published, and to this day, says Louis P. Gebhardt, a professor of microbiology and former chairman of this department at the University of Utah, the group's findings remain "a real enigma." In response to a question, an Army spokesman told *Science* that the Army "never tested the live VEE agent in the open air" at its Dugway Proving Ground in western Utah.

Gregg said he had never heard about VEE in Utah. He noted that there was "a great lack of knowledge about the ecology of this virus in temperate, as opposed to tropical climates," and that to try predicting the course of VEE in this country in the present vacuum of information might be futile and unnecessarily alarming. The disease and its future in America are, he said, "a great puzzle."—ROBERT GILLETTE

# Mike McCormack: A Potential "Mr. Science" Comes to Congress

The 1970 elections brought to the House of Representatives one of the few working scientists ever to win election to Congress. He is Mike McCormack, a Democrat from Washington state's 4th District, and the only member of the 92nd Congress listed by *Congressional Quarterly* as having the occupational title of scientist. The Congress traditionally is made up of lawyers (60 percent this session) and businessmen (32 percent). There are seven physicians and two ministers. But only one scientist.

McCormack has been in office for just over 6 months, and it is too early to say what kind of figure he will cut on Capitol Hill. Moreover he is a Democrat from a traditionally Republican district, a fact which could affect his reelection chances. But the early signs are that, if McCormack can hold onto his new House seat for a few terms, he could become a worthwhile friend of science in Congress.

The 50-year-old McCormack's scientific credentials include bachelor's and master's degrees in chemistry from Washington State University, a year of teaching at the University of Puget Sound, and 20 years as an industrial scientist specializing in the separation of rare earths, first for General Electric Co. and later for Battelle Memorial Institute, Pacific Northwest Laboratories, at Hanford, in Richland, Washington. He is a current member of the American Nuclear Society.

For the last 14 years, too, McCormack has doubled as a part-time politician by serving in the state legislature. In 1970, he resigned from his job at Battelle to run for Congress.

Washington's 4th District is primarily farmland, including the cities of Yakima, Walla Walla, Richland, Kennewick, Pasco, good stretches of the Columbia and Yakima rivers, two-thirds of the Yakima Indian Reservation, and, of course, the Atomic Energy Commission (AEC) nuclear facilities at Hanford, where McCormack worked. The district had for 12 years been the fief of Republican Congresswoman Catherine May. Now, after her defeat, President Nixon has appointed May to be Chairwoman of the U.S. Tariff Commission, and Mike McCormack is installed in Washington.

Washington is not a state where the labels of "liberal" or "conservative" neatly categorize a politician's political views. For example, a popular figure there is Senator Henry ("Scoop") Jackson. Although Jackson is a "conservative" on the Vietnam war and military spending and fought for the supersonic transport (SST), he is also considered a friend by many "liberal" environmental groups. McCormack's views are similarly divided. Unlike Jackson, he favors a "judicious" and "critical" rein on military spending. He favors the proposed Cannikin nuclear test in Alaska which some conservationists oppose. He opposed the antiballistic missile system (ABM), but favors the multiple independently targeted reentry vehicle system (MIRV). Like most politicians in his state, he favored the SST, but adds that his support was a matter of helping the Boeing company, and that he probably would not support a future SST "if it ceased to be a direct concern to my state."

McCormack frankly admits that he is trying to carve a niche in Congress as the resident expert on and spokesman for science and scientists. He would like to be compared to Emilio Q. Daddario,* the Connecticut Democrat who had gained prominence in scientific circles as chairman of the subcommittee on science, research, and development (which oversees the authorization for the National Science Foundation) of the House Committee on Science and Astronautics. But Daddario lacked McCormack's scientific credentials, and these, McCormack believes, will be an extra asset to him when he tries to bridge the enormous wall of ignorance and the frequent misunderstandings which, he believes, now divide the political community from the scientists.

Contrary to what people often believe, the life of a freshman Congressman is rather inglorious. Capitol Hill observers agree that first-term Congressmen are by and large nameless, faceless, and, for all practical purposes, powerless. The attitude seems to be that almost anyone can be elected to the House once—what counts is getting reelected time and time again. And, although some people—particularly freshmen themselves—say that the traditional snobbism toward them is old hat and breaking down, the fact that it persists was perhaps best illustrated in the casual remark of a veteran committee staffer: "Freshman term," he said, "is a time for finding out where the men's room is."

So far, on Capitol Hill, McCormack has made a few politic moves to remove the ignominy of being nameless, faceless, and powerless. After what both he and others describe as weeks of agonizing, he requested, as his first choice, a seat on the House Committee on Public Works—the traditionally powerful, 37-member committee which distributes approximately $11 billion annually in dams, bridges, roads, and the like. The State of Washington is the kind of place where a thousand people will gather to watch the first

* Daddario resigned from Congress to make a bid—which was unsuccessful—for the governorship of Connecticut, in 1970. The science, research, and development subcommittee is now chaired by John W. Davis (D–Ga.).

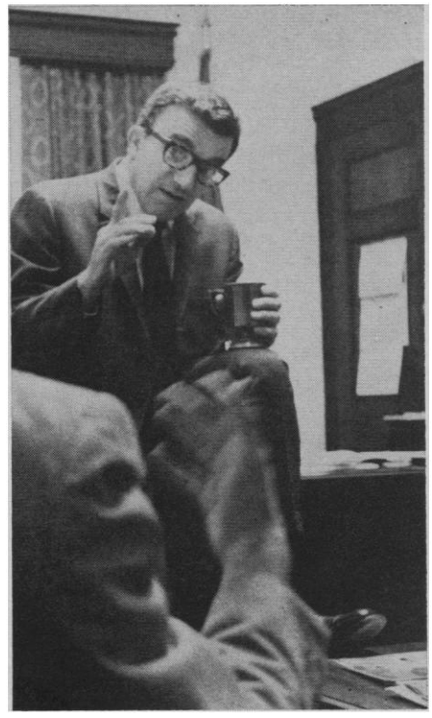
bit of concrete being poured for a dam, and McCormack's decision to get on the public works committee appears to have been made with his home district in mind.

The reason for his torment was that normally freshmen are honored with only one major committee assignment, yet McCormack also yearned to sit on the Science and Astronautics Committee. He finally asked for this committee as his second choice. Yet, as things turned out, he was assigned to Science and Astronautics as well as Public Works, and between the two of them, he now holds the unusually high number of six subcommittee assignments. He also managed to get himself elected chairman of the freshman Democratic caucus, a 33-member club which meets to discuss rules and procedural matters. The group has also heard talks on various national problems, and their recent speaker on the subject of atomic energy was, of course, Mike McCormack.

Probably the most effective action in which he was a prime participant was a January battle to keep the N reactor at Hanford open. The Office of Management and Budget (OMB) announced abruptly that the two remaining operating reactors, N and K reactors, would be shut down. Hanford's chief defender in Congress is, of course, Senator Jackson. But Jackson was out of town when the announcement was made, McCormack says, and so Jackson delegated the job of organizing a fight against the OMB decision to McCormack. The rest of the Washington delegation pitched in, of course, by helping to get hearings going before the Joint Committee on Atomic Energy, by speaking from the House floor, and by working in other, less public ways to reverse the decision. Finally, $20 million was found to keep N reactor open, and the House AEC appropriation now under consideration has an additional $27.6 million appropriation for the N reactor.

McCormack has also been trying to become actively involved in the affairs of the National Science Foundation. His favorite committee assignment is as a member of the subcommittee formerly led by Daddario, where he is one of five newcomers, two of whom are also freshmen.†

According to one NSF official who dealt with the subcommittee during hearings this spring, the specific views and interests of the most of the newcomers are still emerging, but McCormack's bents and preferences are clear: he cares about the fate of the physical sciences and of the scientists in his district. While the subcommittee was looking at the NSF budget this spring, McCormack met extensively with NSF officials, and, in April, took a group to Hanford.



Mike McCormack

McCormack favors a large growth future for NSF and told *Science* he would like to see it two or three times its present size. He is also a strong backer of NSF's controversial new program for Research Applied to National Needs (RANN). When his subcommittee reported the NSF bill to the full committee on Science and Astronautics, McCormack proposed that the ceiling of $50.4 million on RANN funds, then in the bill, be removed. Many members of the full committee are known to have a wait-and-see attitude toward the RANN program (See *Science*, 25 June 1971) and the suggestion was voted down.

Another proposal he made, however, carried. It was a technicality, a rearrangement of the conditions under which NSF may transfer funds from one project to another, and how it should account for transfers. The amendment was of minor importance to the bill, and its passage was probably most important as part of McCormack's self-education.

Finally, McCormack has persuaded subcommittee chairman John W. Davis (D–Ga.) to set up a task force on energy, a group that will be led by McCormack. With a background of 20 years at Hanford, he is predictably a strong advocate of nuclear power. But, at the same time, he wants to see more research done on the economics of alternative sources of energy—solar, geothermal, liquified gas—complete with timetables, schedules, and costs. The task force will try to determine what research is needed for each source; it will make technical evaluations, schedules, and estimates of the costs. The study is expected to take a year or more, and there are no special funds for it.

While it is highly unusual for a scientist anywhere to win a congressional seat, Democrats like McCormack have lately taken away House seats from Republicans in the State of Washington. McCormack's election was part of a pattern of seat-stealing by Democrats which started with the 1964 Johnson landslide. Of the nine-member Washington delegation, a lone Republican now remains, Representative Thomas M. Pelly of Seattle.

Even so, McCormack barely squeezed ahead of his formidable opponent Catherine May. He won 53 percent of the vote; she won 47 percent. While that 6 percent turned the trick, it is not exactly a magic guarantee of McCormack's reelection in 1972. That 6 percent may, in fact, explain why McCormack says he's tried to get back to the district once a month, on the average, since January.

McCormack based his campaign on the notion that May's voting record had not, after all, helped the district. Despite her one-term seat on the Joint Committee on Atomic Energy, the Hanford facilities have faced many cutbacks in recent years, with corresponding rises in unemployment in Richland (which is now as high as 11 percent). Concerning the 4th District's main industry, farming, he charged that May had made an eleventh hour about-face on a crucial farm bill, which, ultimately hurt the district. Her record on education, he told the district's eight colleges, was not good. To win again in 1972, McCormack will have to prove he has done better.

Another aspect to the campaign, apart from McCormack's businesslike, but vigorous, pounding away about

† The others are two Democrats, Richard T. Hanna of California and freshman John F. Seiberling of Ohio, and two Republicans, Marvin L. Esch of Michigan and R. Lawrence Coughlin of Pennsylvania.

May's voting record, was the support of Senator Jackson, who has now been mentioned as a possible presidential contender in 1972. Jackson is beloved in his home state for a number of reasons, among them being his seat on the Joint Committee on Atomic Energy ("When Hanford wants something, they go to Scoop Jackson to get it," one staffer said).

McCormack staffers claim that he did not get into office on Jackson's coattails, and that he might have won even without the Senator's support. Whether or not this is so there is little question that McCormack owes some portion of his political life to Jackson.

But in 1972, McCormack will be running on his own record. Whether he stands a chance of succeeding Daddario as a "friend of science" in Congress, then, is a question which could be decided at the polls.

—DEBORAH SHAPLEY

# Fish Flour: Protein Supplement Has Yet to Fulfill Expectations

Fish flour, or fish protein concentrate (FPC), was hailed during the days of the New Frontier as the possible miracle solution to the world's nutrition problems. Since then, its development has bogged down in a morass of economic and technical realities, and interest in the product has been kept alive in the United States almost solely by continuing research efforts on the part of the federal government. The day private enterprise will decide to undertake a serious commitment seems distant.

Fish protein concentrate is a refined version of fish meal, which has long been produced in massive quantities for animal feed. In 1950, the VioBin Corporation of Monticello, Illinois, came up with a process to make FPC palatable to human beings, and the government has further developed it. Although FPC potentially comes in many forms, the basic product at present is a fine, grayish powder made from grinding up whole fish and extracting the fats and water from the proteinaceous material with a solvent of isopropyl alcohol. The result is almost completely tasteless and odorless and is extremely high in animal proteins: Government scientists say that 10 grams of FPC a day could fill the animal protein needs of the average human being.

Furthermore, the stuff is stable, it does not require refrigeration, and its characterlessness renders it inoffensive as an additive to a variety of foods. It was for these reasons, in addition to the general belief that the world's supply of fish was inexhaustible (FPC usually contains the kinds of fish that ordinarily would not find their way to the dinner table), that FPC caused such a stir.

However, because of the expense involved in its production and the general unavailability of FPC—only two companies in the world are set up for commercial manufacture—international agencies concerned with spreading nourishment to the world's starving millions have bypassed it in favor of other sources of protein, such as the cheap and adaptable soy bean. In the United States, incentives for manufacturing the product have been hobbled by strict regulations levied by the Food and Drug Administration, as well as by fish flour's lack of versatility and the uncertain economics involved in manufacturing it.

Excitement about FPC may be justified, but the fact that it was premature has most recently been documented by the collapse of Alpine Marine Protein Industries, Inc., of New Bedford, Massachusetts. The company was set into operation 3 years ago with "great visions," according to its director Henry De Sandre, about turning seemingly abundant supplies of East Coast hake into a commodity that could be marketed experimentally at home and sold to underdeveloped countries abroad.

Alpine, a subsidiary of Alpine Geophysical Associates, was given a contract with the Agency for International Development (AID) to produce some 2 million pounds of FPC (at $0.42 per pound) for distribution in Chile and other Latin American countries, where it would be used on an experimental basis in pasta and bread products. But problems plagued the operation from the start. Hake, the only fish Alpine was licensed to use, proved to be sporadically available (for one thing, the Russians have been moving in on the fishing grounds), and the company, which uses the VioBin process, was unable to meet stringent FDA standards relating to protein quality and microorganism content. Only about 20 percent of the contracted amount was found acceptable by AID, and the deal was canceled.

The Alpine people are now suing VioBin, which built the New Bedford plant, for having misrepresented the adequacy of its process, and VioBin has repossessed the plant. VioBin's president Ezra Levin, the 79-year-old "grandfather of FPC," stoutly defends his process (which varies somewhat from the government's) and says Alpine's problems are Alpine's fault. Thus has ended the only commercial venture to make FPC in the United States.

Meanwhile, the government has been plugging along in its research and has come up with a basic product that satisfies all government requirements. The research, conducted within the National Marine Fisheries Service (NMFS) of the Commerce Department at the University of Maryland, has benefited from the hoopla that attended FPC in the early 1960's—it is now being funded at the rate of $2 million per year. Last April, the NMFS opened the government's first experimental $2 million plant in Aberdeen, Washington. The plant is expected to grind up 50 tons a day of boned hake, which, minus fat and water, will produce about 7 tons of FPC. The purpose of the plant, according to George M. Knobl, who runs the Maryland research program, will be to supply FPC to domestic companies interested in experimental marketing and to agencies who want to distribute it abroad. But its primary raison d'être, says Knobl, will be to furnish a demonstration of how to run an FPC plant, in order to encourage private firms to get into the act.

In part because of squeamishness