Miller bill, it was suggested, "would discriminate against junior colleges and many four year colleges." The junior colleges would prefer a program of general aid on a straight per-student basis.

Without hearings on a bill, it will be impossible to see with clarity how lines are drawn on the issue. Unquestionably, however, much of the groundwork for a move to strengthen institutional support has been laid.

The report on the Daddario subcommittee's investigation on the operations and the future of NSF had this to say, from the congressional viewpoint, on the subject.

> Three issues emerge from the Foundation's present programs for fostering the growth of new centers of scientific excellence at academic institutions. First, NSF institutional support appears delayed and still too small for national needs, particularly to assure a substantially greater number of centers of excellence widely dispersed among the States. Second, institutional support can offset the possible decrease of freedom of action of college and university administrators in determining the overall institutional pattern of development and growth. Dr. Haworth observed that this pattern may have been unduly influenced by the nature of programs finding most ready acceptance in Washington. Third, institutional support may offer a way to reduce costs of academic research administration and to keep responsibility for business administration aspects of research on the campus where it belongs.
>
> It is evident that the NSF has made a start in institutional support and is doing what it can within its means. The subcommittee would encourage the Foundation to push ahead with its institutional programs, to open them to more than the top colleges and universities in the country, and to seek out these smaller institutions whose own energy and initiative indicate that with encouragement and support they can become genuine centers of excellence in research and science education.

A Presidential order of last September gave comfort, if not aid, to advocates of institutional support when it ordered research-supporting agencies to be sure that "all practical measures are taken to strengthen the institutions where research now goes on and to help additional institutions to become more effective centers for teaching and research."

Certainly there are those who will have misgivings about modifying a system which operates—in theory at least—on the principle of merit alone, but it appears that all the ingredients are present for the expansion of institutional support in science except for one essential—money.—JOHN WALSH

U.S. Naval Academy: Faculty Unrest

Annapolis, Maryland. The official seal of the U.S. Naval Academy shows a galley under way, its sails full and its oars sweeping. "The trouble here has been that the Academy has wanted its new faculty members to do only one thing—to come aboard and row," a young civilian Ph.D., who has an excellent record as a scholar, told *Science* recently. This highly qualified young professor—an academic type increasingly in demand at the Naval Academy—noted that the galley's oarsmen face the stern as they row, propelling the vessel forward but not knowing where it is going.

His remarks simply point up a truth which now must be clear to all: the Naval Academy has failed to make the accommodations necessary for the comfortable assimilation of the kind of civilian faculty it is trying to build. This failure seems to underlie the Academy's recent crisis of bad publicity, the immediate cause of which was the disclosure, in early April, of some dubious grading practices which were bitterly resented by many members of the civilian faculty, particularly those in the junior ranks.

The Academy is unlikely to find a lasting solution to its faculty problem until it discovers a way to give civilian professors—all of them, not just the most senior—a larger voice in shaping academic policy. "The Navy can't have it both ways—exploiting our scholarship and, at the same time, telling us we are only here to row," said the young professor. "We want to be represented up on the bridge where we can be heard."

The Academy has yet to demonstrate convincingly that a military institution can and will encourage, in a large measure, the kind of freedom and responsibility for its academic professionals that is found in many strong civilian colleges and universities. Alone among the three service academies, however, the Naval Academy has had, by long tradition, many civilians teaching in its classrooms. Recently, the civilian professors have come to outnumber the military instructors.

The Academy has had a few distinguished civilian scholars (for example, in naval history), but until a few years ago little emphasis was placed on research and productive scholarship. The Ph.D. degree was thought desirable, but promotions were possible without it and the Academy still has a number of full professors who lack the Ph.D. Now the Ph.D. is a prerequisite for promotion to full professor, and promotion to the rank of associate professor is difficult without it.

New recruits to the faculty usually have their Ph.D. or are well on the way to earning it. The civilian faculty numbers 287 members today and eventually will grow to 320. Six years ago there were 57 Ph.D.'s; now there are about 90; next fall, if current plans are realized, there will be 114. The officer faculty has been upgraded, too. More than half the 281 officer-instructors now hold the master's degree, as compared with only 15 percent in 1962.

The Academy has made other major improvements in its academic program since the late 1950's (*Science*, 19 November 1965). For example, instead of the 40 courses which all midshipmen took under the old lockstep curriculum, 200 courses are now offered. The achieving of these gains had given the Academy a special sense of virtue, a fact which has imparted a certain poignancy to its sudden fall into a not wholly deserved opprobrium.

The Academy has suffered acute embarrassment from the disclosures of its grading practices and of the discontent

in the faculty. A series of reports in The Washington *Post*, supported in part by an Academy "self-study" document which fell into a reporter's hands, brought to public notice the fact that the Academy, in order to reduce the number of midshipmen who might flunk out, had imposed quotas on the number of D's and F's that could be assigned. According to Academy officials, the quotas were imposed in 1964 as a temporary device to facilitate a change in the Academy's grading system. In the fall of 1963 the Academy, abandoning its traditional practice of giving numerical grades, began giving letter grades, with a C average required for graduation. Under the new system, midshipmen who had been getting by on the numerical equivalent of D could not graduate. The quotas on D's and F's—4 percent of the seniors and 13 percent of the plebes (freshmen) could be given these lower grades—have permitted at least some of the marginal students to meet graduation requirements. Later, quotas for A's and B's were tried for a time, then abandoned. Students who have failed a course sometimes have been given reexaminations.

"Second-Class Citizen"

An assistant professor of Spanish, in his first year at Annapolis, touched off faculty criticism of the Academy when he told the *Post* that his contract would not be renewed because he had refused to abide by the quotas. (Academy officials have indicated that the professor won't be rehired because of conflicts between him and his department head.) A few days later five assistant professors in the mathematics department joined in condemning the policy of grade quotas. Their protest was followed by one from an assistant professor of English. "Every teacher soon realizes he is a second-class citizen in the scheme of things," he said. "All power emanates from above: the teaching faculty hangs like metal debris from the military magnet."

The Academy chapter of the American Association of University Professors, organized only 12 months earlier but already a force, said the grade quotas had "severely damaged" the morale of many faculty members. "Manipulating grades and exerting pressure on individual instructors to conform to a quota strike at the heart of academic integrity and professional competence," the AAUP said.

Clashes over the grade quota system will be a factor in the voluntary or enforced departure of at least several young civilian faculty members from the Academy at the end of the spring term. The grade quotas, which won't be in effect next year, have furnished a *cause célèbre* for faculty members whose frustration and disenchantment have not always been traceable solely to the Academy's shortcomings. Some, perhaps many, of the professors in the junior ranks who lack their Ph.D resent the Academy's new promotion policy.

Weaknesses in the Academy's system of administration and policy-making are apparently to blame for much of the unrest in the faculty, however. If civilian faculty members had had a more effective means of pressing their views, the grade quotas might have been rescinded before they could become an embarrassment.

In 1964, the first year of the grade quotas, 27 civilian professors in the department of English, history, and government signed a petition protesting the grade quotas. The Navy captain at the head of their department (all of the Academy's departments are led by officers) was expected to forward the petition to the Academy's Superintendent. Instead, the captain (who has since left the Academy) is said to have assembled the 27 petitioners and denounced them as "mutineers."

He refused to deliver the petition, which ultimately reached the Superintendent, but not through official channels. The petitioners, not having a faculty senate or other authorized forum in which to press their views, found themselves appearing as rebels or malcontents.

Their sense of frustration did lead some of them to take an important step. In April 1965 the AAUP chapter was established. The founders—there were eight of them, mostly from liberal arts—scarcely knew how the administration would react to their forming the chapter, which seemed to them at the time a bold, even risky, initiative. Robert Seager, associate professor of history, was chosen as the group's first president, partly because he had tenure and was one of the Academy's more productive scholars.

The chapter drew no fire from the administration, however. A. Bernard Drought, who had been brought to Annapolis in July 1964 to serve as the Academy's first academic dean (he had been dean of engineering at Marquette), offered no objection when informed of the AAUP unit. The chapter grew slowly last fall; since the flaring up of the controversy over grade quotas its growth has been substantial, and a recent estimate put the total membership at 65 or 70, made up entirely of civilian professors except for two officer-instructors who are Naval reservists.

Probably it was inevitable that in 1966 the grade-quotas controversy would make newspaper headlines. Not only had the AAUP chapter been formed, but the time had come for the Academy to be examined by an evaluation team of the Middle States Association of Colleges and Secondary Schools (MSACSS). The team, headed by John Anthony Brown, vice president and dean of faculties of George Washington University, Washington, D.C., visited the Academy from 20 to 23 March. Such visits occur at 10-year intervals as part of the Middle States Association procedure for reaffirming accreditations. (Congress, too, is taking a look at the Academy, through the eyes of Senator Robert C. Byrd, Democrat of West Virginia. The inquiry has been authorized by the Senate Military Preparedness Investigating Subcommittee.)

Praise and Criticism

The evaluators' report, made public on 30 April, began with a word of praise, which was badly needed to bolster the Academy's sagging ego. It said, "The strongest and firmest impression we have is one of rapid academic growth and a well-conceived effort to strengthen the Academy's academic programs." Having said this, however, the team did not minimize the Academy's problems. It noted, and concurred in, the complaints from the civilian faculty about the grading practices. It agreed, too, with complaints that midshipmen, especially in the plebe and senior years, were not working up to capacity. Moreover, the team said, the voluntary resignation of a still substantial (though recently declining) number of midshipmen should be investigated and not dismissed simply as evidence of "lack of proper motivation."

Problems arising from the Academy's military-civilian dualism were stressed. The appointment of a civilian academic dean was an important step in the right direction, the team said. A further step, it added, would be the

development of a "forum or council which will function as the voice of the entire faculty." Also, the team felt that more civilian educators should be appointed to the Board of Visitors and that a committee of educators should be set up to advise the Academy on academic questions.

The Middle States Association announced on 1 May that it had reaffirmed the Academy's accreditation, with the proviso that the Academy report to it annually on action taken on its recommendations. Under Secretary of the Navy Robert H. B. Baldwin has indicated that several of the recommendations will be met promptly. For example, an advisory committee of educators will be established. More important, Baldwin indicated that the Academy's Academic Council might be expanded, so that it would be more broadly representative of the faculty. The Council now consists largely of the administration leaders, the department heads, and the Academy's six "senior professors," each of whom serves as academic advisor to the head of his department.

It seems doubtful, however, that the appointment of more faculty representatives on the Council would satisfy the restive element in the civilian faculty. ("The Council looks too much like a company union," one professor has observed.) Rear Admiral Draper L. Kauffman, superintendent since last June, and his advisers are considering other alternatives to the problem of faculty representation in Academy policy-making, and they have called for suggestions from the faculty. Indeed, the comment that better "communication" is needed between administration and faculty has become a popular Academy cliché.

It is not evident that all those who speak of improving communications have grasped the fact that the civilian faculty has become a new force at the Academy whose power must be recognized. The power, as displayed during April, is the power to criticize, stingingly, on the front pages of the newspapers. It is also the power to become disaffected and thus frustrate the Academy's ambition to become academically first-rate.

An AAUP committee has circulated a draft constitution for an academic senate. This body would consist largely of elected delegates of the civilian and officer faculty. It would have advisory powers only. The AAUP proposal is one of the alternatives receiving serious consideration from the Academic Council and the Superintendent. Some modification of it may be adopted, for implementation next fall.

Certain aspects of the AAUP plan are disturbing to some naval officers, however. One Navy captain, a line officer who has served many years at sea, has said that to him the holding of facuty senate elections at the Academy would be no more conceivable than the holding of elections aboard a man-of-war. By the same token, this officer cannot accept the evaluation team's suggestion that some of the Academy's department heads be civilians, even though before World War II the Academy had a civilian in charge of the English, history, and government department.

A split between civilians and officers, foreseen by the evaluators as a danger to be averted, does not appear to have occurred yet. In fact, relations between the civilian faculty and the officer-instructors and department heads seem much better than those between the younger civilians and the more senior professors, many of whom are said to be quite conservative and resistant to change.

The potential for a civilian-military split may well be present, however. The AAUP chapter, even though responsibly led, could inadvertently contribute to such a split, particularly if the civilian professors get no effective voice through a faculty senate or forum. Few officer-instructors are likely to feel free to join the AAUP or any other unofficial group which may take stands against the administration.

The alternative to pressures and protests by the civilians alone, through the AAUP, would seem to be an orderly constitutional process in which officers as well as civilians can advise the administration on needed reforms. Clearly, the Academy is at a critical juncture. Decisions taken within the next few months are likely to affect its future profoundly, for better or worse.

—LUTHER J. CARTER

Announcements

Princeton's department of civil engineering, geological engineering, and graphics and engineering drawing will merge 1 July. The new unit will be known as the department of **civil and geological engineering**; graphics will be a subdivision. Norman J. Sollenberger, chairman of the present civil engineering department, will head the new department.

A five-member board has been appointed by NASA to conduct a review of the agency's observatory class of **earth satellites**. The group will study all phases of design, development, testing, and space operations procedures of the orbiting observatory spacecraft. Chairman is Robert F. Garbarini, deputy associate administrator for space science and applications (engineering) at NASA. Other members include:

F. John Bailey, Manned Spacecraft Center, Houston;

Jack N. James, Jet Propulsion Laboratory, Pasadena;

Albert J. Kelley, Electronics Research Center, Cambridge, Massachusetts;

Francis B. Smith, Langley Research Center, Hampton, Virginia.

Grants, Fellowships, and Awards

Nominations are invited for the second **Arches of Science award** of the Pacific Science Center, Seattle. A gold medal and $25,000 will be presented for "contributions to the understanding of the meaning of science by contemporary men." An award committee will choose a recipient from among nominees in any profession or walk of life; the prize will be given for sustained accomplishment, not for a single work or achievement. Nominations should include the name, address, and affiliation of the nominee and a two-or-three page summary of his work. Deadline: *15 June*. (Arches of Science, Pacific Science Center, 200 Second Avenue North, Seattle, Washington 98109)

A British-American program of "exchange fellowships" in **cardiovascular research** has been established by the American Heart Association and the British Heart Foundation. The project, to begin in July 1967, provides for the American Heart Association to support young British investigators who want to work for a year in the U.S. The British agency will help finance American scientists who wish to do research in Great Britain. For the first year, two fellowships will be granted for each country. Americans with 2 years' postdoctoral training or experience may apply for the awards. Stipends are $6500, plus dependents' allowances, de-