

Possible Impact

The current R & D depression seems to worry most those engaged in non-mission-oriented basic research in the physical sciences. Every one of the leaders in these fields to whom I have had a chance to speak was pessimistically engaged in deciding how to argue with holders of the national purse strings, armed with "social merit" matrices, that research done for knowledge's sake, for cultural enrichment, or as "social overhead" had social relevance and deserved support.

The United States began to cut seriously its support of foreign research back in 1964. Thus, the current R & D depression may have little direct effect on the financial situation of non-American R & D. One can also neglect, at some risk, however, the possibility that the R & D policy communities in Europe and elsewhere will tend to cut

their support of R & D "because the USA is doing it," just as in the past they supported R & D "because the USA is doing it."

Some non-American makers of science policy may, with some reason, expect a cessation of the brain drain on their R & D manpower by the United States, and may even hope for its reversal. Yet the most important impact of the U.S. R & D depression on world R & D, and the impact most difficult to assess, lies elsewhere. The U.S. share in the world R & D potential and production (manpower, money, facilities, and outputs) seems to be higher than its share in the world production of goods. The variety of channels of communications and exchanges through which U.S. R & D interacts with world R & D is so great that, if the depression continues, it will no doubt affect the whole of the world production of knowledge, inventions, and discoveries

about nature, man, and his society. It is very hard even to conjecture what effect all this R & D depression may have on the up-to-now overwhelming innovative potential of the United States on the world scene.

On this issue, the R & D men I spoke to are clearly divided into optimists and pessimists. The optimists see in the current U.S. R & D depression a stimulus to larger and more diversified international cooperation in joint R & D projects, and even the beginning of a more rapid development of a world R & D policy.

The pessimists are inclined to see in the current R & D depression a first sign of the end of the U.S. age of science. The landing of men on the moon, they argue, may be the highest achievement of U.S. civilization, a symbol of its highest power, just as the Pyramids, the Parthenon, and the Taj Mahal are symbols of the highest achievements of other civilizations.

NEWS AND COMMENT

Wisconsin: Teaching Assistants' Strike Ends in Contract Signing

"Students, we are adults, we are workers. . . ."—Thesis 1, The Sorbonne Appeal

Madison, Wisconsin. A wholly new chapter in the annals of American university politics was formally inscribed here on 9–10 April. After a year of negotiations and a 24-day strike, the University of Wisconsin's Madison campus signed a labor contract with the Teaching Assistants Association (TAA), a local labor union of graduate students who are paid for part-time teaching and research assistance at the university. The contract not only covered various "bread and butter" issues traditional in labor-management bargaining but also granted, in a fuzzy fashion, the right of students and teaching assistants to participate in planning the educational courses in which they are involved.

While the University of Michigan was settling a successful strike by black students early this month (*Science*, 10 April), its sister Big Ten school here

was in the grip of a highly organized, disciplined, and nonviolent student strike called by the TAA. The strike was particularly effective against the faculty of letters and sciences, where course attendance averaged less than 30 percent until the last 4 days, when a settlement appeared near.

The Wisconsin strike was fundamentally different from other student manifestations of recent years. The organizers, as teaching assistants, were not only students but workers as well, with an economic weapon. By staying out of the classroom they were able to prevent instruction in many courses.

As workers, they availed themselves of the traditional collective bargaining process to present their demands to the university. But their demands went beyond the traditional economic aims of American trade unionism to embrace policy and power issues that have motivated other student strikes across the country. The strike leaders claimed, in effect, the right to speak for under-

graduate students as well as for their own constituency in bargaining on such issues.

Although neither side could claim a smashing victory in the settlement, the contract clearly altered the university's power structure by acknowledging the TAA as a force to be reckoned with in the formulation of educational policy at Wisconsin. And the potential exists for a similar movement at every university across the country that relies on graduate students to help teach courses and grade papers. One of the TAA's leaders in bargaining with the university, James Marketti (a graduate student in industrial relations), said shortly before settlement that his union had been contacted by teaching assistant organizations or by individuals from "50 to 60" campuses during the course of the strike.

The story of the TAA's negotiations with the University of Wisconsin is one of a challenge to the school's class structure and power relationships, which are probably not very different at other major public universities. A visitor who wants to get a sense of the physical layout of the university quarter here may seek out three high spots. One is Van Hise tower, the skyscraper where the university regents have their offices; a second, a short distance from the campus, is the Wisconsin state capitol. In between is the third vantage point, Bascom Hall, where Chancellor

Edwin Young has his offices atop a hill occupied by the major classroom buildings of the faculty of letters and sciences (L&S). The men who sit in these high places govern, in collaboration with the faculty, one of the nation's largest centers of higher education. The Madison campus has 35,549 students (fall semester, 1969-70), of whom 22,000, including graduate students, are in L&S. It had an annual operating budget of \$169 million in 1968-69, of which \$58 million went to research. Last year the Madison campus produced 745 doctorates and 2,350 M.A.'s.

With its liberal, open reputation, the Madison campus draws a large number of out-of-state students, particularly for advanced studies. Last fall 26 percent of the undergraduates and 66 percent of the graduate students, in all some 12,600 students, came from outside Wisconsin. In recent years, Madison students haven't needed a weatherman to tell which way the political winds are blowing. From the Dow riots of 1967 to recent disturbances in connection with the conspiracy conviction of the Chicago 7, student clashes with police have been regular occurrences. Last year, violence attended a week-long strike by black students, which led the university to institute a new black studies program and caused authorities to call out the National Guard. Along two main streets that lead from the campus toward the state capitol, a few businesses have given up replacing their plate glass windows and now present bricked-up or boarded facades. The latest to follow the trend is the university branch of the First National Bank of Madison, whose windows were "trashed" several weeks ago during a brief demonstration that had no connection with the TAA strike.

"Outside Agitators"?

The state legislature and the university regents, both conservative bodies, appear to equate student activism with nonresidents, although Wisconsin has its own populist-radical political tradition—Marketti is a Wisconsin resident—and although campus violence recently erupted at Whitewater, one of the campuses in the state university system where there are few "outsiders." Even Chancellor Young seems, after two fairly troubled years in office, to share the xenophobia, although he himself hails from Maine and first came to Madison as an out-of-state graduate student. (Young returned to Madison as chancellor in the fall of 1968, after a

brief stint away from Wisconsin as president of the University of Maine.) "This university," he said recently, "has the greatest collection of radical students in the country—they flock here. . . . Of course, some of them go on to become insurance agents, and I don't worry about them. . . . But we've had a lot of trouble here. It seems that the farther people are from home, the less restrained their behavior is." Young is considered a member of the liberal establishment in Wisconsin. But he has been under pressure from the legislature and the regents to curb the radicals. The regents, for instance, recently banned the use of outdoor amplifying equipment except at meetings which have administration sanction, such as football rallies. The regents also have decided to reduce the number of out-of-state undergraduate students by limiting them to 15 percent of the student body by the academic year 1971-72. The economy-minded legislature manifested its disapproval of the university, at least indirectly, when it refused last year to raise faculty salaries enough to keep step with other major Midwestern schools. As a result, the Wisconsin faculty is, on average, according to the administration, the lowest paid of the Big Ten universities.

A threat by the state legislature in January 1969 to reduce the nonresident tuition remission for graduate assistants from out of state—in effect reducing their take-home pay—led to the first serious talk of a strike and gave strong impetus to the TAA's effort to organize itself as a labor union. By mid-March 1969, TAA president Robert L. Muehlkamp was able to report to Chancellor Young that a majority of the teaching assistants (TA's) on the Madison campus had signed cards designating the TAA as their exclusive agent for collective bargaining with the university, and to request the start of the negotiations which finally ended last week.

Teaching assistants play an important role in the large modern university. At Wisconsin, they teach the great bulk of lecture sections and low-level required courses. The TAA estimates that, at Madison, 56 percent of undergraduate courses and 68 percent of freshman and sophomore courses are taught by TA's. The university administration prefers another measure, which it calls "contact hours," each involving one student before one teacher for 1 hour. By this measure, a professor giving a lecture before 250 students would chalk up

250 contact hours, while an assistant meeting with a class of 25 students would score only 25 contact hours. By the administration standard, TA's teach 31 percent of the contact hours, campus-wide. But the concentration in certain departments is notably higher. These include English, history, chemistry, mathematics, and various foreign languages.

The TA's Plight

At Wisconsin as elsewhere, teaching assistants hold half-time or lesser appointments, the rest of their time being devoted, in theory, to pursuit of an advanced degree. But TA's complain that their jobs consume a disproportionate share of their working hours. The Madison TAA, citing university studies, claims that a half-time appointment, 20 working hours in theory, actually demands about 28 hours of work a week. At Wisconsin, according to the TAA, the average TA earns \$2800 a year. (At half-time he would earn \$3555 or more, depending on his experience. But there are few half-time appointments.) In addition, graduate students with teaching assistantships pay only the tuition charged Wisconsin residents, \$526 this year, instead of the out-of-state tuition for graduate students of \$2126. The university counts this tuition arrangement additional compensation. Thus, it claims, a half-time teaching assistant actually earns \$5100 or more. In terms of take-home pay, however, the TA earns far less money. About half of Wisconsin's TA's are married and in their middle twenties; perhaps one-quarter have children. Their graduate studies are stretched out by the need to take a part-time job; thus the time when they can begin earning full-time professional salaries is delayed. "Since graduate course credits cannot be transferred to another university, once a TA is here he must remain to complete his degree," declared a recent TAA broadside. "During that time he or she may arbitrarily lose the TA position and salary reduced. A TA has no power over the terms of his employment, no job security, no voice in course assignments. In real terms, we are a captive labor force."

The TAA's complaints have been echoed at other schools. The *Wall Street Journal*, on 8 January 1969, recorded the plight of teaching assistants at the University of Colorado in an article on what it called "Academia's serfs."

Teaching assistant associations are nothing new in the student political movements of the past decade. The first TAA, at Berkeley, went on strike in 1964 in support of the Free Speech Movement. Two years ago an association of teaching and research assistants at the University of Minnesota unsuccessfully sought to bargain with the university for better working conditions.

Besides low pay and long hours at present, teaching assistants in the humanities and hard sciences face a highly congested job market for full-time teachers and researchers. This puts them in a double bind, because to get ahead they need the recommendation of the faculty members who, many TA's feel, are "exploiting" them. At Madison, many TA's turned to unionism to combat the resulting feelings of powerlessness and alienation.

The Madison TAA was founded in the spring of 1966, according to present members, by TA's concerned about the possibility that the grades they gave would affect the draft status of students. The organization did not become broadly representative, however, until the Wisconsin legislature's threat to increase tuition for TA's in 1969 gave it a "bread and butter" issue around which to organize as a labor union. TAA's leaders sent cards to all 1900 Wisconsin TA's proposing that their organization be authorized to act as the exclusive bargaining agent for teaching assistants. They got approximately 1100 affirmative returns.

At first, Chancellor Young rejected collective bargaining with the TAA. He argued that, under state law, "unclassified" state employees, such as teaching assistants, were not specifically entitled to engage in collective bargaining. He suggested that the TAA seek an amendment to state law that would give them that right. But the TAA held firm, insisting that state law presented no obstacle to a grant of representative status to the TAA by the university. Under the implied threat of a strike, with the possibility that the university might become vulnerable to attack by the Wisconsin labor movement for ignoring documented TAA claims, Young agreed to recognize the TAA as an agent for bargaining with the university and its departments, provided its claim to representative status was confirmed by a Wisconsin Employment Relations Commission (WERC) election. The tentative recognition was signed on 26 April 1969, as part of a "structure agreement" defining broad areas for negoti-

Kennedy Asks More for NSF

Last week Senator Edward M. Kennedy (D-Mass.), chairman of the Senate subcommittee which oversees National Science Foundation (NSF) affairs, introduced an authorization bill providing \$50 million more than the \$500 million requested for NSF by the Administration for the coming year. Since, in Congress, the House and Senate appropriations committees have the last word on the NSF budget, Kennedy's action could be less significant in affecting NSF's budget than in symbolizing his emergence as the leading congressional advocate of scientific research.

The announced retirement of Representative Emilio Q. Daddario (D-Conn.) to run for the governorship of his home state will remove from Congress its most active explicator and proponent of science. Kennedy in the past has interested himself in the problems of the science agencies and last year led an effort to increase NSF appropriations, which ultimately were cut below Administration requests. But until questions about legislative jurisdiction over NSF in the Senate were cleared up last year and Kennedy was assured of chairmanship of the National Science Foundation subcommittee of the Senate Labor and Public Welfare Committee, Kennedy's role was in doubt.

Kennedy's action in introducing the bill represented an unusual initiative since his subcommittee has not yet begun authorization hearings.

In a statement accompanying introduction of the bill, Kennedy noted that the House Science and Astronautics Committee had added \$27.6 million to the Administration request, but the Massachusetts senator questioned whether this was "sufficient." He said he recognized the need for belt-tightening in a time of inflation, but went on to say that "even in a period of inflation, a responsible government must choose its priorities wisely; it cannot blindly slash every federal program. And it is my belief that no government with a proper set of priorities can, at this moment in history, seriously consider reducing its commitment to scientific research."

A Good Word for Basic Research

Kennedy stressed the potential of science for helping the country to achieve "a more balanced transportation system, to overcome our housing shortage, to develop a more comprehensive health delivery system, to design more effective teaching methods, to fight crime and protect the environment." But in addition to his call for support of applied research, Kennedy made a strong plea in behalf of basic research. "I have been emphasizing the role which science and the National Science Foundation must play in solving pressing national problems," he said. "But I wish to make clear that scientific research cannot just focus on problems which are in the public eye. It must prepare to solve problems which most of us have not begun to foresee. Therefore, we must train experts to gather knowledge in every area of science. Only then can we have any hope of meeting the dangers which the future holds in store."

A major portion of the increase called for in Kennedy's bill would be aimed at academic science, for reasons which Kennedy discusses in the following excerpt from his statement.

Another area where it appears that the House Committee did not authorize a sufficient increase is support of academic projects which are being dropped by DOD, NASA, and other federal agencies. The Committee itself estimated the total of such dropped projects at about \$60 million and this is probably a conservative estimate. Furthermore, the Committee conceded that the projects were of high quality. Yet it authorized only \$20 million to compensate for the drop outs, \$10 million more than did the Administration. This means that the NSF will be forced to choose between funding the high-level projects dropped by other agencies—some of which are led by Nobel Prize winners—or funding other worthy projects, many of which are led by young scientists at our smaller universities. I think that we should relieve the NSF of at least part of this dilemma by authorizing \$30 million more than the President did for support of academic science projects.

—J. W.

ation. Shortly thereafter, the TAA won 77 percent of a campus-wide vote supervised by the WERC. A majority of teaching assistants in 52 of 81 faculty departments picked the TAA as their exclusive bargaining agent.

Clearly, recognition was the critical hurdle for the TAA in its effort to establish itself as a power on the Madison campus. It was, also, a historic event because it marked the first time, so far as can be ascertained, that a union has been recognized as a collective bargaining agent for university teachers, let alone teaching assistants. Young has often stressed the fact that his grant of recognition was voluntary; the TAA responds that it was voluntary only in the sense that he was not *legally* required to deal with them. Morally and politically, they believe, he had little choice.

Contract Demands:

For the long-run success of the TAA on the Madison campus, however, recognition had to be followed by negotiation of a contract spelling out significant concessions to the TAA.

The union asked for an end to year-to-year TA appointments in each department with arbitrary dismissal, or layoffs due to reduced workloads; instead it demanded appointment for the duration of an individual's graduate career, up to 10 years; limits on the number of students in TA courses; sick leave and fringe health benefits. It also asked the university to set up, in each department, a committee for review of each TA's performance in class, to consist of one-third undergraduates, one-third teaching assistants, and one-third faculty. Some TA's see this procedure as a prototype for eventual evaluation of faulty performance as well.

In general, the TAA won on these economic and work-performance issues, except that TA appointments for the duration of graduate studies will last only up to 4 years. But it yielded in the end to the university's demand for a no-strike clause for the life of the contract, to September 1971.

The union also sought two policy-related clauses in the contract, which drove to the heart of the power and ideological differences between the faculty and administration, on one side, and the activist core of the TAA and undergraduate students on the other. The lesser of these dealt with "human rights," and included a statement recognizing "that much of the structure and content of University education reflects and perpetuates an inequitable

society through forms of explicit and de facto discrimination." It stipulated that the university and the union must work to develop programs to end discrimination "through hiring, admission and education policies." The university held out for a statement of nondiscrimination in hiring, admission, and education policies, withholding any pledge to bargain with the union on such questions. Its objective was to prevent the TAA from filing grievances on issues like open admissions.

The second and more important policy issue dealt with "educational planning." In essence the union demanded that each department engage in collective bargaining with the TAA to establish "decision-making" mechanisms that give students and TA's a share of power over educational planning of courses in which teaching assistants are involved.

The TAA's drive for collective bargaining with departmental faculty over mechanisms for codetermination ran head on into the faculty's professional ego and sense of autonomy. At Wisconsin, explains a member of the research staff, "the faculty controls almost all issues that deal with education. Nominally this preserves academic freedom; actually it means power to compete for students, research funds, and departmental budgets. This university does not have a pyramidal power structure, it's a hydra." Moreover, he said, "the faculty is on the defensive," sensing a threat to their autonomy from the regents and the legislature as part of the reaction to student activism.

At one point, shortly after the TAA strike began in March, the university offered the union an educational planning clause which conceded that the union could bargain with each department. But the university rapidly withdrew the offer, apparently under faculty pressure. Both Young and the TAA reported that several prominent faculty members had threatened to resign if the bargaining clause went in.

A 2-day faculty meeting on 7-8 April made clear how far the majority of the university establishment was willing to go toward meeting the TAA demands. A resolution proposing department-by-department negotiations between faculty, students, and teaching assistants was rejected by a 2-to-1 margin. So was a resolution repudiating the entire TAA-university bargaining effort of the past 12 months. The position which won faculty support, and was embodied in the contract signed next

day by the TAA, was that "collaboration" between students, teaching assistants, and faculty in course planning is desirable, but the statement avoided all mention of collective bargaining and stipulated that the faculty must bear ultimate responsibility. "If we give the slightest inch on academic matters, then everything will be settled by power," warned one of the speakers at the tightly packed meeting. Collective bargaining would make education decisions "subject to the haggling of the marketplace," complained another. Although the clause does not appear to be binding on any department, the TAA accepted the provision as an opening wedge for future negotiations.

As the strike entered its final week the TAA found its bargaining position eroded by several pressures. A state court declared the strike illegal and enjoined teaching assistants to return to the classroom. Although the union voted to ignore the injunction, leaders were aware that support among moderate members was fading. Another pressure came from students who began returning to classes to catch up on missed work. Yet another pressure, on both the TAA and Young, was a regents' meeting scheduled for 10 April.

Some campus liberals thought the union should have settled early in the strike, when it seemed to have obtained a major concession on educational planning. But union leaders reply that they still had, overall, an unfavorable contract at that time. Besides, one said, the union had succeeded by flouting the rules of "conventional liberal wisdom."

TAA: Not for Bread Alone

The decision to make policy and ideological issues a part of the negotiations is cited. The university and leaders of the state AFL-CIO tried to talk TAA out of insisting on an educational planning clause because, they said, it "wasn't a union issue."

"We're a different kind of union," Muehlenkamp and Marketti reply. "Policy-making power over the nature of production and the administration of . . . resources is hardly extraneous to worker interests," declared a TAA newsletter in discussing why the TAA is both a "bread-and-butter" and an ideological union. "Ultimately, our union exists because in our community of the knowledge-industry, like in all other aspects of the American economy, wealth and power are concentrated in the hands of a few nonworkers. The Administration is a management which

has manipulated the University not for the well being of teaching assistants, or students, or secretaries, or janitors, but rather for the commercial interests of a capitalistic state. . . . If America is to be changed, it should be obvious that our generation is going to have to do the changing. . . . We do right by opposing through our contract demands, union education, and direct action the racism and imperialism which drain our natural resources as they divide our working class. What parody of progress it would be for us to march backward eating bread and and dusty butter as we drag the polluted and competitive present into a lost socialist and democratic future."

"They can't be both management and

workers," retorted Young recently. "The labor unions," he said, "are on our side except some Teamsters." The Madison Teamsters local supported the TAA strike by permitting its drivers to refuse to cross student picket lines, and by taking campus bus drivers off the job for a time. But local 171 of the Wisconsin State Employees Association, representing blue-collar workers on the campus, did not back the strike. Neither did the state AFL-CIO.

The TAA has "a transitory membership," Young commented. "We were worried about that until the strike," commented a TAA spokesman. The TAA called the strike because, it said, the university had refused to engage in satisfactory ne-

gotiations over the preceding 9 months. But a major purpose was organizational—to consolidate the union's strength and develop leaders for a continued campaign of pressure on the university and its departments. What long-term success the union achieved toward this goal remains to be seen.

A "student-worker alliance" has been a romantic dream of certain campus radicals from Berkeley to Nanterre. Having in their way realized the dream on a small scale, despite a lack of support from the AFL-CIO, the Madison TAA leaders now talk of organizing teaching assistants, junior faculty and campus workers across the nation into an international, industrial style union.—ANDREW HAMILTON

Nader's Raiders on the FDA: Science and Scientists "Misused"

A student task force working under consumer advocate Ralph Nader charged last week that the Food and Drug Administration (FDA) has distorted scientific data and has chastised scientists who disagree with it. These and other allegations that the FDA has "misused" science are contained in a 292-page report* issued by the Nader group at a press conference in Washington, D.C., on 8 April. This latest attack adds to the woes of the beleaguered FDA, which has become embroiled in a variety of disputes and has run through three commissioners in the past 4 years (see *Science*, 16 January 1970).

The Nader report is a sweeping indictment of virtually all of the FDA's food protection programs, which are described as in a state of "total collapse." The report charges that the "quality of the American diet has been allowed to deteriorate" over the past decade. As evidence of this trend, it cites a review article published in the *Journal of Nutrition Education* last fall, which concluded that "dietary habits of the American public have become worse, especially since 1960."

Nader's investigators put much of the blame for this decline on the FDA's failure to serve as an effective counterweight against the "corporate greed and irresponsibility" of the \$125-billion food industry, which is described as more interested in maximizing profits than in providing safe and nutritious food. The investigators charge that the FDA has succumbed to political pressures; has adopted food regulations that "read like a catalogue of favors to special industrial interests"; has been unable and unwilling to protect the consumer; and has deliberately misled the public and Congress, among other sins of commission and omission. They also charge that Secretary of Health, Education, and Welfare Robert H. Finch has been guilty of "destructive intervention" into FDA affairs, with the result that "it now appears that no major decisions are being made at the level of the FDA."

One of the most interesting features of the report is a number of alleged incidents in which FDA officials, through a variety of stratagems, lies, and pressures, have tried to quash scientific evidence that called into question their actions. If the incidents occurred as described—and some of them seem to be well documented—this report may well contain the most titillating material yet published on the hazards

of being a scientist under the thumb of a public-relations-conscious government agency. The report also has critical words for the National Academy of Sciences, various high government officials, and the "small group of industry-dependent 'food scientists' who more often than not routinely produce scientific studies that support the most recent industry marketing decision." The report says the FDA's "impotence" is caused partly by its heavy reliance on the "meager scientific research" carried out by the food industry.

The FDA has not yet decided whether to make a point-by-point answer to the charges. Last week Charles C. Edwards, the FDA commissioner, announced that, while he had not yet read the report, he was "well aware" of certain problems raised by the Nader group. But Edwards expressed the belief that "changes that have taken place over the past few months have been responsive to the need for improving and upgrading the ability of the FDA to function in the best interests of all consumers."

The Nader group's report was based primarily on a 4-month investigation of the FDA conducted last summer by a team of 16 students and recent graduates, drawn mostly from the fields of medicine and law. The team was headed—and its report was written—by James S. Turner, a 29-year-old graduate of the Ohio State University law school. Turner's investigators were among some 110 "Nader's raiders" who spent last summer digging into the policies and practices of federal regulatory agencies. The student teams were under the general supervision of Na-

* *The Chemical Feast*, by James S. Turner, is available from the Center for Study of Responsive Law, 1908 Q Street, Washington, D.C., for \$10 (send check with order); a cheaper paperback version will be available through bookstores in the near future.