When the sample was heated at 100°C under reduced pressure over P_2O_5 for 5½ hours, there was a loss in weight of 1.7 percent. This heated sample was then assayed. No decrease in biological activity was detected as a result of the heating. If crystalline deamino-oxytocin after suitable study meets other requirements for stability, it may merit consideration for possible use as an international standard for the assay of oxytocin. Intensive pharmacological studies would be in order to explore this possibility, if criteria of stability for this purpose are met.

The crystallization of these two closely related analogs, deamino-oxytocin (1-β-mercaptopropionic acid-oxytocin) and 1-γ-mercaptobutyric acid-oxytocin, one highly active and the other practically inactive, affords for the first time crystalline analogs of oxytocin for use in various physical and physical-chemical studies. The availability of these two analogs may possibly facilitate the elucidation of the relationship between molecular architecture and biological activities which are characteristic of oxytocin.

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News and Comment

Appropriations: The Critics of Congress Often Slight an Inner Redoubt of the System

The literature of analysis and abuse of the U.S. Congress is a rich one, but for a year or two it has been evident that criticism of the national legislature has been mounting toward one of its periodic peaks.

Liberal critics argue that Congress is unresponsive to the exigencies of the latter half of the 20th century. Resistance to innovating legislation they attribute to rigid rules and customs which they claim make Congress, in practice, an extremely undemocratic institution. Concentrated fire has been turned on the Senate filibuster and the House Rules Committee, and broader criticism is directed at a feudalistic committee system, which, fused to the principle of seniority, makes the inheritance of power in Congress depend primarily on survival.

While study of congressional pathology is popular these days, relatively little attention is paid to an extremely significant area of action—the domain of the appropriations committees in the House and Senate. Because appropriations business is so complicated and is usually conducted so discreetly in committee and so smoothly on the floor, the public is likely to be little aware of its import. But just as a connoisseur of football often watches the line play rather than the backfield, an observer of Congress can instructively focus on the appropriations process.

It is true that Representative Otto Passman (D–La.), chairman of the House appropriations subcommittee which deals with foreign aid appropriations, in recent years has gained public notice by organizing an annual Donnybrook over the aid program's appropriations. It is also true that, with much less spectacle, Albert Thomas (D–Tex.), as chairman of two appropriations subcommittees which control the funds for the space program and the National Science Foundation, exercises a strong influence over the federal science effort.

It is gratefully acknowledged within the medical research community, also, that Representative John Fogarty (D–R.I.) and Senator Lister Hill (D–Ala.) have used their appropriations subcommittee chairmanships to enhance the fortunes of the great federal health research program. But the system which gives these men their leverage seems to get little attention.

The appropriations committees derive their influence from a main well of congressional authority, the right to spend or withhold money. Federal programs which involve the spending of money require a dual legislative process—authorization and appropriation. Standing legislative committees

like Armed Services, Interior, Public Works, or Education and Labor in the House, for example, must first report legislation containing an "authorization" for a particular sum. When this bill passes the House, then the appropriations committee, after hearings of its own, sends along for enactment an appropriations measure which actually provides the money.

The House Appropriations Committee cultivates a reputation for fine-tooth-comb tactics and frugality. Often House Appropriations recommends a smaller sum than that provided for in the authorization, and the House usually follows its advice on money matters.

For a number of years the House has generally been less liberal with appropriations than the Senate, and a pattern has emerged under which the House sets a low figure, the Senate sets a higher one, and the difference is roughly split in conference. Also, the House Appropriations Committee tends to give special attention to growth sectors of the budget, as its action on the National Aeronautics and Space Administration and National Science Foundation last year indicated.

It may be useful, therefore, to examine how this House committee operates, not only because of its power but because in many ways it epitomizes the congressional system and illustrates how formidable are the internal obstacles to reform.

Hard Work A Tradition

Appropriations members are proud of the committee tradition of hard work on the dull detail of appropriations measures, and this industriousness gives them an expertise which makes it perilous for nonmembers to challenge them on the floor of the House. Because of its reputation for resistance to spending, and because the committee deals with every spending measure, the committee regards itself, and is regarded in the House, as a bastion against the erosion of congressional fiscal authority by the Executive.

Unity of action is a secret of power for the Appropriations Committee, and this unity is, on the face of it, remarkable, since the committee is the largest in Congress, with 50 members, 30 of them Democrats and 20 from the Republican minority. But the united front which the committee usually presents is the manifestation of a well-run hierarchy, which is the committee's real organizational form.

The Appropriations Committee, the Rules Committee, and the tax-writing Ways and Means Committee are the three committees to which assignment is most highly coveted in the House. Winning a place on any of them ordinarily requires a waiting period of several terms from the time a Congressman is first elected. Moving to the Appropriations Committee means sacrificing seniority built up on another, less exalted committee and starting again at the bottom of the seniority ladder.

Eligibility depends first on the location of a candidate's district, since geographical balance is one of the time-honored ways of insuring that regional interests are represented. A junior member who has won a reputation as a maverick or troublemaker, or who simply talks too much, is unlikely to get the necessary backing from his colleagues or the party leaders which is necessary for assignment to Appropriations. The aspirant must, in short, have demonstrated that he lives by what has been called the Rayburn rule of conduct in the House: "to get along, go along."

The new member finds that joining the committee does make a difference. Federal agencies are anxious to oblige a member of the committee that oversees their budgets. The military services seem to be particularly alert to the implications, and as one member put it, "If you go anyplace abroad they practically meet you with a brass band." There is a feeling current in Congress that a member of the Appropriations Committee can get more for his district.

But in committee matters the new member finds himself very much an apprentice. Assignments to subcommittees are entirely in the gift of the chairman, and junior members almost always get posts on minor subcommittees, or even, for a time, on no subcommittee at all.

At subcommittee and committee meetings the tenderfoot is expected to be seen and not heard. He is advised to pick some rather narrow and often obscure area of specialization and spend a few years in mastering it. His elders on the committee are regarded as his betters, and the junior member will be discouraged from offering criticism or amendments much more sternly than on other committees.

Appropriations is a highly compartmentalized committee. The 13 subcommittees are the operating units, with the subcommittee chairmen wielding decisive influence within their special fields. The committee seems to be ruled by a kind of board of directors, headed by the chairman and including the subcommittee chairmen and ranking minority members of the committee and subcommittees. Partisanship within Appropriations appears to be a diminished element, supplanted to some extent by the committee's economizing *esprit de corps*.

Chairman of the Appropriations Committee is Representative Clarence Cannon (D–Mo.), who is 84 years old. Cannon has sat in Congress for 40 years, has served as parliamentarian, and literally wrote the book, *Cannon's Procedures*, used to untangle parliamentary snarls in the House.

Chairman's Option

The committee's rules enable Cannon to appoint subcommittee chairmen without regard to seniority, and he seems to have handpicked men for special jobs, as in the case of Passman, but the chairman's power depends on his working relations with the senior members of the committee of both parties and he cannot afford to offend them unduly, nor they him.

Cooperation is the watchword in the committee, and differences are settled privately. Virtually all Appropriations hearings are held in executive session, which means that public and press are excluded. Congressmen who are not members of the Appropriations subcommittee holding hearings are not welcome at the sessions, and this even goes for other members of the Appropriations Committee. This is not the case in most other committees.

At the final "markup" sessions of a subcommittee, when an appropriations bill is being put in final form for forwarding to the committee, Cannon and the ranking minority member are usually on hand.

Meetings of the full committee tend to be cut-and-dried. It is the practice of the committee not to furnish members the published hearings or the bill under consideration until the day action is to be taken. Most significant, the report which explains the committee's treatment of a bill is printed before the meeting, with the obvious implication that no changes will be made and that the function of the full committee is

simply to relay the bill from the subcommittee to the House floor.

The Appropriations Committee staff, which compiles hearings and writes reports, is regarded as both competent and hard-working. Because of the complexity of the material they deal with and the committee's mode of operation, the staff is felt to exercise unusually strong influence. As one fairly junior member of the committee put it, "It's a good staff, and they have a hell of a lot to say."

The mechanics of power in the Appropriations Committee are exemplified in the concentration of senior members on the most important subcommittees to form a kind of interlocking directorate. Cannon himself is chairman of the subcommittee on public works, which is still probably the fulcrum of internal influence in Congress. Thomas is not only chairman of the independent offices subcommittee and of the deficiencies subcommittee, which handles the sensitive matter of supplemental appropriations, but is also a member of the defense subcommittee. Fogarty, in addition to his chairmanship of the labor, health, education, and welfare subcommittee, is a member of the public works subcommittee. As one congressman observed, "six or seven guys have it sewed up."

This lack of pure democracy from time to time ignites protests from inside and outside the committee. In the waning days of the last session, for example, Representative Charles S. Joelson (D–N.J.) made public his resentment at being refused permission to file separate and dissenting views on an appropriations measure. This is a privilege granted to members in most committees.

Joelson objected to the committee report on the foreign aid appropriations bill because he felt the full committee had not been given enough time to study the matter.

A Fascinating Job

Despite this incident, Joelson is pleased with his committee assignment. He says that while, to outsiders, the Appropriations Committee member "might seem a glorified accountant," he has a fascinating job because it is the only place "from which it is possible to see the whole sweep of government." This fascination, says Joelson, is what "makes it so frustrating that it isn't more democratic."

While Joelson clashed with Cannon and has reservations about the committee's workings, he at the same time also displays an obviously genuine respect for the chairman, whose command of Appropriations detail is legendary. Of Cannon, Joelson says, "although I differ with him on procedural matters, I am amazed at his sharpness and dedication."

Joelson's mixed feelings suggest the contradiction which lies at the heart of the problem of congressional reform. The system is undemocratic, but nobody seems to have put forward a fundamentally different alternative which is likely to work better. Committee and subcommittee chairmen in most cases are acknowledged to know their business well.

Subcommittee Powers

Thomas and Fogarty are good examples of subcommittee doyens who are conscientious and well-informed about activities in their jurisdictions. They may not, in fact, have the scientific backgrounds necessary to make technical judgments on research programs, but their grasp of agency operations and the way they go about making decisions on appropriations questions has earned them regard as well as awe among officials of agencies whose budgets they handle.

Defenders of the system are easy to find. Representative Joe L. Evins (D–Tenn.) is a member of the Appropriations Committee who stands above the halfway position on the seniority ladder and is an example of the loyal Appropriations Committee man. Evins is author of a book, *Understanding Congress*, published last year and has probably thought out his views more systematically than many of his colleagues. Evins is convinced that there is no alternative to the seniority system. He says he is convinced that if Congress were given the option of a free vote for committee chairman and subcommittee chairman, more than 90 percent of the incumbents would be elected. Many members appear to feel that seniority is the principle of order and stability in the congressional system and that its abolition would bring chaos. Evins believes that some reforms might be desirable, but like many of his colleagues he does not dwell on the subject.

As to inequality of opportunity and influence between junior and senior members on his own committee, Representative Evins points to the Appropriations Committee education process and asks, "Doesn't experience, maturity and judgment outweigh even brilliance?"

Evins's book, in which he draws on his experience in the House, is one of a number published in the last 2 or 3 years which signal a swing of interest to the House of Representatives, an institution which had been relatively neglected but gained attention early in the Kennedy administration when it was noticed that many of the new President's stickiest problems centered there.

Political scientists descended on the House with their questionnaires and depth interviews and discovered cross-currents and rich subtleties which have always been ignored or glossed over in conventional textbooks on government.*

Much of the criticism of Congress has been based on oversimplified views of how it works, and this is one of the reasons why the way of the reformer has been hard. It is true, for instance, that even some members of Congress do not understand the mysteries of the Appropriations Committee. And it is remarkable that legislative committee members, who after all consider themselves specialists too, do not take umbrage when the Appropriations Committee countermands their orders on agency funds. The new explorations by scholarly legislators and scholars of the national legislature should put matters in clearer perspective.

It is interesting to note that, while senators have attacked their own "establishment" and leadership openly on the floor of the Senate, no such general assault has been mounted in the House.

The House is a closed society and a parochial one. Senators play on a national stage, but the House, for example, has never served as a launching pad for presidential candidates. The congressman is insulated from national opinion. His base of power is his district. He is surrounded by a sympathetic staff and bolstered by the company of colleagues who share the ordeal of biennial elections. The rules of his game are the rules of the House.

* Examples are *New Perspectives on the House of Representatives*, edited by Robert L. Peabody and Nelson W. Polsby, published last year, and *The Congressman: His Work As He Sees It*, by Charles L. Clapp, and *The House Rules Committee*, by James A. Robinson, which have appeared recently.

Only Congress can change Congress, and with things as they are, this means that the congressional elders would have to decide to diminish their own power. It is a truism that the longer a congressman serves, the more influential he grows and the less critical of the institution he becomes. The political scientists have a word for this process of indoctrination and conditioning of the individual—"socialization." And what it means in Congress for reform is that the men who count honestly feel that the critics just don't understand.—JOHN WALSH

Human Experimentation: Cancer Studies at Sloan-Kettering Stir Public Debate on Medical Ethics

New York, N.Y. For about a decade a team of cancer researchers led by Chester M. Southam of the Sloan-Kettering Institute for Cancer Research has been injecting human beings with live cancer cells in order to study human immunity to cancer. Their work has been widely regarded as among the most promising of all lines of research on cancer, and it has been far from secretive. As results accumulated, at least 18 reports were published in well-circulated scientific journals. The contributing scientists have also described their activities in lectures and symposiums held round the world.

Two weeks ago the work became the focus of an internecine battle in the Jewish Chronic Disease Hospital in Brooklyn, N.Y., which was cooperating with Sloan-Kettering on one stage of the research, and sensational charges concerning the conduct of the experiments were dramatized by the New York papers. The most spectacular allegation is that some of the experiments have been performed without the informed consent of the participants. The charges have set off an investigation by the state Board of Education, a legal joust over hospital records in the State Supreme Court, and, at least in New York, the hottest public debate on medical ethics since the Nuremberg trials of Nazi physicians—an analogy not lost on some of the city's more flamboyant journals. Insofar as they can be separated from the insinuations, the facts in the imbroglio are these.

Between February 1954 and July 1956, in their first human experiments in cancer immunology, Southam's group worked with 14 patients in Memorial Hospital with advanced incurable cancer, inoculating them with cancer cells different from their own. According to a Sloan-Kettering spokesman, these patients knew that they were receiving cancer cells, understood the reasons for the experimentation, and consented to it orally. It was discovered that the implanted cancer cells did grow in the cancer patients and produced small nodules which, if they were not excised, continued to grow 4 to 6 weeks, then regressed spontaneously and completely (*Science*, 25 Jan. 1957).

The implanted cancer cells appeared to have no effect on the course of the patients' own disease. There were no untoward effects of these experiments on the patients, nor had there been any theoretical reason to expect any. There were, however, three complications, reports of which have been excavated to promote current accusations that the later stages of the work involved great risks of "causing cancer" (this is denied by the researchers). Two of the patients, suffering from what was thought to be incurable cancer at the time of the implantations, died before the anticipated regressions had occurred. In four patients cancer growth recurred at the site of the implants, after excision of the nodules. And in one patient the implanted cells were found to have metastasized.

At about the same time the researchers had established that implants of normal cells did not grow in cancer patients. It was also found that the cancer patients did not in general lack immune reactions to other diseases. To test the theory that cancer patients lacked immunity to the cancer cell implants, it was then necessary to demonstrate that the effects observed with cancer patients did not also occur in healthy individuals. At this stage the doctors faced a choice that has confronted researchers since the beginning of experimental medicine: Should they use themselves as subjects?

It is not very clear how this dilemma was resolved. Sloan-Kettering last week issued a press release stating that the researchers did inject themselves with cancer cells and established the safety of the procedure, before trying out larger-scale experiments at the Ohio State Penitentiary. Southam, however, who ought to know, said in an interview with *Science* that, although there was no theoretical likelihood that the injections would produce cancer, he had nonetheless been unwilling to inject himself, or his colleagues, when there was a group of normal volunteers at the Ohio Penitentiary fully informed about the experiment and its possible risks and nonetheless eager to take part in it. "I would not have hesitated," Southam said, "if it would have served a useful purpose. But," he continued, "to me it seemed like false heroism, like the old question whether the General should march behind or in front of his troops. I do not regard myself as indispensable—if I were not doing this work someone else would be—and I did not regard the experiment as dangerous. But, let's face it, there are relatively few skilled cancer researchers, and it seemed stupid to take even the little risk."

From 100 fully informed volunteers at Ohio ("The inmates at Ohio have a terrific reputation for enthusiastic participation in medical research," Southam said), 14 men were chosen. Their explicit, detailed consent was obtained in writing. In May 1956, what was presumably the first injection of live cancer cells into healthy human beings took place. As anticipated, the healthy subjects did in fact reject the cancer cells, and at a rapid rate. Four weeks after implantation the nodules had completely regressed, and there were no recurrences. Since the first trials, a variety of experimental refinements have been pursued at Ohio, and although it was reasonably certain that the tests involved no risks, in every case experimentation on healthy volunteers has been accompanied by informed, written consent.

At the same time, however, research was also proceeding on individuals who were not healthy, first on cancer patients at Memorial Hospital, later on patients with other advanced diseases at the Jewish Chronic Disease Hospital in Brooklyn. Although all the facts are not yet in, it is at least clear that the precedents of frankness and written consent established with the healthy volunteers were not followed with either group of hospitalized patients. Since the circumstances of the experimentation at the two institutions diverge considerably, it is necessary to look at the two separately.

The Work at Sloan-Kettering

At Sloan-Kettering, studies on the rate of rejection of implanted cancer cells in patients with advanced cancer proceeded steadily after the initial re-