

Anderson also served in the AEC's Division of Reactor Development in Washington.

Vivian's committee assignment he regards as a good fortune. He is grateful to space committee Chairman George P. Miller for his part in including Vivian among the five Democrats who joined the committee this year, and he is highly complimentary to Miller after observing his handling of committee business.

Vivian's immediate concern in the committee is to learn the ropes, but he obviously has some questions on his mind. "What," he asks, for example, "should be the guidelines for scientific expenditures after the Apollo project [manned lunar landing] has run its course?" How much of the budget should go into space expenditures, he says, is "not obvious," and he expresses concern about overall planning for science.

He is of the opinion that the "spin-off argument" in justifying space expenditures is a poor one, since he feels the technology in question "has developed way beyond our ability to use it except in space ventures."

For the most part, however, Vivian emphasizes that he has questions for which he doesn't pretend to have the answers. And he is adjusted to the realities of committee life, which decree that junior members, even in a comparatively free-wheeling committee such as the space committee, are expected to make only modest contributions.

Within the limits of the time available Vivian has interested himself in foreign affairs problems, and late in January he joined the bipartisan congressional delegation which traveled to Selma, Alabama, to observe the voter registration campaign there. Vivian has made no speeches on the subject and says he went simply to look for himself and to try to understand the situation better.

In the last two months Vivian has learned that there are plenty of differences between the life of a congressman and that of an electronics company executive. There are also some surface similarities—long hours and lots of traveling are the main ones.

One of the chief differences, says Vivian, is that "in a company you can see successes and failures day after day—you can't lie down.

"In Congress, however, your fate at the polls, which is your only measure of success, is only evident from elec-

tion to election. And the ironical thing is that this fate may be almost unrelated to whether or not you worked hard on the legislative matters of great consequence."

Vivian is forthright in talking about what is recognized as a major problem for a new congressman who, in a landslide year, wins a close election in a district which habitually goes the other way—the problem of getting reelected. He notes that "a freshman congressman has little influence and there are sound reasons for wanting to be reelected."

It is not uncommon for congressmen from unsafe districts to devote themselves so passionately to long-range campaigning for reelection that they have little time for anything else.

As for himself, says Vivian with a smile, "I'm trying to avoid being obsessed with the idea. I'm trying to work on things which are interesting and important and to exert influence in a few places here."

What made Vivian run for Congress when it involved giving up a job that carried considerable responsibility, good opportunities, and an income that exceeded the \$30,000-a-year congressional salary, and created a number of financial, professional, and family problems?

In simplified form, Vivian's answer seems to fall into two parts. First, he had been interested in politics, domestic and international, for a long time and had acquired the kind of practical experience that politicians recognize. And he says, simply, that "being a Member of Congress was a lifetime ambition."

Second, when he was making the decision, he found, he says, that in contrast to the possibilities of congressional service, it was "depressing to think that I would spend the next *n* years hawking military hardware."

Vivian, as the sole Ph.D. in science or technology in Congress, does not constitute a trend, but he does demonstrate that one can get into politics and get elected.—JOHN WALSH

Water Pollution: Bill Endorsing Strong Federal War on Polluters Received Favorably in Congress

Despite accusations to the contrary, Congress does on occasion like to legislate, and it appears to be on the verge of endorsing a bill that would signal a major change in the government's power to do something about the increasing

pollution of the nation's waterways. The bill, which passed the Senate by a wide margin on 28 January, goes a long way toward replacing the policy of merely curbing pollution with an active program of prevention. There is still some opposition in the House (where a similar Senate-passed bill died in the Rules Committee last session) but support for the new program is widespread in Washington, and several close observers have predicted that the bill will be law by April. Though endorsed by the White House, it is chiefly the work of two congressional conservationists, Senator Edmund Muskie (D-Maine), chairman of the special subcommittee on air and water pollution of the Senate Committee on Public Works, and Representative John A. Blatnik (D-Minn.), chairman of the rivers and harbors subcommittee of the House Committee on Public Works.

The bill contains several provisions to increase federal monetary and logistical support for pollution abatement on the state and local level. It provides for research and demonstration grants on ways of separating what has come to be recognized as a major pollution problem—the combined storm and sewer systems that feed huge overflows of untreated waste into rivers during heavy rainfalls. And it also contains a section to encourage abatement of pollution in shellfish bed areas, reflecting the concern over the economic consequences of such pollution that was responsible for Muskie's initial interest in the whole subject. The heart of the bill, however, is in two provisions that are more administrative than financial. The first of these would remove authority over water pollution activities from the Public Health Service (PHS) and transfer it to a new unit within the Department of Health, Education, and Welfare (HEW). The new unit, to be called the Federal Water Pollution Control Administration, would have its own high-level chief and would be further strengthened by the appointment of a new Assistant Secretary, who would have primary responsibility for all the Department's water pollution activities. The second key provision of the new bill gives the Secretary of HEW authority to promulgate standards of water quality for virtually all the interstate waters in the country. Both sections have been the focus of controversy.

The proposal to withdraw pollution control programs from the Public Health Service reflects congressional disbelief that the old-line, health-oriented

agency can ever be made into a stalwart enough standard-bearer for the nasty war ahead. Congressional doubts spring from two sources. First, it is felt that the legitimate PHS position that pollution should be viewed primarily as a medical problem is now out of date. The fish may die, the clams may be poisoned, whole communities may be deprived of their livelihood and many citizens of their recreation pleasures before the waters actually become a menace to health. The PHS attitude, it is felt, delays abatement until the water has become almost unredeemable, and thus it is an inadequate philosophy for a true conservation effort.

A second factor contributing to unease about keeping the PHS in charge of pollution programs is the suspicion that the unit is tied to a concept of federalism that is proving itself unworkable. Close links between state and federal officials may be perfectly appropriate when it comes to fighting things like contagious diseases that everyone is sturdily against. But the war on pollution is another matter: polluters are not microbes, but friendly men offering good companionship, good drinks, and good cigars (all of which are considerably cheaper than the costly abatement works it has been the job of the PHS to promote). When a city has to go to the voters for a bond issue for costly municipal sewage works, or when the industries most states are trying so desperately to attract and keep are required to install expensive treatment plants, local officials are certain to drag their feet. A conflict between the local political concerns and the larger vision represented by the federal government is entirely in order. But the Public Health Service has retreated from conflict, allowing "old school ties" with local pollution officials, and a temperamental reluctance to get tough, to substitute for a productive policy. Where PHS should have been unpleasant, it was generally affable: no better testimony to this affability can be found than in the fact that, almost without exception, industry representatives and local water pollution officials fear a new agency and lobbied to have jurisdiction retained by the PHS.

Congressional despair at the results this cozy relationship has produced is well illustrated by the remarks of Representative John Dingell (D-Mich.), an ardent conservationist, during hearings of the House Public Works Committee. Dingell told the representatives:

When I testified before this committee more than 14 months ago, I had in my possession a list of 90 serious cases of interstate pollution on which no federal enforcement action had been initiated. This list had been made available to me by the Secretary [of HEW] himself. Several days ago . . . I again requested a list of polluted rivers on which no Federal action had been taken, and this time I was proffered a list of 89 rivers. While less than overjoyed at the prospects of saving the nation's waters at the aggregate advance-rate of one river per annum, further investigation revealed that even this pathetic measure of progress was delusory. In fact, the list of 89 rivers actually included 102 waterways. Rivers that had been recorded separately on the first list were, for some reason, combined under one heading on the second list.

Of the 90 rivers that had appeared on the list more than a year ago, 33 had received Federal attention during 1964, while 57 had received none. In addition, 45 rivers on which no Federal action had been taken became seriously enough polluted to demand inclusion on the present list. Thus, after yet another year with the pollution program under the dead hand of the Public Health Service, and \$100,000,000 later, we have fallen twelve rivers deeper on the debit side. Let no one accuse our pollution program of stagnating; it is moving quite determinedly in the wrong direction.

The same conclusion was apparent in President Johnson's recent message to Congress on natural beauty, where it was stated that "water pollution is spreading." But despite the admitted seriousness of the problem, within the government attitudes toward the proposed new administration vary. Understandably, the PHS itself is not too pleased with the idea, and its opposition was initially supported by HEW Secretary Celebrezze. This year, however, while Celebrezze failed to come out in favor of the new unit, he also conspicuously failed to oppose it, which in Washington is interpreted as a tacit turnabout. Similarly, while President Johnson has specifically endorsed most of the provisions of the new bill he has not given a concrete endorsement to this one. As in the case of Celebrezze, however, it is assumed that the President has given tacit backing to what is almost entirely a legislative project, but that he feels it unnecessary to come out with what would appear to be a public slight to the Public Health Service.

The probable impact of the new unit is difficult to estimate, in part because of slight differences between the Senate and House versions of the bill. The Muskie measure would transfer out of the PHS only a few of its present responsibilities, most importantly the job of enforcing pollution abatement, leav-

ing other key functions, such as the administration of research and construction grants, within the PHS. The Blatnik bill, on the other hand, would transfer all functions to the new unit. This difference will probably not be too significant, since the Secretary of HEW has the authority to transfer the entire operation to the new unit regardless of which measure is approved, and appears to intend to do so.

Same People, Same Problems?

More important in predicting the effects of the Water Pollution Control Administration is the question: To what extent will antagonisms that hamper the present operation simply be placed in a new container? These difficulties are chiefly between the more conservation-minded civilians who run the enforcement program and the health-minded PHS officers who are in charge of most of the other activities. Since it will be difficult to run the new administration, in which enforcement will play a larger role, without appearing to downgrade the authority of the officers who now hold superior positions, it may be that this tension will be exacerbated. On the other hand, it is possible that once removed from its special relationship with the Surgeon General and with local pollution officials some of the attitudes that have previously characterized the officers' corps may change. And it is also possible that the new status of the pollution unit, combined with the effective leadership that, hopefully, will be provided, may help to eradicate past differences and create a new atmosphere. In any event, it is plain that the skills and knowledge of the PHS officers will be indispensable to running the new office and that their loyalty will be a key element in its success or failure.

The second major provision of the new bill gives the Secretary of Health, Education, and Welfare the power to establish standards of quality for waters throughout the nation. Although this feature attracted scarcely any attention when the bill was debated in the last Congress, this year it was the focus of anxious opposition, much of it from industry representatives and spokesmen for state and local governments. The issue of federalism was raised again and again, but it was plain that the voices suggesting that the states should set the standards for the most part were the voices of vested industrial and political interests. Just as they said the Public Health Service was doing a great

job in enforcing abatement, so they said the states were doing splendidly in promoting clean water, a position which makes it difficult to explain why pollution is proceeding at such a torrential rate. Nonetheless, the bill pays respects to federalist principles by requiring the Secretary to act only in cooperation with state and local officials, and only if state authorities have failed to set adequate standards on their own.

Despite lengthy explications in the hearings and on the Senate floor, both the legal and practical implications of the water standards are a little vague. The most important thing such standards would do is to extend the now limited grounds on which the federal government can intervene in a pollution case. At present the government can step in and enforce abatement action only when it can prove danger to public health or welfare, or at the request of a state governor. Under the new provision, the government could enter when an event occurred (or threatened to occur) which reduced the quality of water below the level established by the Secretary for the particular water in question. Since the new standards are supposed to take into account the "use and value [of such waters] for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial and other legitimate uses," this will result in a far broader measure of federal authority than presently exists.

Supporters of the bill hope that the federal standards will be particularly effective in preventing pollution on waters still relatively clean. In a case such as the St. Croix River between Minnesota and Wisconsin, where conservationists are fighting to prevent construction of a coal-burning power plant that would jeopardize the river's recreational uses, the existence of standards would confront the industry wishing to build with three choices. It might move ahead with its plans but take care to construct treatment facilities adequate to maintain the water quality standards. It might become discouraged and move its plant elsewhere. Or it might ignore federal standards on the chance that no action would be taken. But in any case, it would be forced to confront the issue of pollution more seriously than before.

How the standards will affect presently polluted waters is less clear. Some conservationist groups were worried

that the standards might be set too low and would act to "lock in" pollution levels at the lowest common denominator. But Senator Muskie and others feel that a policy of "orderly development and improvement" of water resources can't possibly do any harm. And he evidently hopes that the standards can be developed in a cooperative fashion that will take some of the accusatory quality out of current enforcement proceedings. Nonetheless, the existing enforcement machinery, which runs a cumbersome route from the conference table, to a public hearing, to the courts (and is apt to take several years) is to be left intact.

Other Measures

Although these measures will go some distance toward promoting a more aggressive antipollution policy, still more steps are plainly needed. One of the most important remaining problems is the inability of many municipalities to meet the costs of constructing municipal waste treatment plants. Until 1961 the federal government could contribute only \$50,000 to each municipality undertaking such a project; in that year the amount was increased to \$600,000; and the present proposals would raise the limit either to \$1 million (the Muskie bill) or \$2 million (the Blatnik version). In New York City alone, however, a single pollution control project has cost as much as \$87.6 million; the much smaller city of Omaha, Nebraska, has spent over \$21 million on a variety of projects since 1956. Further, the appropriation ceiling on federal assistance—it is limited to \$100 million a year—means that only a relatively small number of projects can be supported at all. And finally, the formula for distributing the grants that are available is actually weighted against the populous urban areas where pollution problems are most pressing: 50 percent of the grants have to go to communities with a population of 125,000 or less. There is an additional monetary incentive for grants involving cooperation between municipalities, but in many cases the urban area itself is so large that there is no logic to cooperation. Newark may need New York, but it is less clear why New York needs Newark.

These provisions are not likely to be swept away overnight. But there is continuing interest in this and other remaining problems in the Senate committee, and the interest is coming to

be supplemented by the beginnings of political pressure from senators and congressmen with urban constituencies. The New York senators, Javits and Kennedy, have introduced a bill to raise the federal contribution to 30 percent of the cost of a project, and the overall funds available, to \$250 million. They are also proposing changes in the allocation formula which would end the discrimination against cities.

Whether Congress will be in a mood to pass a second major pollution bill this session seems a bit doubtful. (And there is always a chance, though it seems minute, that something could go wrong with calculations on the present bill as it works its way through the House.) But Muskie's subcommittee is planning to hold hearings on the new proposals, and it is a hopeful omen that these sophisticated and complex problems are beginning to get an amount of attention that, a few years ago, would have been unthinkable.

—ELINOR LANGER

Announcements

The Committee on International Exchange of Persons of the Conference Board of Associated Research Councils has prepared its annual **list of foreign scholars** available for remunerative appointments in American universities and colleges during the 1965-66 academic year. The list contains information about scholars recommended by the U.S. Educational Commissions abroad. Each person is eligible for a government travel grant covering costs of round-trip transportation to the U.S. if arrangements are completed for a lecturing or research appointment at an American school. Copies of the list are available at no charge from Mrs. J. D. Leary, Conference Board Committee, 2101 Constitution Ave., NW, Washington, D.C. 20418.

The University of Iowa has begun a Ph.D. program in **chemical physics**, administered jointly by the departments of chemistry and physics. Information about the program is available from the Chemical Physics Committee, University of Iowa, Iowa City.

Erratum: In the report "Fluorescence polarization: measurement with ultraviolet-polarizing filters in a spectrophotofluorometer" by R. F. Chen and R. L. Bowman (12 Feb., p. 729), the 7th and 8th lines of the legend to Fig. 5 should have read "emission at 461 mμ."