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

deferments were an example of "special treatment" and ought to be eliminated; (ii) the order of induction ought to be reversed, taking 19- and 20-year-olds first instead of taking the oldest in an eligible pool of men between 19 and 26 (the present order, it was argued, forced men to wait too long, often impairing employment and career prospects or delaying family plans); and (iii) a lottery should be introduced to select the men in the 19- to 20-year-old pool who would serve. (Between 1.9 and 2 million men turn 19 every year; at present rates of induction, the Defense Department needs to draft only one out of two, and after Vietnam it estimates draft needs at one out of seven.)

The President supported many of the commission's ideas—specifically, the lottery and the reversal of the age of induction. But he, like the Commission, narrowed the scope of reform. The Commission had found wide variations in the classifying procedures of the more than 4000 local, largely autonomous draft boards; it wanted the system drastically restructured and the lottery pool made national instead of local. The President, probably sensing Congressional attachment to the present decentralized system, recommended only a management study of the current setup. Likewise, student deferments seemed too controversial; the president committed himself to end only graduate school deferments. (Significantly, a minority of the commission had also recommended that graduate school deferments alone be ended.) Reform had reached its most difficult hurdle, Congress, and already two major proposals seemed dead: ending undergraduate deferments and restructuring the Selective Service System.

The scene now shifted to the House Armed Services Committee. It, too, wanted reform, but reform of a different sort. If the concept of "fairness" dominated the Marshall Commission, the war in Vietnam and opposition to the draft evaders preoccupied this committee. The Armed Services Committee, chaired by L. Mendel Rivers (D–S.C.), had authored a recent law against draft-card burners, and its impatience with dissent was clear. F. Edward Herbert (D–La.), the third-ranking Democrat on the committee, put it this way:

"Let's forget about the first amendment. I know that will be the refuge of the Supreme Court, I recognize that. But at least the effort can be made and

The new draft law and implementing regulations will be almost identical to the old for at least a year, when a sharp curtailment of graduate deferments will be announced. Specifically:

1) All college undergraduates are guaranteed a deferment while in "good standing." Though not guaranteed a deferment under the old law, few undergraduates were actually drafted (boards often asked for a student's class rank or his results on a national draft test to determine his status—both measures are now eliminated).

2) Graduate students in 1966–67 will keep their deferments—M.A. candidates for one year, and Ph.D. candidates for no more than four. A candidate for a professional or doctoral degree *who was in school last year* has a total of five years, including those he has already had, to earn his degree.

3) Last June's college graduates entering graduate school this fall will be deferred for only one year.

The most sweeping change in the new statute—the eventual elimination of most graduate school deferments—does not go into effect for a year. In the interim, the National Security Council will advise the President whether any deferments should be given other than those for medical and dental students. The Council will also review occupational deferments. The current assumption is that graduate deferments which are extended by the Council will be for scientists and engineers, though there is no indication which areas will receive continued grace.

During the next year, draft boards will continue to take the oldest men first in a pool of eligibles from 19 to 25 years old. However, there is a good chance that in a year the Defense Department will reverse the order of induction by taking men in the 19- to 20-year-old group first. In that case, men older than 20 who had previously been deferred would probably be mixed with the 19-year-old group; or, a transitional arrangement would be worked out so men in both age groups would be equally vulnerable.

In either case, a man's period of maximum elgibility would be about a year. The Defense Department would probably not need all the men in the eligible pool—at present rates, the need would be for about one out of two. At the end of the year, the man would drop into a pool with a lower eligibility, and, unless draft calls rose drastically, he would probably never be called. Other important changes in the new law include:

1) Conscientious Objection: The so-called Supreme Being clause has been eliminated in an attempt to narrow the definition of C.O. status. Under the new law, as the old, anyone who by "religious training and belief" is opposed to war can qualify as a C.O. The old law interpreted "religious training and belief" as "an individual's belief in relation to a Supreme Being involving duties superior to those arising from any human relation. . . ." This clause is considered important because the Supreme Court relied on it for the 1964 *Seeger* decision, which included as Conscientious Objectors anyone who could demonstrate "a sincere and meaningful belief which occupies in the life of its possessor a place parallel to that filled by God of those admittedly qualifying for the exemption. . . ." The Selective Service Administration has told local boards that the change means a narrower definition of C.O. status, though some legislators and lawyers—including a representative of the American Civil Liberties Union—believe the courts will still uphold *Seeger*. A court case will almost certainly be necessary to clarify the impact of the new law.

2) Exemptions for Doctors: Doctors will no longer be able to receive credit for military service by serving in the Peace Corps, the Office of Economic Opportunity, or the Food and Drug Administration as members of the Public Health Service (PHS service normally carries an exemption). The new provision will not affect those now serving or scheduled to serve in these agencies.

Pollack To Head State Science Office

Science photo

Herman Pollack

The latest chapter in the relationship between the State Department and the scientific community ended 14 July with the elevation of Herman Pollack to the directorship of the Department's Office of International Scientific and Technological Affairs.

Pollack, a career administrator with the Department, had been heading the office in an acting capacity since January 1965 while repeated efforts were unsuccessfully made to engage a scientific luminary for the post. There is general agreement that, during that period, the office gained greatly in stability and in effectiveness as a means for bringing scientific and technological expertise into foreign policy affairs. But there is also little doubt that many elder statesmen of science, though disdaining the post themselves, are not altogether pleased to find it in the hands of a nonscientist.

Since the Department set up the office, in 1951, on the recommendation of a high-level committee of scientists, the scientific community has tended to think of it as its own, and it still does, though the office at times has declined to near-extinction. Nevertheless, though the Department elevated the directorship to the protocol equivalent of assistant secretary (third highest in the State hierarchy) as an inducement for a senior scientist to take the job, none was forthcoming. The reasons are complex, but common to many rejections was the feeling that Secretary of State Dean Rusk does not take science or scientists as seriously a many scientists do. (A physical scientist who once occupied the post has lamented that the Secretary did not accord his views on the political wisdom of the U.S. involvement in Vietnam much weight.)

Among scientists concerned with international affairs, it is admitted, though sometimes grudgingly, that Pollack has done an outstanding job, and that the office is likely to improve still further now that he is free of the uncertainties of an acting appointment.

A Phi Beta Kappa graduate of City College, Pollack holds a master's degree in international relations from George Washington University. He joined the State Department in 1946 and served as director of the Management Staff and deputy assistant secretary of personnel before joining the science office as deputy director in 1964.

Newly appointed to serve as deputy director was J. Wallace Joyce, who served under Pollack as acting deputy director. Joyce holds an engineering degree and doctorate from Johns Hopkins University and formerly worked on international scientific programs at the National Science Foundation. In 1964 he was honored by the American Geophysical Union for his leadership in international geophysics cooperation.

The role and potential of the office in the fuzzily defined relationship between science, technology, and foreign policy are a matter of some debate (see E. B. Skolnikoff, *Science*, 25 Nov. 1966). But in the words of the State Department, the job of the office includes providing assistance "to the Secretary in his considerations of scientific and technological factors affecting foreign policy." One of the major activities is the scientific attaché program, under which some 20 attachés have been posted at major U.S. embassies.

—D.S.G.

the demonstration given the American people certainly that the Department of Justice and most assuredly the Congress is determined to eliminate this rat-infested area in this country."

The bill that emerged from Rivers' committee bore the marks of this anger. It required that the cases of draft evaders be given priority by the Justice Department. It struck the Supreme Being clause from the section on Conscientious Objection in an attempt to narrow the definition of C.O. status. It eliminated Justice Department hearings for C.O. applicants who receive adverse decisions from local boards. Apparently in the same mood, the committee curbed exemptions for doctors in the Public Health Service, the Food and Drug Administration, or the Office of Economic Opportunity (see box).

Yet, Rivers' bill did not necessarily block most of the Administration's major reforms. The crucial setback came in the conference called to reconcile the House and Senate bills. The House Committee had opposed a lottery until it saw a concrete plan from the Administration, which had simply asked for authority to establish the new system. Consequently, the committee had required that the President give Congress 60 days to disapprove of the lottery before putting it to use. The restriction, though unwanted by the Administration, was not necessarily crippling: a disapproving resolution would have to pass both branches, and the Senate, which was more friendly to the lottery, would probably not go along. But the conference replaced the 60-day veto with an absolute ban against a lottery until new legislation had passed both houses. The change, surprisingly, was made at the urging of Sen. Richard Russell (D–Ga.), the bill's Senate manager, who disliked Congressional vetos. As he told the Senate: "I am well aware that there are some circumstances in which the so-called Congressional veto is applicable, but I do not like to extend this practice generally."

Of such idiosyncrasies is history made. The conference bill—which cleared both Houses, but not without a lengthy floor debate in the Senate —apparently destroyed the Administration's plans to announce a shift to the 19- and 20-year-old pool. Without a lottery, the Defense Department thought there were too many problems. The Administration will introduce a lottery next session.

What happened to the reformers

and the pressure for change? Despite the proliferation of proposals to alter the system, there was little support for the plans offered by the Marshall Commission and later endorsed by the President. It may be true, as the Harris poll indicates in *Newsweek*, that only 40 percent of the public thinks the draft works fairly. But other polls also say that a majority is opposed to a lottery, although it is not clear whether most people really understand the President's proposals.

Much of the discussion of the draft was stimulated by uneasiness about the war in Vietnam or outright opposition, feelings that hardly bothered either Armed Services Committee. Some leading proponents of reform of the structure of the Selective Service System were Republicans (relatively junior ones at that) and their criticism was labeled "political." From the committee's vantage point, as from the military's, the main objective of the Selective Service Act is to get men for the army. The calls for a volunteer army, for example, made little impression not only because they originated both from critics of the war and from Republicans, but also because a volunteer army was unacceptable to the military.

The Administration, as advocates for the Marshall Commission, did not help very much. The President, or his aides, did little to push the proposals. He may not have thought they needed pushing—after all, up until the conference the framework of the Administration's plans had survived. Or, faced with what has generally been a reluctant Congress, the President may have been content to let nature take its course. The Defense Department, formally entrusted with bearing the package to Congress, was not very persuasive. The Department was not a long-standing lottery advocate, and, as recently as early 1966, had not favored the idea in public testimony.

The anti-lottery, anti-reform forces also had a powerful, if silent ally, the Selective Service System. Though Lieutenant General Lewis B. Hershey, the head of the System since 1941, had publicly reversed his long-standing opposition to the lottery, there was no question where his, and the system's, heart lay. As Sen. Russell noted once while defending the conference bill on the floor: "It is significant to me, in reading these communications [against the conference bill] here today, that we have not had anything from General Hershey objecting to this bill. He has not expressed any displeasure with it."

The main opposition to the lottery was in the House Committee where the lottery was viewed as inflexible and "change for the sake of change." In contrast, the Senate included nothing about the lottery in its bill. There were a variety of other differences between the two bills, but most were settled in favor of the House. Nothing is more significant to the shape of the new draft legislation than the fact that the Senate version, generally leaving much more discretionary authority to the President than the House bill, was virtually destroyed in conference.

Just why this happened is difficult to explain. Conference committees have always been mysterious, holding executive sessions and keeping no records. A number of factors, however, seem to have been at work. The Senate was under time pressure: the censure of Sen. Thomas J. Dodd (D–Conn.) was a few days off, and Russell, fearing extended controversy, reportedly wanted to get the draft bill approved before the Dodd debate began. Moreover, the positions of the House and Senate committees were not so far apart as their bills indicated. (For example, the House had written a guarantee of undergraduate student deferments into its bill; the Senate made a similar recommendation in its report. The House included the lottery veto in the bill; the Senate noted several misgivings about the lottery in its report.) Finally, the House Committee's interest in draft legislation was more thoroughly established than the Senate's. The House Committee held two sets of hearings on the bill and appointed a civilian panel, headed by retired General Mark W. Clark, to make recommendations. The House conferees, drawn from the committee, were stubborn: they knew what they wanted and were determined to get it.

This setback to reform, however, may have obscured the draft debate's more lasting significance. Most fundamentally, the debate spotlighted a long-ignored subject and gave public currency to such ideas as the volunteer army. Once the war in Vietnam is over, there may yet be another reconsideration of Selective Service and proposals rejected this time may fare better then.

The debate also seemed to make some subtle changes in existing assumptions about the draft. The old assumptions favored educational and occupational deferments on the grounds that the draft was not simply a device for supplying men to the military, but one for serving the nation's manpower needs in many areas. The Selective Service System calls this "channeling" and believes it has helped—through deferment policy—direct men into scientific, engineering, and teaching careers "which are essential to national interest." Regardless of the impact or desirability

New Criteria To Hurricane Study

New criteria, broadening the area of operation, will be in effect this year for Project Stormfury, a series of cloud-seeding experiments designed to reduce the force of hurricanes. The changes were announced by the Environmental Science Services Administration and the U.S. Navy, which jointly operate the project.

In past years, hurricanes were considered eligible for seeding only when they were in a fixed geographical area between Bermuda and Puerto Rico. In the forthcoming experimental period, 8 August to 15 October, it was announced, "project officials will use forecasts of hurricane tracks and positions to select storms for experimentation, instead of the fixed area—based on purely climatological guidelines—used in previous years."

"Under the new criteria," the announcement continued, "a hurricane will now be considered eligible for experimentation only when the official Weather Bureau forecast indicates there is less than a 10 percent probability of the hurricane center reaching within 50 miles of a populated land area within the next 24 hours."

The change in criteria followed a recommendation by a five-member panel, headed by Noel E. LaSeur of Florida State University.

of this concept, it has become increasingly—though not thoroughly—discredited during the current debate.

The present controversy may also foreshadow the downfall of the local board. Although local boards were strongly supported in both the House and Senate, the new legislation does away with the bulk of board duties, the classifying of undergraduate and most graduate students. The board will still have jurisdiction (and discretion) on remaining graduate deferments, occupational deferments, hardship deferments, and the cases of conscientious objectors, to name a few. But there is no doubt that its job has been diminished. In a few years, it may seem foolish to keep the boards alive for so little work.

In fact, even the reports of the Administration's defeat may be premature. The lottery, which seems to have been pushed aside, is not dead. The Administration plans to present a lottery plan to Congress next session. This commitment reflects more than attachment to the recommendations of the Marshall Commission.

The Defense Department has always wanted to keep the average age of induction low, between 19 and 21. With draft calls high and with most graduate school deferments in effect next year, the average draftee will remain, as he has been, relatively young. Because of this, the department saw no need to shift now to the 19- to 20-year-old pool. Next June, however, two new groups—this year's college graduates who go on to graduate school and have one-year deferments, and next year's college graduates—will join the pool simultaneously; this influx will presumably force up the average age of induction considerably.

As a result, the Defense Department would like to shift to the 19-year-old pool and mix the younger boys with older college graduates. The fairest way to do this, it believes, is the lottery. If it can't get a plan through Congress, it will face a difficult choice: switching to the 19-year-olds with what it considers an unfair selection system (but one actually preferred by the House Armed Services Committee); or, staying with the present order of inducting the oldest first in the 19- to 26-year-old pool. Because of the department's preference for the 19-year-old pool, the push for the lottery may be undertaken with more fervor next session.

Regardless of what happens, the most important consequence of this year's debate may lie somewhere else entirely. By eliminating most graduate school deferments next year, the new law enlarges the size of the 1-A pool significantly. In 12 months, the Selective Service System will be able to efficiently draft many more men than it has in the past. The ultimate effect of the draft debate may be to give the Administration more flexibility in increasing the size of the army—and, if desired, the size of the U.S. commitment in Vietnam.—ROBERT J. SAMUELSON

200 Bev: Close Senate Vote Defeats Effort to Delay Weston Project

The hotly contested authorization for beginning the 200-Bev accelerator in Illinois received its first approval from the full Congress on 12 July. By a vote of 47 to 37, the Senate beat back an amendment offered by Senator John O. Pastore (D–R.I.) which would have deleted from the AEC authorization the $7.33-million portion for design work on the accelerator.

Those who wanted to defer the accelerator construction obtained a surprisingly large number of votes, especially when one considers that the House of Representatives had earlier defeated a similar move by a lopsided vote of 104 to 7. The main force behind the larger tally in the Senate was the peppery Pastore. Although Pastore did nothing special to organize his opposition force, he gathered a healthy number of the votes of both liberal Democrats and of Senators from the five states representing the disappointed suitors in the site-selection courtship last year. Most of the Senate Republicans voted with their party leader, Illinois Senator Everett McKinley Dirksen.

The tousled-headed Illinois orator and the fiery Rhode Islander provided the main verbal pyrotechnics of the Senate debate. In a display of feeling unusual for the ultrapolite Senate, Dirksen said he would show Pastore "the error of his ways" and accused Pastore of the "airiest nonsense and persiflage . . . that I have heard on this floor for a long time." Dirksen argued that many people commuted long distances to work. Pastore lashed back: "this idea that it is perfectly all right for a Negro to travel 60 miles a day but it is not all right for a white man to travel 60 miles a day—that the white man can live close to his job while the Negro has to live in a ghetto removed by 35 miles—does not strike me as a dignified argument."

Dirksen noted that Illinois was much bigger than Rhode Island and that the people of his state appreciated "vistas." Pastore gave back as good as he got. "I would not say that the Senator from Illinois is insincere . . . But it is time to be serious as well as sincere. The idea of making a joke of the whole situation of . . . how large Rhode Island happens to be, and all that sort of nonsense, really has no place in this debate."

Although Dirksen often used humor and sarcasm to make his points, he had placed his lance with skill. He argued that if Illinois was deprived of a federal installation merely because it did not have an open-housing law, then he was going to make sure that the 30 states without such laws were going to be punished along with Illinois when future projects were considered: "We are going to see if that is going to be the case that whatever is sauce for the goose is going to be sauce for the gander," he intoned. The realization of many Senators that their own states might be threatened was enough to bring them to vote with Dirksen.

Despite the initial congressional victory, all the major parties have suffered losses from the fight over the Illinois accelerator site. The scientists supervising the development are unhappy. National Accelerator Laboratory director, Robert Rathburn Wilson, who is charged with supervising construction of the machine, expressed his "deep disappointment" that Illinois had not passed "essential open-housing