of incentive and interest among health professionals in attacking these problems. In their formal curriculum the vast majority of students in the health professions do not gain an appreciation of the needs of the medically underprivileged or the difficulties that are faced by health practitioners and health facilities in poverty areas. The patient is observed by the student merely as a disease or clinical entity—as a fragment of his social being distinct from his environment. The health student, by spending his long years of training isolated from the community which he will serve, loses his social idealism and remains blind to many of the basic causes of ill health: environmental deprivation, loss of income and jobs, and poor housing. Tomorrow's health practitioners must understand these causes if there is to be any large-scale improvement in standards of health care. Firsthand experience with the urban community and the urban health problem is the best way to gain this understanding. . . .

This statement, from the funding application of the Albert Einstein group, is as sensitive a critique as medical education has received from many more experienced observers, and the students' obvious perceptiveness and passion have already won them a serious audience. Preparations are being made for the students to become part of the advisory apparatus to the Department of Health, Education, and Welfare and, perhaps more significant, they are apparently making some headway in efforts to influence deans and curriculum committees to find a place in the regular medical training program for what is now wholly extracurricular effort. In this connection their activities fit neatly into the programs of interest to the older generation, which include not just an effort to establish a health system that will guarantee care to all the people but an effort to reform medical education as well. "We want medical education to deal with the problems of current society," one officer of the MCHR commented to *Science* recently, "and society is not the way it was when Flexner wrote his report." Finally, in addition to energizing their elders—it was a New York student who persuaded the three groups to issue their statement—the SHO movement has reportedly begun to energize SAMA itself into taking a new look at some of the problems facing medicine.

What has the AMA got to say to students like these? The answer is, "Not much." The students' interest is not in capitalism but in those whom capitalism has overlooked. In the first day of their summer orientation program, for example, the California students discussed not medicine but the social forces affecting the communities where they would serve: "black power," "Mexican power," Watts. They serve as "patient advocates," helping the poor to find their way through the maze of health services provided by welfare-health agencies. They seek to end a medical tradition which, they say, "until now has ignored the needs of the recipient in favor of the comforts of the profession." The student groups have attempted to keep an open mind about the AMA: AMA representatives are invited as speakers and some have served on advisory committees. But they are deeply disaffected with its present policies and, while a bridge may one day be built, the construction materials are not as yet even present.

What will come of the new student spirit—or for that matter of the adult spirit—is another question. SHO members are still young, and they have not yet had to face the question of how they will practice their professions or how they will support their families. Further, the members represent divergent political tendencies from radical to relatively conservative and they are bound together at the moment chiefly by a hope that the medical system will change so that they can be morally comfortable in it. As for the older generation, it is cheered by the omens of a developing anti-AMA "movement" but aware that its present surge owes much to the AMA's Model-T version of what constitutes a physician's social responsibility. If the AMA should return to the somewhat more moderate course it followed under Rouse's two predecessors the new wave might easily evaporate, and there have been signs that at least the AMA's bureaucracy is anxious to keep its new chief pretty far out of the limelight. (This struggle within the AMA is described by one observer as "between the organization's right-wing and its far-right wing.") As matters now stand, the world of medical politics is divided into two unequal parts. The AMA has lost some battles but is still winning the war. It exercises a powerful brake on the pace and direction of innovation. The liberals are rising, but on a shaky, lowest-common-denominator foundation. In the end the point seems clear: if the AMA's days are numbered, it is still a very high number indeed.—ELINOR LANGER

Nuclear Spread: Quest for a Treaty Is Receiving New Attention

Geneva. War in the Middle East and the debut of China as a thermonuclear power gave reason enough for the recent turn of international attention to the marathon effort at Geneva to find a formula to stop the spread of nuclear arms. And mention of the nonproliferation treaty at the Johnson-Kosygin summit meeting at Glassboro provided encouragement that positive steps toward the elusive treaty would soon be taken.

Hopes for a treaty were boosted in mid-June when Secretary of State Dean Rusk was reported to have told the NATO ministerial meeting in Luxembourg that the U.S. and the Soviet Union were in agreement on a draft of a nonproliferation treaty. This proved to be news to the Russians.

It appears that Rusk was reporting progress in negotiations which did not include an actual agreement. What Rusk had in mind as a new draft treaty was the old draft modified to leave blank the section on safeguards —inspection—that has been the major stumbling block. Observers feel that Rusk was signaling both the Soviets and U.S. allies that it is time for a final effort to achieve a treaty before it is too late.

The sense of urgency was partly generated by the timing of the NATO meeting on the eve of the U.N. General Assembly session on the Middle East crisis. But pessimists have been saying that the longer an agreement is delayed on an NPT, the slimmer grow

the chances for a treaty, not so much because of differences between the two superpowers as because of the hardening attitudes of Western European countries and other potential nuclear powers such as India and Brazil.

The kind of treaty being discussed in Geneva is basically discriminatory. The world would be divided into "nuclear states," meaning those "possessing the independent power to use nuclear weapons," and "nonnuclear states," which would renounce that power. In signing the treaty, nuclear states would pledge not to give weapons to nonnuclear states or to assist them in developing their own nuclear arsenals. Nonnuclear states would agree to refrain from developing nuclear weapons or acquiring them in any way. Objections to the treaty would center on the sort of military and political apprehensions India has about China, and also on fears, particularly acute in Western Europe, that the treaty would interfere with the development of peaceful uses of atomic energy by the nonnuclear states.

The quest for a nonproliferation treaty resembles that which produced the Moscow Treaty (1963) banning nuclear tests. Agreement between the Soviet Union and the United States on a draft is a necessary precondition. But this time the drama has more major characters with key roles to play. The arena for discussion is the Eighteen Nation Disarmament Conference (ENDC), which began in Geneva in 1962. Five Western nations are represented (the United States, Canada, the United Kingdom, France, and Italy); five Communist countries (the Soviet Union, Czechoslovakia, Poland, Hungary, and Yugoslavia); and eight nonaligned states (India, Sweden, the United Arab Republic, Ethiopia, Nigeria, Burma, Mexico, and Brazil). Such other potential nuclear nations as Israel and Japan are not formally represented, but are obviously watching events closely. To complicate matters further, France, which did not sign the test-ban treaty, has chosen not to participate in the ENDC. Its chair at the conference table is empty, and the assumption is that France will not sign a treaty. China, a nuclear state, is another nonparticipant and presumed nonsigner.

Another point of similarity between the negotiations for the test-ban treaty and those for a nonproliferation treaty has been the difficulty over inspection, which is a perennial sore point in efforts at arms control. The Soviet Union has been adamantly opposed to inspection on its soil, and the shape of the Moscow test-ban treaty was determined by the state of detection technology. Agreement was finally reached by excluding underground tests from the prohibitions of the treaty because such tests could not be detected with sufficient certainty.

Nonproliferation-treaty talks until recently have not been so entangled in technology. The question of means of monitoring the production and use of nuclear materials has received relatively little attention. Some practical methods seem to be available. For example, copper "safing tapes" could be used to lock cores into reactors. X-rays of seals on the tapes would show whether these had been broken. The idea has been successfully demonstrated at the AEC's Hanford, Washington, facility. The ultimate hope is for an automatic verification system, but much remains to be done before a workable one is developed.

At the NPT talks, the crucial question on inspection has been not how but who. In practical terms this has meant a decision on whether inspection of facilities in Western European countries would be carried out by Euratom (the European atomic energy agency), formed by the Common Market countries, or by the International Atomic Energy Agency (IAEA), a United Nations agency.

In the draft treaty put forward by the United States in August 1965, which has been the chief working paper of the conference since then, Article 3 on inspection said, "Each of the States party to this Treaty undertakes to cooperate in facilitating the application of International Atomic Energy Agency or equivalent international safeguards on all peaceful nuclear activities."

The wording implied that, for Euratom members, Euratom inspection would be an acceptable alternative for IAEA inspection. Then early this year, when the Americans were seeking to fashion a revised form of Article 3 which would be more attractive to the Russians, word went out on the Geneva grapevine that a new safeguards article would call simply for IAEA inspection.

Such a revision never saw the light of day, for by early February the Euratom commission was in full cry, warning the six member governments to protest.

The Euratom members objected on two main grounds:

1) Different treatment of France—whose military nuclear facilities would be off-limits to inspectors—would conflict with the principle of equality embodied in the Treaty of Rome.

2) Discrimination against nonnuclear countries would adversely affect development of their civil nuclear industry.

It was felt also that imposition of IAEA inspection on Euratom countries would not only supplant an operating system of control and inspection with a new system which may be less thorough but would also deprive Euratom of a significant function at a time when it is afflicted with a crisis of confidence and cash.

In its annual report published 16 June, the Euratom commission affirmed its position against discrimination among its members but also put forward a possible compromise. It suggested the possibility of "an agreement on technical cooperation between Euratom and the IAEA, by which the efficiency of control could be verified by scientific methods mutually agreed upon." Presumably, this would mean consultations with IAEA.

Of all the Euratom nations, sharpest misgivings about the inspection formula have been expressed by the German Federal Republic, which, of the nonnuclear states, has the strongest civil nuclear industry. The German reaction, a somewhat delayed one, seems to have been generated by a combination of political and technological considerations. A debate within West Germany's coalition government on the country's nuclear role apparently resulted in a defeat for the Social Democrats, who wanted to drop the standing German policy in favor of joint possession of nuclear weapons along lines of a multilateral nuclear force.

Much more pointed objections to a nonproliferation treaty came from technical and commercial interests in West Germany. To some, the treaty itself looked like a plot by American nuclear industry to thwart German development of peaceful uses of atomic energy. IAEA inspections appeared to provide openings for industrial espionage by members of the Soviet bloc.

In late winter and early spring the American government gave high priority to efforts to allay German fears,

which some observers feel had given rise to the most serious strain in relations between the United States and West Germany in the postwar period. The matter of technological impact was the subject of intensive discussions in Washington, Bonn, Brussels, and Geneva. American experts, both governmental and civilian, were brought into contact with their German counterparts, and the problem was dealt with finally at the level of AEC chairman Glenn Seaborg and Vice President Humphrey; the latter had it on his agenda when he visited Germany this spring.

The American effort seems to have mitigated the worst of the German misgivings, and, in late April, West German foreign minister Willy Brandt made a statement in the Bundestag saying that German apprehensions about the proposed treaty had been largely eliminated.

On the matter of technology Brandt listed the following U.S. assurances.

1) Nonnuclear powers would be permitted to profit from the spin-off from nuclear research in the military field.

2) The U.S. said it would be willing to help in setting up a service for peaceful nuclear explosions of the Plowshare type without charging R & D costs to nonnuclear states using the service.

3) The supply of nuclear fuel, which the U.S. provides for Western European countries and about which those countries are very sensitive, would not be affected adversely by a treaty.

4) Those signing the treaty would not have their research activities blocked or their nuclear industry impaired.

Having won these assurances, the West Germans gave the United States the go-ahead to continue with negotiations for a nonproliferation treaty, but they have not committed themselves to signing it.

Agreement between the United States and the Soviet Union would give great impetus toward a treaty. World opinion for a treaty would count heavily, as it did in the case of the Moscow Treaty, and the two superpowers could doubtless apply pressure to the reluctant nations. The strenuous effort made to convince the Germans indicates that President Johnson is very much in earnest about getting a nonproliferation treaty, and the Soviet Union's recent very businesslike attitude in formal and informal contacts is thought to mean that the Russians are of similar mind.

U.S.-Soviet agreement on a draft, however, would only signal the beginning of serious negotiations on a number of issues besides implementation of inspection provisions.

In the political sphere, India has fundamental doubts about renouncing the possibility of acquiring nuclear arms in the face of China's nuclear potential. In May, the Indian foreign minister said, "It is impossible to tie our hands." What the Indians are thought to want if they are to accept a treaty is a guarantee from both the superpowers that India will not be forfeiting its safety in the face of a nuclear-armed China. And such a guarantee may be very difficult to obtain from the Russians.

Technologically, the mechanics of inspection may become a live issue if the basic political issues are settled.

As for the United States, it remains to be seen how we will implement the assurances given that West Germany will not suffer economically from signing a nonproliferation treaty. The government's pledge that in peaceful uses of the atom the technology gap won't be allowed to widen appears to be a departure in diplomacy with far-reaching technical implications.

—JOHN WALSH

Overhauling the Draft System: Hard Times for the Reformers

The draft has absorbed more than its share of criticism in the last 12 months. A presidential commission has studied it, students have damned it, and Congress has debated it. Almost everyone talked of overhauling the present setup, perhaps even eliminating it. Yet, when the President signed a new Selective Service Act last month, the draft hadn't changed very much. (For what has changed, see box, p. 291.)

The existing system exhibited extraordinary resilience. Between July 1966 and July 1967, proposals to revamp the draft ranged from replacing it with a volunteer army or universal service to diluting it by allowing draftees to serve in the Peace Corps or Vista. The very abundance of revisionist ideas was significant: criticism of the present system was plentiful, but agreement on what to do about it was not.

The debate was also a victim of conflicting circumstances. The controversy arose because the war and increasing manpower requirements drew attention to the draft; but the war—and the demand for a continual flow of men—also reduced the incentives for the military, its spokesmen in Congress, and even the Administration to experiment too boldly with the existing system.

The story of draft reform, 1966–67, then, is one of a large supply of ideas put through a fine filter, which, at every stage of public debate, eliminated the most controversial schemes. The process started a year ago when the President appointed a special commission, headed by former Assistant Attorney General Burke Marshall, to conduct a thorough study of the existing system. The commission itself did a heavy job of refining by discarding a number of highly publicized proposals. It rejected alternate service ("no fair way exists, at least at present, to equate military and nonmilitary service"), a volunteer army ("no flexibility in crisis . . . the sudden need for greater numbers of men would find the nation without machinery to meet it") and universal service (unnecessary and impractical). The commission's rejection robbed these schemes, and the prospect of radical reform, of whatever slight chances they had.

The Marshall Commission concentrated instead on the most prevalent complaint about the draft: that it was unfair. This criticism caused the President to establish the commission in the first place and permeated the panel's final report. It said that: (i) all student