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-

sult that the relationship between the two will be an uneasy one.

This problem can only be intensified by the bad blood between Roy Ash, director of OMB, and William Simon, who, from all accounts, despise one another. As his former deputy, Sawhill is close to Simon and is likely to be his principal weapon bearer in the struggles ahead.

The new bureaucratic arrangements for energy are supposed to be only provisional (the statutory authority for FEA expires 30 June 1976), but they may turn out to be less provisional than planned. President Nixon and some key leaders on Capitol Hill see the establishment of a new Department of Energy and Natural Resources (DENR) as the ultimate organizational goal. Senator Henry M. Jackson (D–Wash.), chairman of the Interior Committee and an advocate of the DENR concept, has supported the FEA and ERDA legislation as a necessary short-term expedient but he is afraid that the establishment of the DENR may become even more politically difficult now than before.

The senator and his aides suspect that ERDA, with the billions it will be spending, is likely to become as untouchable as, say, the Corps of Engineers (part of which also would go into the DENR). The corps, identified with the public works projects pork barrel, has for years been shielded by a formidable array of protectors in Congress and elsewhere who will not hear of any proposal to compromise its independence.

Whatever the bureaucratic problems and conflicts inherent in the new institutional arrangements, FEA seems thus far to have performed creditably and Sawhill (who became administrator-designate in April) is widely regarded as an able and conscientious official. He was confirmed by a vote of 87 to 4. Senator James Abourezk (D–S.D.) was the only one really vocal in his opposition to confirmation. He cited especially Sawhill's refusal to roll back prices for "old oil" (oil from already producing fields) that were raised before he became administrator. But Abourezk's opposition was intended more as an attack on the Nixon Administration's fuel pricing policies than as criticism of Sawhill personally.

Given the particular perspectives that go with his job, Sawhill not surprisingly comes in conflict with environmentalists. For instance, in his view, the strip-mining legislation pending action in the House goes too far and would impede coal production to an unacceptable degree. Nevertheless, he has been well regarded by officials such as Russell Peterson, chairman of the Council on Environmental Quality, and Russell Train, administrator of the Environmental Protection Agency. Before joining the FEO as Simon's deputy last winter, Sawhill, a 38-year-old economist, had served for 7 months as the Office of Management and Budget's associate director for natural resources, energy, and science. Prior to that, he had been an executive with financial and management consulting firms. He has made public a financial statement showing his net worth to be about $130,000.

Sawhill has emphasized that, in view of the time required to produce significantly more energy, supply and demand over the next few years will have to be brought into balance chiefly through energy conservation. To that end, he is urging leaders in industry (he has begun meeting with automobile industry officials, for example) to undertake further improvements in the energy efficiency of their manufacturing processes and of their products.

For the moment at least, Sawhill is relying on a voluntary approach to bring about the desired changes. "Too often people rush in to pass laws and require regulation," he told *Science*. "Sometimes a regulatory environment can destroy a spirit of cooperation. Our success last winter and now in gaining commitment and support for [conservation] without mandatory powers has been very surprising to me."

By next fall, when FEA's "Blueprint for Independence" is in hand and ERDA is in being, the trend of things will be clearer, both as to the shape energy policy is taking and the amount of sand in the bureaucratic gear box.

—LUTHER J. CARTER

POINT OF VIEW

Salute to U.S. and British Navies

The impact of the [theory of plate tectonics] on the earth sciences is surely comparable in scale and scope with that of Darwin's work on biology or with Einstein's on physics. If there is a sting in the tail, it is that a substantial proportion of the geophysical-oceanographic work could not have been done without funding through United States Navy contracts, and much of the biochronological work was oil-company based. It is to be hoped that these military-industrial connections will not contaminate the theory in the eyes of the intellectual doves.

So wrote Professor Terence Miller, director of the North London Polytechnic, in the London Times *Higher Education Supplement (28 December 1973). The compliment was gracefully returned in* European Scientific Notes, *the newsletter put out by the U.S. Office of Naval Research's (ONR) London branch office. In an editorial entitled "Navy-supported research—why not?" newsletter director V. J. Linnenbom has replied as follows:*

The implications that the results of scientific research should somehow be regarded as suspect simply because of the source of support is not new. But it is still difficult to understand. . . . The assumption that a sponsor can influence the results of an investigator is basically a reflection on the integrity of the investigator, and to scientists who are familiar with the role played by ONR in supporting post-WW II research, it is completely unrealistic. Oceanographers in particular are aware of the vital role played by Navy support in the continuing development of their field. This is true not only with respect to the U.S. Navy, but of the British navy as well. It is now slightly more than 100 years since the British corvette H.M.S. *Challenger* began her epic 3-year voyage of exploration which marked the beginnings of modern oceanography. . . . The extensive field work by Charles Darwin which formed the basis for his great theory of evolution was carried out while he was serving as a naturalist aboard H.M.S. *Beagle*, which was—you guessed it—a Navy ship.