 days of the date on which the notification of I-A status was mailed. Denial of the appeal by a local board may be appealed to a state board, again within 10 days. Denial of deferment by the state board may be appealed to the President, within 10 days, if the vote of the appeal board is divided. In the event of a unanimous decision against the request for deferment at the state level, an independent agency—a school, an employer, a congressman, or the Scientific Manpower Commission—may seek a review at the state level and, following that, a final review at National Selective Service Headquarters in Washington.

all Californians, reclassified I-A on the same day. And Pentagon and Selective Service officials confirm readily the accuracy of newspaper accounts and reports from students which suggest that local draft boards are beginning to look less sympathetically at student requests for continued deferment.

The simplest explanation for the students' vulnerability appears to be the mechanical demands of the war. When President Johnson announced in July that the Armed Forces would be increased by about 340,000 men, monthly draft calls were running about 16,000. Since that time they have been running closer to 40,000. The Navy and Marines are drafting men for the first time in several years. If U.S. military leaders are successful in efforts (reported in the New York *Times* last week) to increase American forces in Vietnam from the 170,000 men now there to 350,000 or 400,000, draft calls could conceivably rise again, and the reserve forces which the President avoided calling in July would probably be reactivated as well. And the fact appears to be that the calls cannot continue to be met without either incursions on existing deferment policies or changes in existing standards of physical and mental eligibility for service.

In early September, only about 2 million of the 16 or so million men in the 18–26 age category were actually classified I-A. About 4.9 million had student, parental, or occupational deferments; 2.3 million had already completed service; and 2.85 million were actually in the service. Another 4 million were disqualified for physical, mental, or other specialized reasons. Nearly 2 years ago, in a report to the President entitled "One-Third of a Nation," a special task force on manpower conservation headed by Secretary of Labor Willard Wirtz reported that "one-half of the young men called for preinduction examination under Selective Service are found unqualified for military service, and . . . fully a third of the age group does not meet the required standards of health and education." Now, it appears, the situation is even worse. In 1964, 53 percent of the 848,000 inductees examined for service failed to qualify. More than 234,000 failed to meet the mental requirements; 188,000 were disqualified for medical reasons; and 13,000 were disqualified on both grounds. Just last August, 41 percent of the 11,000 18-year-olds examined for service were found to be unfit.

The result of this situation is that the manpower supply, which on the surface looks plentiful, is actually fairly restricted. By 30 September (the most recent date for which figures are obtainable) the number of men known as "availables"—not deferred for one reason or another—was reduced to roughly 1.25 million. And of these only a fraction—probably around 200,000—have actually been examined and found ready and qualified for induction.

Antistudent Feeling

But the manpower squeeze does not appear to be the sole reason for hardening attitudes toward students. Part of the explanation may be that draft boards, in trying to meet their quotas in an equitable fashion, may honestly disagree with the position of the Scientific Manpower Commission—and the general policy of the Pentagon and Selective Service—that a student serves the long-term national interest more effectively by completing his studies than by carrying a gun. In many cases there is undoubtedly a feeling that when a student has been deferred for 5 or 6 years, that is long enough, and that it is time for him to do his part. But reports from around the country leave no doubt that in some cases, at least, other motives have been at work—a generalized antagonism against student "beatniks" and specific retaliation for the political protests against the Vietnam war which are now enveloping U.S. campuses. The reaction of the anti-war group is by no means universal: the majority of students appear to be uninvolved; and at the other end of the student spectrum, an opposite reaction—a feeling of enthusiasm for the war and guilt over their privileged position has also been reported. But it is not surprising that local draft boards tend to endow all students with the characteristics of their most conspicuous representatives.

For the most part there is little direct proof that antistudent feeling has played a role in individual draft board decisions. In at least two cases, however, the attitude of Selective Service officials has been made explicit. According to a report from the American Civil Liberties Union (ACLU), the head of the Delaware Selective Service "threatened to revoke the deferment of student protestors, asserting that his headquarters 'is running down these people as their names appear in the papers. When they belong to us, we make a move in their files.' " And the ACLU also reports that the head of the Illinois System "commented that if participation in demonstrations is considered 'unsatisfactory progress' by college officials, the names of the demonstrating students could be turned over to draft boards for immediate induction."

The most spectacular and controversial act of retaliation occurred in Michigan. On 15 October, during a series of nationwide protests against the war in Vietnam, 39 demonstrators—chiefly students from the University of Michigan—staged a sit-in in the offices of Draft Board 85, near the Michigan campus. Several hours later they were arrested, and, according to newspaper reports, all were subsequently arraigned, sentenced, and fined for trespassing. Shortly afterward the state Selective Service director, Colonel Arthur Holmes, called for a review of the files of 26 of the demonstrators. The files came in from local boards across the country; Holmes added a photocopy of the trespass charges and sent them

back; and shortly thereafter four of the students were declared "delinquent" and reclassified I-A. (The Washington *Post* reported on 3 December that the other demonstrators were also finding themselves reclassified "bit by bit.")

The argument that developed out of the Michigan case is somewhat tricky. It is a key feature of the Selective Service system that anyone who fails to comply with provisions of the act—for example, by failing to register—is classified "delinquent" and thereby made eligible for immediate induction. One clause of the Selective Service Act makes it a felony for a person to "knowingly hinder or interfere or attempt to do so in any way with the administration" of the act. The logic of the Michigan officials—which has been more or less officially endorsed by national Selective Service director Lewis Hershey—is that while demonstrations outside the office, for example, would not have violated the law, the sit-in did violate it, and that the declaration of "delinquency" and subsequent reclassification were legally justified.

Outside critics of the action take a different view. In an editorial entitled "Subverting the Draft," the Washington *Post* said, "Selective Service officials may think the participation of young men in antiwar protests is wise or foolish, patriotic or unpatriotic. They may even think . . . that such activity violates the Selective Service Act—in which case they ought to ask the Department of Justice to prosecute. But to change a student's draft status for such activity amounts simply to a naked use of the Selective Service law to repress and punish political opinion." And the ACLU, in a letter to General Hershey, said, "We regard [recent actions by Selective Service officials] as nothing less than a naked attempt to utilize the law as a device for punishing dissenting opinion. The draft law in no way permits . . . officials to discipline registrants because of their political views, and any reprisal taken against a student because of any political belief he holds, including opposition to American policy in Vietnam, is a distortion of the purpose of the draft law and unlawful harassment of constitutionally protected political activity."

An Unwitting Alliance

One result of the agitation over drafting students is a curious and somewhat unwitting alliance between the student protestors, on one hand, and the manpower specialists, on the other. The latter group, which constitutes something of a protective association for legitimate, and especially for talented, students, wants to keep students out of the army because of their interest in maintaining a balanced manpower supply in critical occupations in the civilian economy; the student protestors want to stay out of the army because they disapprove of the war. In somewhat oversimplified terms, the manpower conservationists believe that the student activists are jeopardizing the preferred position of the vast numbers of students who are not involved one way or another in the Vietnam question. Yet in practice the two groups are not so far apart. For one thing, they both have a concept of what amounts to an extended definition of "alternative service." The Scientific Manpower Commission believes individuals should serve as civilian scientists or engineers; Students for a Democratic Society (SDS), the leading activist student organization, believes that students should serve in other ways. At a Washington press conference held last October, SDS national secretary Paul Booth proposed to the President "that all those Americans who seek so vigorously to build instead of burn be given their chance to do so," by working in the Peace Corps, the Job Corps, VISTA, or the new Teachers Corps. ". . . Our generation is not afraid of service for long years and low pay," Booth said. "SDS has been working for years in the slums of America at $10 a week to build a movement for democracy there. We are not afraid to risk our lives; we have been risking our lives in Mississippi and Alabama, and some of us died there. But we will not bomb the people, the women and children of another country."

The activist students and the Scientific Manpower Commission (and the nonactivist students) have another point in common, and that is their methods. An overt antidraft campaign planned by SDS collapsed when the proposal of the leadership was vetoed by a majority of members. The result is that, with the exception of a handful of particularly principled students willing to risk jail for their convictions, the majority of students will continue

National Medal of Science Recipients

President Johnson last week announced the recipients of the 1965 National Medal of Science. The award was established by Congress in 1959, to be presented by the President to individuals "who in his judgment are deserving of special recognition by reason of their outstanding contributions to knowledge in the physical, biological, mathematical, or engineering sciences." The awards are made on the basis of recommendations by a committee of which H. E. Carter, acting dean of the graduate college of the University of Illinois, is chairman. The recipients are:

John Bardeen, professor of physics and electrical engineering, University of Illinois.

Peter J. W. Debye, professor emeritus and former chairman of the department of chemistry, Cornell.

Hugh L. Dryden, deputy administrator of NASA and home secretary for the National Academy of Sciences, who died 2 December; he will become the first posthumous recipient of the medal.

Clarence L. Johnson, vice president for advanced development projects, Lockheed Aircraft Corporation.

Leon M. Lederman, physics professor, Columbia.

Warren K. Lewis, professor emeritus of chemical engineering, M.I.T.

Francis Peyton Rous, medical researcher, Rockefeller University, New York City.

William W. Rubey, professor of geology and geophysics, University of California, Los Angeles.

George Gaylord Simpson, Agassiz Professor of Vertebrate Paleontology, Harvard.

Donald Dexter Van Slyke, research chemist, Brookhaven National Laboratory.

Oscar Zariski, professor of mathematics, Harvard.

trying to avoid the draft by the more conventional methods that seem to be as well known to American males as how to drive with one arm—methods that run from simply staying in school, to developing asthma, to hinting darkly about suicidal or homosexual tendencies. There may also be efforts to enlarge the definition of conscientious objection—already broadened in recent years—to include opposition to particular wars deemed "unjust." These methods are by no means officially counseled, and may not do anything to improve the student "image" among already inflamed draft boards, but they have been in use for years: a major offense of the student protest movement, in the opinion of those who want, in effect, to "keep draft-dodging respectable," appears to have been their attempt to make the sub rosa system explicit.

As for the draft itself, it now appears inevitable that it will go on and that some students will continue to be called. If the system works as it is supposed to, students who are not making satisfactory progress, who drop out of school for one or another reason, or whose academic program is only part-time because of outside employment, for example, will probably get their greetings first; but other individuals, both graduates and undergraduates, will not be immune. At the moment there is talk of reinstating the nationally administered achievement and aptitude testing program that was developed during the Korean war and continued in use during the 1950's, to provide local draft boards with a standardized criterion for judging whom to defer. To the students in good standing who look worriedly over their mail every day, and to the professors, administrators, and employers who want to avoid disruption of their programs, the advice of the Scientific Manpower Commission is, "understand your rights and your responsibilities and understand them fast." It is not unusual, for example, for a student to find himself drafted because of failure to appeal a I-A classification within the 10-day limit. The commission believes that, whatever else may be influencing the student draft situation, plain ignorance is also taking a toll, and that among the many unpleasant situations that are continuing to arise are several that could be happily resolved if the individuals involved did the right thing at the right time.

—ELINOR LANGER

Announcements

The $1000 **AAAS-Westinghouse Science Writing Awards** will be presented this year to William Hines and Lawrence Lessing. Hines, science writer for the Washington *Star* since 1958, was selected for his series of articles on the Mariner IV flight to Mars. Lessing, associate editor and staff writer for *Fortune*, was cited for his article in the February issue, entitled, "Solving the Riddle of the Shuddering Earth," which discussed research on the causes of earthquakes.

Honorable mention in the newspaper category will go to Raymond Bruner, science editor of the Toledo *Blade*, for a series on pollution; magazine honorable mentions will be awarded to Max Gunther, a freelance writer, for an article on DNA, entitled, "The Secret of Life," in the 3 July issue of *Saturday Evening Post* and to Warren R. Young, for his report in *Life*, 18 December 1964, called "Turbulence—Hidden Giant in the Sky," about the dangers of turbulence in upper altitudes.

The awards, made possible through a Westinghouse Educational Foundation grant, will be presented 27 December in Berkeley, during the AAAS annual meeting.

Drexel Institute of Technology is offering its first doctoral programs in **science and engineering**. Initially, degrees will be awarded in chemistry, physics, applied mechanics, and materials engineering. Fellowships, teaching assistantships, and other forms of financial aid are available. Additional information may be obtained from the Dean of Admissions, Drexel Institute, Philadelphia, Pennsylvania 19104.

Grants, Fellowships, and Awards

The Joseph P. Kennedy, Jr., Foundation is accepting nominations for its awards for work in the field of **mental retardation**. The following awards, carrying cash prizes of $5000 to $25,000, will be made:

Scientific research award: to an investigator in the biological or behavioral sciences who has made outstanding contributions to our knowledge of mental retardation.

Service award: to the individual or group developing outstanding programs of identification, care, rehabilitation, or education of the mentally retarded.

Leadership award: to a person whose activities on behalf of the mentally retarded have led to increased individual and community effort.

Deadline for receipt of nominations: *15 January*. (International Awards, Joseph P. Kennedy Jr., Foundation, 1411 K Street, NW, Washington, D.C. 20005)

The University of Chicago **graduate library school** is offering approximately 15 scholarships and fellowships for the 1966–67 academic year, in amounts up to $4000; recipients will pay their own tuition, $420 per quarter. Applicants may hold their bachelor's degree in any field. Deadline for receipt of applications: *1 February*. Research assistantships are also offered, for which applications will be accepted all year. Recipients will work 20 hours a week and will be paid on an hourly basis, depending on their qualifications. (Dean, Graduate Library School, University of Chicago, Chicago, Illinois 60637)

The Yale University school of **forestry** is offering scholarships, fellowships, and assistantships to students in master's or doctor's programs for the 1966–67 academic year. Scholarships pay tuition costs; fellowships carry grants of up to $4000; and assistantships provide $850 to $3000 during the school year, with additional stipends for summer work. Deadline for applications: *25 January*. (Registrar, Yale School of Forestry, 205 Prospect Street, New Haven, Connecticut 06511)

Two $5000 Turtox scholarships for the 1966–1967 academic year are available from the General Biological Supply House, Inc. Applicants must be U.S. citizens, in graduate school and working toward a doctoral degree in **botany, zoology, or biology**. The awards will be granted on the basis of the applicants' promise in teaching and research careers. Deadline for receipt of applications: *1 February*. (F. A. Brown, Jr., Department of Biological Sciences, Northwestern University, Evanston, Illinois)

Indiana University is offering graduate awards for study toward the Ph.D. in **chemical physics**. Graduate school fellowships carry stipends of $2000 to $2400 for 10- to 12-month periods. NDEA fellowships are granted for 3 years, with stipends of $2000 to $2400, plus a $400 annual dependent allow-