years shows the Soviets are walking down their own path, they have charted their own course."

The most recent occasion on which Soviet and American weapons technology crossed tracks was the Middle East war. Heavy Israeli losses of tanks and planes in the early days of the war suggested that Soviet weapons designers had sprung a number of technological surprises on their American counterparts. "We have given a lot of thought to this question," Currie replies. "We were not really surprised by any of their capabilities—the Sagger [antitank missile], SA-6, SA-7 [antiaircraft missiles]—but the massive deployment of these weapons by the Soviets, and the ability of the Arabs to use them, was perhaps a surprise in the sense that it became a reality. Our own R & D community was essentially validated as being on the right track."

Tactical wars, such as that in the Middle East, are where most of the action in military technology is now taking place. Devices such as terminally guided weapons and remotely piloted vehicles amount to what Currie has called "a true revolution in conventional warfare." As for strategic weapons, "In many areas of advanced technology we have already achieved much of the theoretically achievable gains," Currie told Congress last year. Asked what demands on technology were imposed by the new strategy of counterforce (which entails aiming more American missiles at Russian missile silos instead of cities), Currie says that "retargeting has nothing to do with technology." Doesn't it require better accuracy to hit a missile silo instead of a city? "Not in the sense of demanding some R & D which we haven't got—the basic capability has been there for 10 years," he replies. Nevertheless, $77 million is being requested this year for improving the accuracy, size, and maneuverability of the Minuteman missile.

Vast though his empire is, the DDR & E is not absolute master of all he surveys. Every bureaucrat has other bureaucrats to fight, and in his case each of the three services can put up determined opposition. The Army, Navy, and Air Force conduct their own programs of research, development, test, and evaluation (RDT & E) and each has its own assistant secretary for R & D. The basis of the DDR & E's power is that he supervises the total Pentagon budget for RDT & E, and has a staff of more than 200 professionals to develop his positions.

Although the battle lines are not regular, the DDR & E tends to find himself in opposition to the service chiefs in two different ways. The chiefs are generally in favor of anything that creates new weapons but in any budget crunch are quite prepared to cut R & D funds, which the DDR & E may have to fight hard to save. Conversely, the service chiefs are reluctant to scale down the quantity or quality of any weapon nearing the production stage. It is hard for the DDR & E to kill small programs he does not like (the services have the "reprogramming authority" to reassign funds up to $2 million), and programs in their later stages can only be killed with the support of the Secretary or Deputy Secretary of Defense. But the DDR & E has a lot of leeway in delaying big systems by starving them. Though he can't pick too many battles at a time, there are always a large number of bargains that can be struck. Currie's scoresheet, the foes and allies he has made in his year of office, are part of the Byzantine obscurity of the Pentagon's internal politics. But one weapons systems which he has publicly acknowledged delaying is the Surface Effects Ship, a 2000-ton hovercraft which the Navy wanted to rush ahead with before testing a smaller version.

The DDR & E's job was originally created by the now defunct White House science advisory apparatus with the idea that he would both see that the services took advantage of the best science available, and would place some rational bound on their seemingly limitless appetite for new weapons. Critics of Foster argue that he sold out to the services by becoming the advocate instead of the impartial appraiser of new weapons. (The DDR & E's budget in fact remained fairly constant, at least during the first 5 years of his reign.) Nonetheless, Foster—unlike his two predecessors—never changed his view that technology should be pursued whithersoever it lead. Herbert F. York, the first DDR & E, is now an ardent supporter of arms control and Harold Brown is a delegate to the SALT talks.

Whatever bureaucratic battles Currie is fighting in the Pentagon, he has to play his cards close to his vest, and it remains to be seen if he will undergo a sea change like York or, like Foster, become the advocate of building whatever weapons the state of technology allows.

—NICHOLAS WADE

Middle East Studies: Funding Wilts as Arab—U.S. Friendship Flowers

Events of the last few weeks have given the impression that the President has launched a new era of friendship between the United States and the Arab nations of the Middle East. Ironically, however, since the Nixon Administration came into office 6 years ago, it has repeatedly tried to eliminate funds for university programs concerning the Middle East, as well as those concerning other parts of the world. So, at a time when scholarly expertise on the politics, economics, and culture of the Middle East are in great demand, the future of support for training such experts is highly uncertain.

Since World War II, the U.S. government has in one way or another aided the growth of interdepartmental university centers, which serve as foci for American scholarship for given areas of the world. By the late 1960's, there were 12 such centers specializing in the Middle East, with the aim of building up a reservoir of expertise in this area. The government also supports scholars interested in foreign regions through the various Fulbright-Hays programs. Scholars also can, of course, find private support.

However, the centers have been viewed as hubs for many of these activities.

Yet, after all this encouragement, universities are not turning out Arab and Persian scholars by the droves. The Division of International Education of the Office of Education (OE) states that in the fall of 1972, the last year for which figures are available, only 813 students enrolled in courses in any of the dozen or so Arabic languages spoken throughout the Middle East; another 253 enrolled in Persian courses. By contrast, 1234 were studying Hebrew and 6470 were studying Chinese, Japanese, and Korean. And, OE officials add, just because they were enrolled in the courses does not mean the 813 students of Arabic were ever going to master the language!

How future Arabic and Persian scholars will be produced is unclear: the Nixon Administration has tried to eliminate the area studies centers, and has succeeded so far in cutting the number of Middle East centers from 12 to 7, the remaining ones being at Harvard, Princeton, the University of Chicago, the University of Michigan, the University of Pennsylvania, and the University of California in Berkeley and in Los Angeles.

Private support is also up in the air. The Ford Foundation was a prime sponsor in building up these centers during the 1960's. Now however, although it wants to go on supporting Middle East studies, it is rethinking the question of support for institutions like the centers. And the universities are turning to the Middle East governments themselves, but with mixed success.

The federal government's involvement is probably the most significant, since private donors often follow the government's lead. Before World War II most scholarship pertaining to the Middle East was not federally sponsored; it fell neatly inside most university departments and emphasized Biblical studies, ancient art or history, archeology, or philology. Princeton launched the first interdisciplinary center for the region as a whole in the 1920's. World War II made the Army aware of the strategic importance of the Middle East and it began supporting university programs.

The National Defense Education Act (NDEA) of 1958 launched, through Title VI, increased federal attention to regional international studies. The NDEA authorized the OE to set up such centers; OE built up 106 across the country, of which 12 were devoted to the Middle East. The rationale behind the NDEA programs was centered around national security considerations, or the Biblical directive of "Know thine enemy."

But since taking office, the Nixon Administration budgeteers have been saying that if there is real demand for these studies programs, the universities should come up with the money to pay for them themselves. In a period of historic university budget deficits, these admonitions have not been welcome. The result has been a shooting match between OE, Congress, and the Administration over what to do with these international programs, which one official describes as located uncomfortably in the Department of Health, Education, and Welfare like "an international pimple on the face of a domestic giant."

In fiscal 1969, the Administration announced that the international studies programs, which then cost a total $15.3 million, would be eliminated as one of several programs that had outlived their usefulness; but Congress won that round and funds went up. However, 2 years later, in fiscal 1971, the program was halved to $8.7 million, with the Middle East segment of it being cut to $901,000. In fiscal 1973, the Administration succeeded in getting the 106 area studies centers cut to 50 and the Middle East ones in that group cut to 7. In fiscal 1974, the Administration again recommended abandoning the whole program. That schedule has been delayed—but whether it can be permanently reversed is an unresolved question.

Private sponsorship too has been shifting and uncertain for the last several years. During the 1960's, the principal foundation support for Middle East studies came from the Ford Foundation (which also, at the time, sponsored a particular Harvard scholar named Henry Kissinger). However, David Smock of Ford's Division of Middle East and African Studies, explains that Ford's buildup of the field had always been predicated on the notion that the universities would one day take over funding of them. Ford has for several years been trying to get out of funding the centers as such, although it continues to support individual scholars. This spring, the foundation has held meetings with university scholars to see how to redirect its funds; a strategy for future funding—which may or may not include continuance of the university centers—will be issued in a few months.

The message of all this to the centers themselves has been clear: ultimately, they will have to sink or swim on their own. And where better to look for support than from the Arab governments themselves? Harvard's Center for Middle Eastern Studies Director Nur Yalman has visited several Arab countries, including Saudi Arabia, for the purpose of raising funds. Harvard's Ford money ran out about a year ago, Yalman says, but at about that time it received a pledge from the government of Kuwait for $30,000 per year to support a full professor—who happens to be in the field of the history of Arabic science. Princeton has a $500,000 grant from the government of Iran for Iranian studies. For Middle East work generally, it has some foundation support and U.S. government money—although 70 percent of the operating budget comes from the university, according to Morroe Berger, who runs Princeton's program. Berger points out that American university centers for Middle East studies can have their own, personal ties with the Arab governments as well: he notes that one alumnus of the program, who attended Princeton in the 1950's, is a son of the King of Saudi Arabia.

But the matter of seeking funds from foreign governments for U.S. universities is tricky. Several scholars recalled an incident a few years ago, when the government of Iran announced a gift of $3 million to the University of Chicago for a new building to house Middle East studies. The Iranians wanted it to be named the Pahlavi Institute after that country's royal family, and one of the professors to be a Persian, according to several accounts. But students at the university, apparently including some Iranian students who viewed the royal government of Iran as oppressive, protested the gift. Iran eventually asked for its money back. The university was then in the embarrassing position of having to write the Iranians a check for the amount. "It was painful," said one source. Currently, according to Leonard Binder, who directs the university's Middle East Studies Center, federal support helped rescue the center. "Ours was going under," Binder said, "but we were saved" by the NDEA grant.

Binder, who is also president of the Middle East Studies Association, says that these nonuniversity groups, too, need support from foundations and other sources.

Another potential source of funds could be the big multinational companies who have interests in the Middle East. Princeton already receives about 10 percent of its operating costs from some major corporations. But, Rebecca Owens, of the American Council on Education's International Education Project, believes that some companies are a long way from becoming enlightened patrons of university studies. "Unfortunately the multinationals have to be so educated before they can see the utility to the company. They have to an extent become a friendly source but they are primarily a reluctant one." The project is trying to get support to fund a task force of multinational government, and university representatives that will study ways in which the corporations could aid universities.

Just who will support future Middle East studies, and how, is at the present time up for grabs. But the coming months could bring some fresh answers.

If it gets started the American Council on Education's task force plans to issue a report in a matter of months. Meanwhile, the Ford Foundation will be arriving at a decision on future Middle East studies programs. And if the Administration gets the time, it might also get around to issuing a coherent policy on the future support of international studies, including the strategically important Middle East. Maybe next year more than 813 students in the country will be learning Arabic, after all.—DEBORAH SHAPLEY

The Energy Bureaucracy: The Pieces Fall into Place

Federal institutional arrangements for developing and carrying out energy policy are falling rapidly into place, and the prospect is for bureaucratic conflict galore. On 18 June, the Senate confirmed the nomination of John C. Sawhill as head of the Federal Energy Administration (FEA), the new statutory agency which largely supplants the Federal Energy Office created by executive order last December.

A bill to establish an Energy Research and Development Administration (ERDA) is expected to be adopted by the Senate shortly after the Fourth of July recess.

Conference agreement on the Senate measure and one passed 6 months ago by the House is considered likely before the end of the summer. To orchestrate the work of ERDA, the FEA, and the energy-related activities of the Department of the Interior and other agencies, the White House has just established a new Committee on Energy chaired by Secretary of the Treasury William E. Simon, who preceded Sawhill as energy administrator.

The complexity and ambiguity of the emerging institutional arrangements for energy can be perceived when one tries to define the boundaries between the FEA and ERDA. The FEA is best known as the agency responsible for fuel allocations and the regulation of fuel prices. But it sees itself as the lead agency for energy policy. In response to a presidential mandate, the FEA is putting together a comprehensive energy plan that will be submitted to the White House by 1 November.

This "Blueprint for Independence" will be a plan for both the near- and the mid-term (through 1985) and will deal with research and development goals as well as goals for energy conservation and the development of energy resources. Indeed, addressing an energy R & D management conference on 20 June, Sawhill said that in holding public hearings around the nation to elicit ideas for the forthcoming blueprint, "Energy R & D is certainly one of the most vital areas" to be explored.

Congress has not been blind to a potential problem of conflict between the FEA and ERDA. In their report to the House and Senate last April, the conferees on the Federal Energy Administration Act of 1974 indicated where the R & D responsibilities of the FEA were to begin and end. After noting that long-range R & D had been deliberately excluded as one of the new agency's enumerated functions, the conferees observed that FEA was not precluded from promoting greater use of "known energy resources through application of currently available technologies." The ERDA bill recently reported by the Senate Committee on Government Operations uses similar language to refer to the limited R & D role assigned to the FEA.

(In the above connection, the FEA should not be confused with what remains of the "FEO," or Federal Energy Office, now consisting of a few White House energy advisers led by Alvin M. Weinberg, former director of the AEC's Oak Ridge National Laboratory. Weinberg's group was supposed to become the White House office through which the FEA and ERDA would work in developing R & D priorities and submitting them to the President. But this unit's relationship to the two energy agencies is still in flux and its future role is uncertain.

In addition, the National Science Foundation has an energy policy office which operates under the NSF administrator's charter as science adviser to the President. (Just how this small group will fit in with the other emerging machinery for energy policy is similarly unclear.)

The possibilities for interagency confusion and conflict do not end with the situation that may develop between FEA and ERDA. The Department of the Interior will retain the responsibility of administering oil and oil-shale leasing programs on public lands, including the outer continental shelf. As an agency that has been in serious decline, Interior is likely to guard its remaining prerogatives jealously and may try to expand them, however much the game plan may call for close cooperation by Interior with the other energy agencies.

On top of this, there is the fact that FEA's role overlaps with the policy coordination function of the Office of Management and Budget, with the re-