serious candidate for director of the office is Emilio Q. Daddario, who, as a former congressman, the father of the technology assessment idea, and currently in private industry at Gulf and Western Industries, Inc., has unique qualifications for the $40,000-per-year post. But adding Daddario, a Democrat, to the Kennedy-Davis team will mean that the deputy director of the office will have to be a Republican. Many names for the deputy job have been mentioned, among them Edward Wenk of the University of Washington, Stephen Ebban, now at George Washington University, Richard Carpenter of the Environmental Policy Studies office at the National Academy of Sciences, and David Beckler, long-term deputy director of the Office of Science and Technology (OST). Only Walter Hahn, of the science policy division of the legislative reference service at the Library of Congress, is known to be a Republican; Hahn at the moment is a likely choice for the second OTA staff slot.

In addition to a board, which will resemble a joint committee, there will be the office itself, which will resemble the General Accounting Office in its mode of operations. OTA may also add two still different legs. According to current plans, OTA would perform part of its work the way businesses and government agencies do, by contracting it out to think tanks and universities. Long-term studies lasting a year or more may be done outside and monitored by the OTA staff.

Another leg would be panels of outside experts, a council whose role with the office would be analogous to that played by the President's Science Advisory Committee with OST. There would also be a series of ad hoc panels with members from industry, science, engineering, public interest groups, labor unions, and so forth, to make short-term studies of subjects for OTA and for the board.

Whatever bureaucratic hybrid is assembled before July, there is one last, significant way in which OTA will be a new breed. Both Humphrey and Kennedy are enthusiastic about having OTA operate its own so-called "sunshine law," thus making all its business open to the public and the press. This will probably include advisory committee meetings, board meetings, reports, and routine staff operations (with the exception of classified material). Thus, OTA will differ from OST, PSAC, and hundreds of government advisory committees accustomed to acting in secrecy. OTA's planners allege that this openness will be in the tradition of most congressional groups. The big adjustment, they predict, will be in the scientific community. So, whatever OTA shapes up to be, it will at least be visible.

A final function of the OTA should be mentioned: whether the office will serve as a platform from which Kennedy, as an oft-mentioned presidential candidate, will do political battle with the President. Kennedy's staff vigorously denies that he will use his 2-year chairmanship of the OTA board in this manner, and Republican staffers concerned with OTA point out that it is in Kennedy's political interest to project an above-the-fray image through OTA. He has other soapboxes on which to stand when attacking Nixon, they say. But, in fact, the emergence of OTA is based on congressional frustration with the executive branch's arrogation of technical information to itself. Almost by definition, then, OTA will have to do some growling at the Administration, and Kennedy, as chairman of the board, will probably do some barking too.—DEBORAH SHAPLEY

# Reform in the House: Amending the Seniority Rule

A little reform is a dangerous thing, or so it appears from the reaction of Democratic elders in the House to changes in the rules on the organization of committees. The disarray caused by the changes accounted in part for the failure of several House committees to get their subcommittees organized and operating by the time the House recessed 8 February for the Lincoln–Washington birthday break, some 6 weeks after Congress convened. The effects of the changes are potentially greatest for the House Appropriations and Armed Services committees, where the uses of seniority have long caused indignation among reformers and frustration among junior members of the committees.

The rule changes have occurred in a series of meetings of the Democratic Caucus, in which all House Democrats are eligible to vote. Because they are in the majority in the House, the Democrats decide how the committees shall run and who shall run them. Seniority traditionally rules in the House, but the Caucus has the power to control chairmanships, if it chooses to exercise it.

At Caucus meetings on 22 and 23 January, a considerable stir was caused by an amendment to the Caucus rules to require that committee chairmen be ratified by the Caucus at the start of each Congress. The Caucus then went on to endorse all incumbent chairmen and several new chairmen who had succeeded along the hallowed path of seniority. Another package of amendments to the rules, dubbed "the subcommittee bill of rights," voted at the same time, received much less attention from the press and apparently from senior members, at whom it was aimed.

The package of changes originated in the Democratic Study Group (DSG), which was founded in the late 1950's by junior, mostly liberal, Democrats who found the workings of the House undemocratic. Most points in the subcommittee bill of rights were endorsed by a reform panel, headed by Representative Julia Butler Hansen (D–Wash.), whose members represent a full spectrum of Democratic views.

The amendments in general do not reject the sway of seniority but make committee operations more directly responsible to the Caucus and give Democratic members of individual committees ways to counterbalance the power of the chairman. A caucus of Democrats is to be established within each committee, and new ground rules are set on such things as the jurisdiction of subcommittees and party ratios on the

subcommittees. More important, procedures are established to which committee chairmen must conform in appointing subcommittee chairmen and assigning legislation to subcommittees. Perhaps most important of all is the rule stating that "Each Democratic member other than the chairman of a full committee or the chairman of a subcommittee shall, in order of committee seniority, be entitled to membership on one subcommittee of said member's choice to the extent that there are vacancies available."

That such a rule was necessary implies that the application of the seniority rule in the House has not been always and everywhere straightforward. Liberal critics of Congress argue that preferential assignment to membership on important subcommittees has been a principal method by which senior, Southern, conservative congressmen have retained a disproportionate influence in the House.

The House Appropriations Committee is most commonly cited as the chief example of a committee where the power of selective assignment by the chairman has over the years been skillfully and consistently exercised. Put more baldly, as one reform-minded staff member expressed it, "By stocking conservatives three and four deep and duplicating assignments, the chairman kept the conservatives in control and the liberals on insignificant committees." The amendment giving each committee member one subcommittee choice is known as the Obey amendment for Representative David Obey (D-Wis.), an experienced but still fairly junior member of the Appropriations Committee.

In prestige, Appropriations is rivaled in the House only by the Rules Committee and the Ways and Means Committee, which has authority over tax and tariff measures. The Appropriations Committee, however, is perhaps the most powerful committee in the House because it passes on literally all appropriations measures. It is by far the largest committee in the House (55 members; 33 Democrats, 22 Republicans), and the workload is so great that it is an "exclusive" committee, meaning that its members serve on no other regular committees.

While a score of legislative committees decide the shape of federal programs and "authorize" funds for them, only the Appropriations Committee can vote funds to be actually spent. The Appropriations Committee, therefore, deals with the whole spectrum of federal activities through its subcommittees on defense, agriculture, labor, health and education, and so forth. It is possible to argue that Appropriations subcommittees constitute a parallel structure to the legislative committees and that the chairmen of Appropriations subcommittees are the equals of the chairmen of legislative committees.

Assignment to the Appropriations Committee has traditionally been regarded as a sign that a member has "arrived" in the House. It indicated that he was expected to survive at the polls in future elections, that he was reasonably intelligent and hardworking, and also that he was acceptable to the elders of the tribe.

### Seen but Not Heard

Once on the committee, the junior members were expected to work hard to learn the ropes, to accept humble subcommittee assignments, and not to assert themselves too much. Assignment to subcommittees was solely at the pleasure of the chairman [since the early 1960's George H. Mahon (D–Tex.)], and junior members might spend their apprenticeship on a single, unrequested subcommittee, such as District of Columbia or Treasury, Postal Service—general government. Senior members, on the other hand, might sit on as many as three main-line subcommittees. In the last Congress, for example, Representative Jamie L. Whitten (D–Miss.), ranking Democratic member on the committee, was chairman of the agricultural–environmental and consumer protection subcommittee and also sat as a member on two other heavyweight subcommittees, defense and public works. This could be attributed to ability and experience, but critics suggested that Whitten and other senior members with choice assignments, held views congenial to Mahon and that this was the operative factor.

Whitten, whose subcommittee deals with funding for the Agriculture Department, represents a rural Mississippi district and is regarded as friendly to the big growers, particularly of cotton. Critics say that Whitten is a proponent of broad pesticide use and suggest that assignment of responsibility for appropriations for environmental and consumer protection programs to his committee is a typical example of Appropriations Committee logic.

As for subcommittee chairmanships, Appropriations has operated contrary to prevailing House practice by making seniority on the full committee rather than on the subcommittee the criterion for accession to subcommittee chairmanships. Thus when a subcommittee chairmanship became vacant, it has been possible for the senior Democrat on the subcommittee to be denied the chairmanship because a more senior colleague on the full committee has claimed the job. This was viewed as giving Mahon and his senior allies additional power—through switching members—over the subcommittees. Under the "bill of rights," subcommittee chairmanships are to be decided on the basis of subcommittee seniority.

On the effects of the subcommittee bill of rights and especially of the Obey amendment, providing for each member getting at least one choice of subcommittee, only preliminary conclusions can be drawn. To win a majority for the Obey amendment it was necessary to "grandfather" two subcommittee assignments for each member, so the impact was limited. Reportedly, however, about 100 House subcommittee assignments opened up for junior members because of the change in the rules.

Some committee and subcommittee chairmen, not surprisingly, have reacted with less than total complaisance to the new rules. Disagreements over what the amendments meant were fairly widespread, and, in some cases, chairmen seem to have gone against the rules, wittingly or otherwise.

On the Appropriations Committee—subcommittee assignments were announced just before the recess—there have been changes, but whether the balance of power has shifted seems questionable. Whitten, for example, retained his chairmanship of the agriculture-environmental subcommittee and membership on the defense and public works panels, but on the defense subcommittee he moved down from third in seniority of seven Democrats to last of eight. One member was assigned to the subcommittee, Robert N. Giaimo (D–Conn.), who was active in the reform effort. Reportedly, defense was the first choice of one new member of the committee who did not get his preference, while Whitten got a third subcommittee assignment on the expanded Democratic side of the committee. That an issue will be made of this is doubtful.

One new member of the Appropriations Committee might actually have prospered more under the old system. Representative Edith Green (D–Ore.)

# Minuteman Missile Has Fan Club in Lab

Are you looking for a small, all-purpose digital computer, easy to maintain, highly reliable, rugged enough to be carried around in the back of a truck, and worth $240,000 but delivered to your door for only a $30 freight charge? The U.S. Air Force may have just the thing for you. It is giving away the guidance control computers of the Minuteman I, former backbone of the country's land-based nuclear missile force.

From bases in Ohio and Utah, the computers are dispatched to begin new life styles in laboratories and hospitals. At Texas A & M University a pair is being reprogrammed to control and gather data from a study of light scattering in the ocean. In the Tulane University medical school, New Orleans, a former missile guidance control computer now analyzes measurements of the components of blood serum.

So popular have the computers become that a users' association has been formed to exchange tips and software. The Minuteman Computer Users Group held its first meeting in the Disneyland Hotel, Anaheim, in 1970 and now includes more than 150 member institutions.

The fee for joining this somewhat exclusive club is only $100, but the first hurdle is laying hands on a Minuteman computer. Now the word has got round, they are in hot demand. The procedure, if you have a government grant, is to ask your project officer to apply for one either directly from the Defense Supply Agency (if you have a military grant) or via the General Services Administration.

If successful, you will receive a circular lump of metal, about 3 feet in diameter and weighing 200 pounds. The shape of the computer enables it to sit high in the nose cone of the missile, immediately below the warhead. Round the outside is the detoxified outer skin of the missile—Minutemen are coated with a toxic chemical, possibly as a security device. In the center of the ring you will find the stable platform containing the missile's gyros and accelerometers (unless your project is unclassified, in which case these items will have been removed). The computer's memory will have been erased in order to protect the data indicative of its flight dynamics, maneuverability and, presumably, its target. Since the early 1960's, nearly 1000 Minuteman I missiles have been built, of which some 200 are still in service. The computers have been made available because of the deployment of Minuteman III, a missile with a multiple warhead.

### Air Force Denies Security Risk

Could acquisition of the Minuteman computer and its attendant parts be of any interest to countries lacking a reliable ICBM force? Air Force spokesmen say there is no concern on these grounds, since the computer's technology dates from the late 1950's and many of the components are now available commercially. The computer, made by North American Rockwell, is a general purpose machine with nothing special about its design except an ability to withstand high *g* forces.

The popularity of the Minuteman I guidance computer owes much to Charles H. Beck, an electrical engineer at Tulane, who pioneered its adaptation to peaceful uses. Beck is also founder and chairman of the users' group, which holds its fifth meeting at Tulane this April. There are reports that, in one of the computers, he found a serious wiring fault in the central processing unit which would have caused a malfunction. Beck says the fault may have been caused when drilling out the gyros and would in any case have been noticed before launch.

Developing new, peaceful software for the computer, Beck says, has been like reinventing the wheel. But the Air Force has been most cooperative, donating enough spare parts to last indefinitely. And so as to give him a better start when the new generation of missiles is declared surplus, the Air Force has presented Beck's group with some of the guidance computers for the Minuteman III.—NICHOLAS WADE

gave up the post of ranking member of the Education and Labor Committee and chairman of its subcommittee on higher education to transfer to the Appropriations Committee. Mrs. Green is highly knowledgeable about education matters and helped to shepherd through Congress the body of higher education legislation enacted during the Johnson Administration. In recent years, however, she has become disenchanted with a number of education programs and has sometimes found herself in the minority in votes on Education and Labor. It was assumed that her move to Appropriations was based on an expectation that she would continue to deal with education programs. Her views were seen as congenial to Mahon's, and there was some speculation that before too much time passed she might move into an authoritative role on education matters. She was given a logical assignment to the Appropriations labor–health, education, and welfare subcommittee. She is the most junior member of the subcommittee, somewhat ironically, following Obey in seniority. (Obey, 23d ranking Democrat, also got a seat on the military construction subcommittee. Last year he sat on Interior and District of Columbia panels.)

The conservatism of the Appropriations Committee is partially understandable in light of the fact that it is the only House committee charged with looking at federal expenditures as a whole. Traditionally, members of Appropriations have seen their role as curbing the excesses of the profligate spenders on the legislative committees. Ever since government functions have expanded beyond delivering the mail, collecting customs duties, and fighting Indians, the Appropriations Committee has come closest to being a congressional mechanism for keeping spending and revenues in balance. One of the weaknesses of Congress in its current contest with the Executive over control of the budget is that it lacks the machinery for real budget management. The Appropriations Committee has acted as a financial watchdog for Congress, but it has tended to act its fiercest with social programs and then roll over and play dead when military appropriations or pork-barrel questions are at issue.

Through the years Appropriations has not been overgenerous with research funding—National Science Foundation budgets were frequently pared

by the committee. The system, however, worked to the benefit of biomedical research during the late 1950's and early 1960's when the late Representative John Fogarty of Rhode Island headed the labor HEW subcommittee and championed NIH growth to a billion dollar budget in a decade.

The Armed Services Committee of the House has been another committee with a tradition of strong chairmen and selective assignment. Because of regional attitudes in martial matters and practical interests in military installations, the South has predominated in the committee's affairs. The current chairman is F. Edward Hébert (D–La.), and his predecessors were Carl Vinson of Georgia and Mendel Rivers of South Carolina. In the last Congress, 14 of 25 Democrats on the committee were from Southern or Border states. The attitude of the committee toward the military has been friendly and uncritical, and a small group of members with a questioning attitude to the Pentagon has had little influence. Chairmen and senior members of the committee have wielded effective control over the committee; testimony to their reaction to the new rules can be read in the fact that subcommittee assignments have not been announced yet. Until now, the major subcommittees in Armed Services have not been given names designating jurisdictional boundaries but rather were numbered 1 through 4. This made it possible for a chairman to assign legislation as he judged best and, critics say, make sure that those he regarded as the right people dealt with the sensitive issues. The new requirement that subcommittees be given specific jurisdictions would force changes in these arrangements.

It may seem that the ins and outs of subcommittee politics should be of interest mainly to congressologists, but it has been attention to such minutiae that, cumulatively, has enabled a doughty minority to dominate Congress as administrations came and went. The hegemony of Southern Democrats in the House is noticeably declining, and the subcommittee bill of rights is likely to give further impetus to that decline.

The agenda for reform in the House includes other proposals to make more publicly visible changes, such as reducing secrecy in committee operations, revising the closed rule under which debate and amendment of legislation is limited on the floor, and creating a Democratic policy committee in the House. All these are expected to come up in the Democratic Caucus after the recess. The progress in reform in the House so far this year is generally attributed to cannier organization by the liberals and, more important, to the backing of Speaker Carl Albert (D–Okla.) and the House leadership machinery. How much further the leadership's commitment to reform extends is unclear. But the subcommittee bill of rights represents a solid if limited victory for the reformers. In fact, it is an ironic tribute that the surprise and chagrin of senior members at what happened, may, according to one pro-reform observer, be sharp enough "to break the back of reform" in this session.—JOHN WALSH

# Technology and the Trade Crisis: Salvation Through a New Policy?

At a time when slashes in parts of the proposed 1974 federal research budget have much of the scientific and technical community wondering whether the Nixon Administration has any serious interest in science and technology, it may be premature to hold out the hope that the President's second term may produce a comprehensive technology policy for the country. Yet that seems to be exactly what at least one government official is advocating these days. Citing the recent historic trade deficit for commercial trade alone which totaled $8 billion in 1972, a Commerce Department economist, Michael Boretsky, believes that improving U.S. high technology is the key to overcoming the trend towards ever greater trade deficits. And he has what he says is a new economic theory to prove it.

Boretsky is trying to get other officials and outside economists to buy the theory that among other myriad factors affecting the international trade balance is the relative technological "know how" among nations. Most economists see classic monetary and fiscal factors—such as the two devaluations of the dollar—as key determinants in foreign trade. Devaluation, as well as import quotas, surcharges and so forth, are generally viewed as the chief means of altering export-import balances. Boretsky, however, in a yet-unpublished paper and in a recent interview with *Science*, argued that only by improving U.S. "know-how" in advanced technology, relative to that of other countries, will the country achieve a sound trade surplus position for the long term.

Boretsky is a Ukranian-born economist, with a background in industrial engineering as well, who describes his role in Commerce as that of "an idea man." However, some of his past work has found its way into key Administration officials' testimony to Congress and other public statements, to a greater extent than his small, two-man office on the fifth floor of the department's main building would imply.

In 1970, Boretsky analyzed the growing U.S. trade deficits in terms of four categories of imports and exports: technology-intensive products; non-technology-intensive products; minerals, raw materials, and unprocessed fuels; and agricultural products. He found that the technology-intensive trade surplus—which since the 1950's had made up for deficits in the other categories—was shrinking despite a lower rate of inflation in the U.S. than in other countries. Boretsky thus identified the U.S. lag in high-technology products, including electronics, chemicals, automobiles, and the like, by comparison with Japan, West Germany, and other industrialized nations, as a principal factor in the deteriorating balance of trade. His thesis was picked up by Maurice H. Stans and other high Administration officials, and may have