nonperishable and tasteless and thus its use is compatible with a variety of cultural food preferences. When made from whole fish it is also cheap—perhaps the cheapest protein known; but when made from eviscerated fish it is relatively expensive, since the cleansing process adds a substantial labor cost.

In either case there are problems: residues of solvents used in some methods of processing, and differences in quality that arise from variations in the raw material. Mass production has also proved to be difficult. But the Food and Drug Administration has turned out to be even more difficult. While it does not question the wholesomeness of the product, from whole as well as eviscerated fish, it is offended by fish flour that contains the whole fish—eyeballs, intestines, and other parts that make most Americans squeamish. Such a product is not unhealthy, FDA says; it is just unsuitable for American consumers. Accordingly, FDA turned down a certification request from the VioBin Corporation of Monticello, Ill., which has perfected a whole-fish-flour product that is generally considered extremely good.

In quiet and informal ways, various administration officials, including Secretary of the Interior Udall and the President's Science Adviser, Jerome Wiesner, have tried to persuade FDA to change its stand, but the agency is quite independent when it chooses to be, and it has stood its ground. In an effort to make it budge, Udall last June asked the National Academy of Sciences to study the issue. In November the Academy announced its conclusion that whole fish flour does not deserve FDA's harsh verdict, but it added that a lot of research is still in order.

A few days later, Udall said his department would give such research the "highest priority." Congress was asked to appropriate $500,000 to support work which, up to that time, had been carried out on a shoestring at the Bureau of Commercial Fisheries' Technological Laboratory in College Park, Md. The money request got left behind in Congress's rush to go home for last fall's elections.

Congress has now been in session for 2 months, but it has still not got around to approving the funds. Interior has managed to scrape up some money to keep the project alive, but it is only barely breathing, and no assurances are to be had on when Congress will act.—D.S.G.

Electron Microscopes: Committee in House Urges Reinstatement of Former Tariff on Foreign Models

The inability of the House Ways and Means Committee to make up its mind about electron microscopes has given these costly instruments a curious tariff history. The House's tariff-writing committee is now seeking to restore to imported electron microscopes the tariff it removed from them in 1961.

Although the instruments were formally subject to duty until that time, nonprofit institutions—through the intercession of local Congressmen—were often able to obtain specific exemptions for them, providing savings of several thousand dollars. Prodded by the Treasury Department, which was tired of the endless paperwork involved in ad hoc exemptions, and tired itself of the succession of separate bills, the Ways and Means Committee recommended unanimously that all electron microscopes for nonprofit institutions be placed on the free list. The committee was influenced at the time by NIH officials who testified that it was desirable for scientists to have the freest choice of available instruments for their research; and it was persuaded that the microscopes made by foreign companies were substantially different from, and not competitive with, those produced at home. In July 1961, the tariff was lifted.

Within the next few months, the Radio Corporation of America—the largest, and until very recently the only domestic manufacturer of electron microscopes awoke to the change. The company claimed that its product was in fact competitive with foreign instruments and that the removal of the tariff was a serious injustice. It prevailed upon Congressman William Green (D.-Pa.), whose Philadelphia constituency borders on the Camden, N.J., plant where all RCA development and production of electron microscopes takes place, to introduce legislation reinstating the tax on imports, "regardless of the nature of the institution importing them." In the closing sessions of the 87th Congress, his bill passed the House unanimously but vanished in the Senate.

The possibility of easy passage, however, seems to have eroded between the sessions of Congress, because with its reintroduction in the House last week, the bill (now H.R. 2847) ran into trouble. An objection raised by Representative Abner Sibal (R.-Fairfield County, Conn.) will open the measure to debate on the House floor.

The congressman's objection was filed on behalf of the Perkin-Elmer Corporation, a firm in his district which imports for sale in the U.S. a Japanese-made electron microscope, the Hitachi HU-11A. The firm argues that the electron microscope produced by RCA is not identical in capacity or function to those produced abroad, either by its own Japanese associate or by German, Dutch, and English manufacturers. RCA denies this.

Despite its obviously self-interested motivation, the Perkin-Elmer report does not contradict the opinion of many users that the different instruments do perform differently in terms of resolution, magnification, and voltages. No one speaks of a "better" or "worse" instrument, but of the utility of a particular instrument for a specific purpose.

Some scientists suggest that the differences between the RCA and the foreign instruments are less pronounced than formerly, but there is no support for RCA's unequivocal assertion of identity. Since many institutions would therefore continue to import the variety of models best suited for their needs, opponents argue that a tariff would penalize the purchasers of the foreign microscopes without offering an expanded market to the domestic manufacturer. With the instruments costing, roughly, between $28,000 and $45,000 (depending on manufacturer and attachments), the tariff on a desired foreign model may run to several thousand dollars—a fairly heavy penalty, especially since many foreign instruments are more expensive than RCA's even without the tariff.

Another objection to the tariff raised in the Perkin-Elmer report is that domestic advances in electron microscope technology have been dependent on interplay between foreign and American researchers, and that many developments in instrumentation have originated abroad. To this broadly internationalist argument, however, RCA responds with the nationalistic one that competence in electron microscopy must be maintained in the U.S., and that we must never become exclusively dependent on foreign technology in a field which bears on national security. While RCA does not threaten to cease research or production of these instru-

ments unless it is protected, its executives are not above contemplating the prospect aloud.

RCA's case could be buttressed by publicly demonstrating how the removal of tariff has affected its sales, but so far the company has declined to expose what it calls its competitive position. This refusal is puzzling, both because it is hard to see why competition in a domestic market, which consisted in the most educated guess (there are no authoritative figures available) of only 220 units last year, should be secretive and because RCA's role in the market seems assured. It is estimated that RCA commanded about 37 percent of the domestic market last year—about 80 instruments—leaving the eight other manufacturers to divide the remaining market of 140 instruments among them. RCA itself estimates that it has produced only slightly less than half the electron microscopes in use anywhere today. In any case, electron microscopes are just a small portion of RCA's enterprises: last week the corporation announced new records of $1.75 billion sales and $51.5 million operating profits for 1962.

Most foreign producers of the microscopes do not share the anxieties of Hitachi, and remain unconcerned about the tariff, both because they are confident that the unique qualities of each will continue to be in demand, and because their companies are able to produce such a very small number of these complex instruments (in the case of one instrument widely regarded as superior the number is as low as two per month) that selling them is no problem whatever. These firms anticipate that the market will remain approximately constant, tariff or no tariff.

One final aspect of the whole maneuver is that although in all probability the tariff would not significantly affect the market, it would affect the cost of research in the U.S. by raising equipment costs for researchers who will continue to purchase the foreign microscopes that best suit their needs. Since it is estimated that between 65 and 80 percent of the electron microscopes sold here each year are purchased by nonprofit institutions, and since it is in many cases the federal government which contributes substantially to such institutions, the end result—if the measure goes through—will be the government taxing itself for a benefit to RCA that is more apparent than real.

—ELINOR LANGER

The Manhunters: British Minister Blames American Recruiters for Emigration of Scientists

Although no one likes to talk about it very much, it is no secret that manhunts against foreign scientific establishments have beefed up many a research staff in this affluent country. The losing countries do not like to advertise the fact that they cannot provide the salaries, professional opportunities, and facilities to hold some of their best people; the hunters tend to be discreet about their successes. As a result, the subject has largely remained outside public discussion.

Last week, however, Viscount Hailsham, Britain's Minister of Science, said his country had endured the depredations long enough. In an address to the House of Lords he let loose at the raiders, and, in turn, the Labor opposition let loose at him, charging that it was the government's niggardliness, rather than the wiles of manhunters, that has created the westward flow of British scientists.

Hailsham said: "We are in the presence of a recruiting drive systematically and deliberately undertaken by American business, by American universities, and to a lesser extent, American government, often initiated by talent scouts specially sent over here to buy British brains and preempt them for service of the U.S.A."

He conceded that conditions in Britain had something to do with the departures, but he seemed to find some consolation in the theory that the quest for British scientists mainly reflected the inadequacies in American education.

"I look forward earnestly," he said, "to the day when some reform of the American system of school education enables them to produce their own scientists so that, in an amiable free trade of talent, there may be an adequate interchange between our country and theirs, and not a one-way traffic."

The opposition was not long in coming back at Hailsham, offering the view that it's worse than you think and you're partly responsible for it. In an address the next day at the Imperial College of Science and Technology, in London, Harold Wilson, leader of the Labor party, charged that the government was being "appallingly complacent" when it estimated that by the middle 1960's British supply and demand would be in balance. It will, he said, "if we don't give science its proper place in national life. We shall no doubt be training all the bullfighters we need, because we don't use many."

The occasion for the debate was the release of a Royal Society study, "Emigration of Scientists from the United Kingdom," which disclosed that emigration now claims about 17 percent of all Ph.D.'s awarded in Britain each year. Last year, 58, or 5.6 percent of these, came to the U.S., bringing the 10-year total to 518. Figures were not available on how many of these moves were self-motivated and how many were the result of recruiting. But, in any case, the report noted that "the emigration of scientists has created some serious gaps in the scientific effort of this country. Instances were noted of scientists leaving university and other research institutions after establishing thriving research groups."

Since the cross-Atlantic flow of scientists cannot be controlled by fiat, it would seem that if Britain is to stop the exodus, it is going to have to give science the recognition and support that makes scientists happy to stay where they are. Some persons have pointed out that a good starting place would be Hailsham's office itself, which is structurally outside the mainstream of policy formation on scientific matters. Its title suggests that it is a counterpart of this country's White House Office of Science and Technology, but in fact it has little to say about the government's relationship with science, and Laborites charge that it was established, after the last election, to take the bite out of the Laborite contention that the Conservatives were not paying enough attention to British science. Hailsham himself is not a scientist, and, while he is Minister of Science, he is without a ministry.—D.S.G.

Announcements

The first **science high school** to be established in Turkey is scheduled to open in the fall of 1964, in Ankara. It is supported by a $1.1 million Ford Foundation grant. The new school will specialize in training in biology, chemistry, physics, and mathematics. A student body of 300 will be selected through nationwide entrance examinations. Turkey's ministry of education