

communicated to the host government to convey a true picture of the character and purpose of the project." Why any foreign government that pretends to a scrap of sovereignty should tolerate a procedure that is so outrageously patronizing is not discussed.

Though it is clearly stated that the guidelines are directed toward contract research and may have only "some applicability" to grants awarded by "foundation-like" government agencies, two of the 21 agencies—the National Science Foundation and the National Endowment for the Humanities—quickly dissociated themselves from the implication that they have been doing anything that will now require alteration. Immediately after the issuance of

the guidelines, they demanded and received from the State Department a public statement to the effect that their policies and practices have all along been aboveboard. The demand was accompanied by a warning that, if the State Department did not clarify the situation, the two agencies would express their views in a letter to the *New York Times*, which had given front-page coverage to the announcement of the guidelines. On the following day the State Department issued a statement which said, in part, that "undisclosed funding has no connection at all with the majority" of the 21 agencies, and that NSF and the Endowment "have never found it necessary" to engage in secret funding.

Camelot, the guidelines, and other events are all manifestations of the arrival of a long-delayed mating season between government and the social sciences. A great mixture of motives, conflicting and overlapping, accompanies this liaison, but basic to the conflicts that are implicit in the newly issued guidelines is the fact that significant elements on both sides persist in striving for the impossible. They want the academic social sciences to partake of the presumed purity of the academic world and, at the same time, to serve as instruments of a government that quite readily acknowledges its involvement in some less than pristine activities around the world.

—D. S. GREENBERG

Deep Seabed: "Who Should Control It?," U.N. Asks

The international community's growing interest in the ocean floor and its resources poses an important and, for the present, unanswerable question: Will man's eventual use of the seabed lead to greater amity among nations or to greater tension and hostility? The tiny nation of Malta raised this question forcefully in the United Nations last August by proposing to put the seabed under international jurisdiction and control.

Under the Malta proposal, all non-peaceful uses of the seabed would be proscribed, and the net benefits from the exploitation of the seabed's resources would go primarily to the development of the poor countries. Malta defined the seabed as that part of the ocean floor which lies beyond present limits of national jurisdiction.

The Convention on the Continental Shelf, which became binding on signatory nations in 1964, declares that states shall have sovereignty over the seabed underlying their adjacent coastal waters down to a depth of 200 meters, and be-

yond that limit as far as the depth "admits of the exploitation of the natural resources of the said areas." This definition, drafted in 1958 when the then-existing state of technology offered little prospect of commercial operations at depths much greater than 200 meters, is becoming increasingly obsolete as ocean technology advances.

The lively reaction the Malta proposal has engendered both within and outside the U.N. indicates that, while the deep seabed is still remote and largely inaccessible, many people believe science and technology will bring the treasures of the deep within reach in their lifetime. This belief was evident in the late summer and fall from the protests of numerous members of Congress, and of the National Oceanography Association (NOA), an industry group, at the idea that the U.S. might hastily agree to put the deep seabed under the control of the U.N. or some other international agency.

The NOA and some of the protesters in Congress did not reject out of hand

the concept of internationalizing the seabed. They contended, however, that a sound legal regime can best be developed after more knowledge and experience have been gained. Internationalization, they argue, is not the only kind of regime conceivable for the seabed and may not be the best.

The opposing viewpoint, of course, holds that it is self-deception to believe that a legal regime allowed to evolve from experience and agreements among the maritime nations will represent the best interests of the world community. Such an evolutionary regime, it can be argued, is more likely to simply reconcile and ratify the acquisitive practices of technically competent maritime nations and large companies.

At the root of the Malta proposal is a belief that technological advances soon will permit the "rich" countries to use the seabed as a new arena for military and economic competition. In a U.N. speech on 1 November, Ambassador Arvid Pardo, Malta's representative at the United Nations, contended that establishing an international legal regime for the seabed is a task to be undertaken in a spirit of urgency.

Current international law encourages the appropriation of [the ocean floor] by those who have the technical competence to exploit it. . . . Present and clearly foreseeable technology also permits [the] effective exploitation [of the seabed] for military or economic purposes. Some countries may therefore be tempted to use their technical competence to achieve near-unbreakable world dominance through predominant control over the seabed. . . . The process has already started and will

lead to a competitive scramble for sovereign rights over the land underlying the world's seas and oceans, surpassing in magnitude and in its implication last century's colonial scramble for territory in Asia and Africa. The consequences will be very grave: at the very least a dramatic escalation of the arms race and sharply increasing world tensions, caused also by the intolerable injustice that would reserve the . . . resources [of the seabed] for the exclusive benefit of less than a handful of nations. . . . Traditional activities on the high seas would be curtailed and, at the same time, the world would face the growing danger of permanent damage to the marine environment through radioactive and other pollution: this is a virtually inevitable consequence of the present situation. These are the prospects that the world faces, not in a remote future, but as an immediate consequence of forces and pressures already at work.

Although Pardo's view that exploitation of the deep seabed is almost at hand is disputed in many quarters, his country's proposal inspired interest and prolonged discussion when taken up in November by the U.N.'s political committee. Delegates of 47 nations spoke on the issue, even though generally they were ill prepared to deal with the complexities of this still largely unfamiliar subject.

The predominant view was that, while consideration of the need of a legal regime for the seabed was indeed in order, Malta's proposal to attempt now to formulate the terms of a seabed treaty was premature. However, the concept of keeping the seabed free of national territorial claims and of having all nations profit from its resources had broad appeal, especially among delegates of the landlocked and the poor countries. A number of nations also spoke kindly of the idea of keeping military bases off the seabed and of putting a freeze on unilateral exploitation of the seabed's resources.

Avoid "Colonialism"

The United States, though cautious, was willing to move a bit faster toward working out a legal regime for the seabed than many countries were. U.S. Ambassador Arthur J. Goldberg, in speaking to the Malta proposal, recalled President Johnson's remarks of last July at the commissioning of the research ship *Oceanographer*: "Under no circumstances, we believe, must we ever allow the prospects of rich harvest and mineral wealth to create a new form of colonial competition among the maritime nations. We must ensure that the deep seas and the ocean

bottoms are, and remain, the legacy of all human beings."

Although establishing a legal regime for the ocean floor is a complex task, "all deliberate speed and not indefinite delay is what is called for," Goldberg said. The U.S. was proposing, he said, that the U.N. establish a "Committee on the Oceans," which would help the General Assembly consider such questions involving the seabed as those concerned with resource development, pollution, and arms control.

In doing so, Goldberg suggested, the U.N. could find a precedent in its Outer Space Committee—the vehicle for the prolonged discussions which finally led to the adoption last fall of the Outer Space Treaty. Some of the problems dealt with in this treaty are analogous to those raised by use of the seabed, though clearly it is easier to agree on the use of celestial wastelands than on the use of the murky but presumably rich environment of the seabed here on earth. Among other things, the Outer Space Treaty forbids the orbiting of weapons of mass destruction or the establishment of military bases on celestial bodies, and says that outer space shall be the "province of all mankind" and not subject to territorial claims.

The U.S. proposal for a permanent U.N. committee on the oceans was opposed by a number of nations, including those of the Soviet bloc. However, last month agreement was reached on the more modest step of appointing an *ad hoc* 35-nation committee to prepare, for presentation at the next session of the General Assembly, a study of the technical, economic, legal, and other questions about the seabed.

The committee is requested to suggest "practical means" of promoting international cooperation in the exploration and use of the seabed. In December 1966 the General Assembly ordered a "comprehensive survey" of many of these very same matters, but this survey—due to be completed by summer—is being made by a group of experts and is not expected to have the political significance of the study by the *ad hoc* committee of U.N. member states.

The usefulness of this committee, however, will depend in part on whether the Soviet Union is willing to work for agreement on a meaningful set of recommendations. The Russians went along with the decision to establish the *ad hoc* committee, but with a show of reluctance. In view of the size of its

task and the shortness of its time, the committee may, at best, be able to do little more than to recommend the setting up of a permanent U.N. advisory body on the oceans, perhaps along the lines of that proposed by the United States.

In truth, the naming of the *ad hoc* committee may amount to no more than a first step down a long, long road. Discussion of an outer space treaty began in 1958, nearly a decade before such a treaty became a reality. Adoption of a seabed treaty could take even longer, although, if ocean technology continues its rapid advance, some decisions may be forced upon the international community.

While its official attitude toward the concept of internationalizing the seabed is not unsympathetic, the United States may move slowly in making or accepting proposals for a seabed regime, if only because significant internal military, economic, and political interests would not have it otherwise. The viewpoints of some of these interests were expressed in congressional hearings held during the fall on the Malta proposal.

Rash of Resolutions

For example, the hearings conducted by the House Foreign Affairs Subcommittee on International Organizations, chaired by Dante B. Fascell (D-Fla.), dealt largely with a rash of resolutions introduced during August and September by congressmen who wanted the U.S. to oppose any current proposals to internationalize the seabed. [A few liberal Democrats in the House later offered resolutions encouraging internationalization, and, in the Senate, Claiborne Pell (D-R.I.) proposed a set of principles to guide formulation of a seabed treaty similar in many respects to the treaty on outer space.]

Many of the resolutions were sponsored by members of the House Subcommittee on Oceanography, headed by Alton Lennon (D-N.C.). In a statement for the Fascell subcommittee, Lennon said, "There can be no doubt but that our country would suffer irreparable harm if jurisdiction to the seabed were transferred to any organization. . . . [The] seabed contains many . . . minerals that our country needs now and will need in the future."

Lennon is, incidentally, one of four members of Congress serving on the temporary commission on marine resources headed by Julius A. Stratton,

chairman of the Ford Foundation. This body, on which industry is well represented, late this year will recommend to the President a comprehensive oceanography program for the United States. It will emphasize, one may safely predict, that any legal regime for the deep seabed should allow private enterprise the profit incentives for the large investments which exploitation of the seabed's resources will require.

This objective of encouraging investment is by no means necessarily in conflict with internationalization, however. Indeed, some economists believe that, without international control over the allocation and development of deep-sea mineral resources, chaos will reign and the markets for particularly abun-

dant minerals, such as manganese, will collapse from overproduction.

An arms control agreement should accompany, if not precede, an internationalization of the seabed, but already there are signs that, for the moment at least, U.S. military people are wary of proposals for such an agreement. For instance, in testifying before the Fascell subcommittee, Rear Admiral Wilfred A. Hearn, Judge Advocate General of the Navy, questioned whether, in the absence of greater technical knowledge, a treaty putting the seabed off limits to nuclear weapons would serve the national security. An interagency study of the possibility of an arms-control agreement for the seabed has been underway for some

months. If this effort has produced any firm conclusion it is that the arms-control problem under the sea is vastly more complex than the problem in outer space.

The Fascell subcommittee last month recommended that the U.S. actively discourage any action "at this time" with respect to the vesting of authority over the seabed in any new or existing international organization. Although two liberal Democrats on the subcommittee criticized the report's "negative tone," the strong sense of caution that it expressed represented well enough the attitude with which the United States and most other U.N. member nations are examining the question of the seabed.—LUTHER J. CARTER

Education Reform: British Reorganize Secondary Schools

London. Current British efforts to reorganize secondary education on lines of the comprehensive school strike the American bystander as remarkably familiar. The prescription for achieving both educational and equalitarian ends by consolidating into larger units and catering "for virtually the whole range of ability" might be taken directly from the Conant report on the American high school at the end of the last decade. Ideal results may be as hard to achieve in Britain as in the United States, but current plans for comprehensive schools imply a much more radical reorganization here.

State education in Britain has been rigorously selective. Secondary schools, attended by children aged 11 through 18, tend to be segregated according to sex, ability, and, in effect, social class. In the typical local school system, two sorts of secondary schools have been provided. Grammar schools accommodate the academically talented, preparing them for university entrance or white-collar jobs. So-called secondary modern schools provide general commercial and industrial arts courses. Something over 50 percent of British

young people leave school when compulsory education ends at age 15.

Assignment to secondary school in the past has depended primarily on a child's performance on examinations taken when he is about 11. These "11-plus" examinations, combining IQ and achievement tests, are now being abandoned by most education authorities as part of the movement away from "selection" (*Science*, 1 Dec.).

While the demise of the 11-plus means a revision of what one American observer calls the doctrine of infant damnation, the trend toward comprehensives still affects only a minority, if a rapidly growing one. In 1966, the number of students in comprehensive schools rose from 240,000 to 312,000 of the total 2.8 million in state secondary schools. Of the rest, under 25 percent are in grammar schools and the majority are in other secondary schools.

The shift to comprehensive education is a matter of national policy endorsed by the House of Commons and expressed in a directive from the Department of Education and Science in July 1965 stating "It is the Government's declared objective to end selec-

tion at eleven-plus and to eliminate separatism in secondary education." Local authorities were requested to prepare plans for reorganizing secondary education and to submit them to the department.

Methods and timing may be varied to meet local circumstances. The Secretary of State for Education and Science at the time the order was issued, Anthony Crosland, promised legislative action if authorities did not comply and his successor, Patrick Gordon Walker, has affirmed the pledge.

The Labor party is ideologically inclined and politically committed to education reform, particularly to ending selective education. At the party conference earlier this year, one speaker said "To be branded as a secondary modern was a handicap carried throughout one's life" and went on to insist that "We must make it clear as a movement that there are some things money cannot buy, and the foremost among them is privilege in education."

To many reformers, privilege in education means the public schools, the independent schools educating boys and girls aged 13 to 18. Demands for integration of the public schools into the state system as part of comprehensive reorganization have been heard. The government so far has not taken action on the public schools, deferring a policy decision until a government-appointed committee reports.

As a party issue, comprehensive education up to now has not had explosive force. Both Crosland and Gordon Walker have had relatively polite deal-