this should be the goal and timetable, other than to offer the homily that goals and timetables have inspirational value.

It has said that the United States will beat the Russians to the moon, but when NASA Administrator James Webb was asked last week to account for this optimism, he told the House Science and Astronautics Committee: "Well, I am a great believer in that when you turn the full power of the U.S. government and the industrial team and the very bright scientists and engineers in our universities together into an effort and meld them into a team, it is pretty hard for any other nation in the world to beat them." Webb went on to say that the United States is building a booster, the Saturn, that can handle the job, and he expressed doubt that the Russians would be able to match it. The basis for this doubt was not described, but the whole train of reasoning smacks of the long-discredited notion that the West is innately superior in things technical.

It was this notion that led some supposedly informed persons to estimate that it would take the Soviets 20 years to build an atom bomb; it led to the cozy conclusion that the Egyptians could not possibly run something as complicated as the Suez Canal, which seems to be handling traffic very nicely; and it accounts for the West's utter astonishment over the first Sputnik.

By saying that we will be first—without backing the claim with hard evidence—the administration is undoubtedly perking up spirits that might otherwise droop under the Soviets' present lead in booster capacity and manned space flight. But at the same time it is nourishing the same sort of skepticism that has made the advertising industry one of the more suspect institutions in American life. (I once asked a Soviet diplomat why his country does not claim that it will be first on the moon. He answered, "Since no one knows who will be first, it might be embarrassing to make any promises. Let us wait and see.")

Along with claims for impending superiority, the administration has also been promoting the idea that all sorts of terrestial benefits will grow out of space expenditure. Some officials are now acknowledging that space research is not easily translatable into civilian products, and they are therefore promoting the civilian technology program that was described in this space on 15 February. But others are still telling Congress and the public that the space effort is the best thing that ever happened to heart surgery and kitchen crockery. This has led to some disputation over which came first, the ceramic coffee pot or the nose cone, but whatever the case, the effort to win support for the space program on the dubious grounds of beneficial side effects smacks of flimflammery, and it is not winning friends for the race to the moon.

A further source of space skepticism is NASA's rather blatant pork-barrel approach on how to win friends and influence people in Congress. NASA's installations have to go some place, and it is naive to think that site decisions in the multi-million-dollar range can be conceived immaculately, but congressmen who have not been getting their share are concluding that the political input in these decisions is reaching grand proportions.

Houston, Texas, no doubt has many physical attributes that commend it as the site for NASA's $130 million Manned Space Center, but, coincidentally or not, the site abuts on the congressional district of Representative Albert Thomas, who chairs the House Appropriations Subcommittee that passes on NASA funds.

The case for going to Houston included the argument that the space center would stimulate a great technological revolution in the Southwest; that it would bring people and facilities flocking there who would otherwise find the area unattractive. There is no question that it will, but now NASA is proposing to build a $50 million electronics center in the Boston area, justifying the site on the grounds that Boston has a unique reservoir of trained manpower to staff this facility. At last week's space hearings no one was so impolite as to ask NASA officials whether the selection of Boston had anything to do with Senator Edward Kennedy's campaign pledge that he "can do more for Massachusetts," but the suspicion was expressed privately. And now that Senator Clinton Anderson, of New Mexico, has succeeded to the chairmanship of the Senate Aeronautical and Space Sciences Committee, it is not unlikely that NASA is going to discover some unique features in the terrain of that state. Anderson is reported to have said that he thinks New Mexico would be a fine landing point for the moon capsule.

NASA, of course, is not oblivious of those who do not share its views on how fast the space program should move along, and in a blunt fashion it is now telling Congress that budgetary cuts would have dire consequences. First of all, Webb pointed out, the $5.7 billion is needed for lots of work now under way. Cut it, he said, and the agency will have to kill or reduce some of its contracts, which means that people will be put out of work, with no one but Congress to blame.

He also argued that NASA was presenting "an austere budget set at the lowest level which would permit the maintenance of target dates that we believe are realistic." And he told Congress that if it fails to produce the money, it is, in effect, voting for second place in the moon derby. This is something that few congressmen want to be charged with, and therefore it is fairly safe to assume that NASA is going to get pretty much what it wants. Nevertheless, the skepticism exists and increases, and if the Soviets should ever be so shrewd as to convince us that they are in no hurry to get to the moon, it is probable that NASA's troubles would flourish. For, any way you slice it, an accelerated moon program can command political support only in a Cold War context, and if that were removed, the administration would find that its various enticements—lunar adventure, civilian byproducts, contracts, and judicious site selection—would not be sufficient to coax $5.7 billion out of a conservatively oriented Congress.

—D. S. GREENBERG

Fish Flour: Administration's Interest Has Not Been Matched by Funds for Needed Research

Fish flour is a promising but not altogether perfected food supplement whose potential for use in underdeveloped countries aroused considerable official interest in the early days of the Kennedy administration. The interest still exists, but so far relatively little has been done about it, and therein lies a neat illustration of the pitted path that sometimes lies between the laboratory and the fulfillment of human needs.

Fish flour, a white powder also known as fish protein concentrate, is

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-