be no less brilliant in a relatively short time.

The isolation of the people of mainland China is disappearing on the scientific and intellectual level. We can now make contact with our colleagues in the East. They use the language of our professions, and they are beginning to make their own contributions. Perhaps it is in science that the brotherhood of man is most clearly established. Scientists have always preferred to take the view that there are no national boundaries.

References and Notes

1. Two recent and informative books on life in China are *The Wall Has Two Sides, A Portrait of China Today* (Cape, London, 1962), by Felix Greene, an Englishman resident in the United States, and *The Other Side of the River* (Random House, New York, 1962), by Edgar Snow, an American reporter with a unique entrée into the People's Republic of China.
2. Huang Chia-hsu, now head of the Chinese Medical College, is a thoracic surgeon who once spent 3 years working at that specialty with Professor Alexander at the University of Michigan. Shih, now Professor of Surgery in Chung Shan College, Shanghai, received his medical training in that institution but took his graduate specialization in thoracic surgery under Huang at Peking Union Medical College.
3. Norman Bethune was a thoracic surgeon from the Royal Victoria Hospital of Montreal, trained by Professor Edward Archibald of McGill University. His biography has been written by Allan and Gordon [*The Scalpel and the Sword* (Little, Brown, Boston, 1952)]. Today, even the Chinese school children know the story of this Canadian, who was a martyr to their cause. His ashes are buried in a special Chinese Heroes Cemetery, in Cze Chia Chuang. Not far off is his memorial, the Bethune International Peace Hospital, now an excellent civil and military institution with 800 beds.
4. Mr. Wu is a graduate of Nanking University, where he learned his excellent English, with some assistance from a Linguaphone. Dr. Huang was a graduate from Tibet and gained his medical training in Japan. Dr. Chao was graduated from Peking Union Medical College. He then studied at the Montreal Neurological Institute as a Rockefeller Travelling Fellow, in 1939 and 1940.
5. Chung Shan was, according to Professor Liang, dean of Chung Shan College in Canton, the real name of Dr. Sun Yat-sen, "the great liberator of China, the man who overthrew the Ch'ing Dynasty and freed us from the Emperors. He was born here in Kwantung Province and he studied medicine at Hong Kong, marrying a young woman by the name of Soong Ching-ling. Her sister, Mei-ling, later became Madame Chiang Kai-shek. . . . Because of his revolutionary activity, Dr. Chung Shan was forced to escape to Japan. But he returned, calling himself Dr. Sun Yat-sen to avoid recognition by the Emperor's police. He established the first Republic of China on October 10, 1911. We call that the 'old democratic revolution.' But when we refer to 'Liberation' we mean the beginning of the present government under Mao Tse-tung, October 1, 1949. Dr. Sun died of cancer, but his wife lives on now, outside Peking. She is Vice-President of the Republic." I might add that the last Emperor of China, Fu Yi, was deposed at the age of 3. The Japanese later made him the puppet Emperor during their occupation. He is now living without restriction in Peking. He has written two books that have to do with the last days of the Empire.
6. The Red Cross Hospital is used for neurological patients. It is a gloomy place of 120 beds, in an ancient park. It was founded sometime before 1920 as a hospital of 43 beds, called Harvard in China.
7. The Hospital of Traumatology and Orthopaedics, in Tientsin, was built with the support of British missionaries and was opened as the McKenzie Memorial in 1860. The centenary of the opening was celebrated in 1960. It is one of the teaching hospitals of the Tientsin Medical College and has 280 beds. There are five sections: pediatrics, traumatology, bone and joint tuberculosis, hand injuries, and "mixed" (arthritis, nerve injuries, and protruded intervertebral disks). A 1-year postgraduate course is given to surgeons who have previously had 5 years or more in general surgery. Up to the present, 250 surgeons have taken the advanced course in orthopedics. Dr. Fang has published a study (in Chinese) of this method of treating fractures, in the *Chinese Medical Journal*, published by the Chinese Medical Association, Chu Shih Ta Chieh, Peking. He calls the method the "integrated method" and has promised to publish an English version of the article, also in the *Chinese Medical Journal*.

News and Comment

Investigation: House Unanimously Approves Comprehensive Inquiry into Federal Support of Research

The House of Representatives voted unanimously last week to appoint nine of its members to conduct a comprehensive investigation of federal support for research. The action is a manifestation of increasing congressional unease over the phenomenal growth of federal support for science and engineering, and it was inevitable that sooner or later this unease would receive formal recognition.

Ideally, the outcome could be beneficial for Congress and research, since the expansion and pervasiveness of federal support have produced conflicts, imbalances, and congressional hostilities, all of which could be favorably affected by a detailed survey of the whole picture. Such a survey is now lacking—something that is lamented not only by congressmen but also by growing numbers of scientists and science administrators who are dissatisfied with, or mystified by, the decision-making process for allocating national resources for research. Thus, an inquiry—especially one that would command congressional respect—is a welcome and overdue development on both sides of the politics-research relationship.

However, a disturbing difficulty is that the investigation ordered last week is an oddly shaped offspring of some very strange political bedfellows, and before and after it was voted, informed predictions were made that it would turn out to be a shallow, meaningless affair. Significantly, this view is shared by several members of the investigating committee.

On the other hand, the very existence of the committee is a decisive indication of congressional concern, and even if this particular investigation should fizzle, the movement for closer congressional scrutiny of research will nevertheless have been strengthened. Longstanding committees with scientific jurisdictions regard the investigation as an adverse reflection on their performance, and they can be expected to reappraise, and intensify, their own roles as legislative watchdogs over scientific matters.

The pessimistic view of the investigation's potential is realistically based on (i) the immensity of the subject, (ii) the difficulty of obtaining a competent and respected technical staff, (iii) the short time allotted for producing a report (a little over 15 months), and, most important of all, (iv) the remarkably heterogeneous cast selected for committee membership.

Federal support for research, development, and education associated with these activities is generally said to exceed $15 billion a year, although it is easy to get a good argument that a lot of the bookkeeping is nonsensical and that a great deal charged to R&D

is nothing of the sort. Whatever the sum, it is dispensed by a grand array of federal agencies—from the Department of Defense, on through the Atomic Energy Commission and the Public Health Service, down to the Tennessee Valley Authority and the Housing and Home Finance Agency. The recipients of this money are in thousands of government, quasi-public, and private research institutions, on virtually every campus in the country, and in a small but significant number of international research organizations. For a thorough investigation of the destination and effects of this multi-billion-dollar enterprise, the House set a deadline of 1 December 1964, and it entrusted the task to a group whose make-up accurately reflects the mixed parentage of the investigation.

The chairmanship went to Carl Elliott, of Jasper, Alabama, a judicious, industrious, and respected Democrat who authored the resolution calling for the investigation. A member of the upper echelons of House Democratic leadership, Elliot has served in Congress for 15 years and is considered to be the father of the National Defense Education Act. As a member of the House Rules Committee—on which he was placed by the late Speaker, Sam Rayburn, to loosen conservative control—Elliott has generally performed as an "administration man." However, relative to many of his southern colleagues, he has been a moderate on civil rights issues, and, as a result, he is reported to be in serious political trouble in his turbulent home state. With election day little more than a year away—and with all eight Alabama congressmen running on a statewide basis because of the legislature's failure to redistrict—it is likely that Elliott's thoughts and energies will be largely directed southward. Elliott is an attorney whose congressional duties have provided relatively little contact with federal agencies heavily involved in research. He unhesitatingly states, "I don't know very much about this subject. I'll have to educate myself." And he candidly adds, "If anyone has any ideas I'd like to hear them."

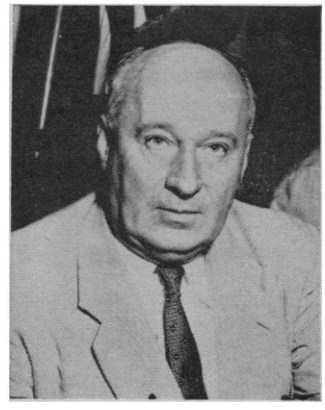
Inquiry Chairman Carl Elliott (D–Ala.)

Elliott's Democratic colleagues on the investigating committee are:

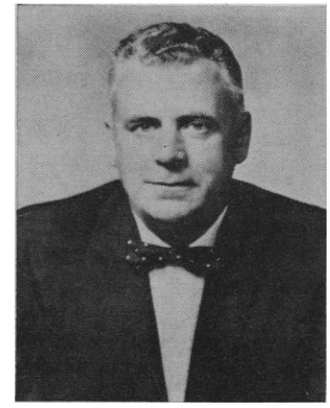
George P. Miller, of Alameda, California, chairman of the House Science and Astronautics Committee, whose jurisdiction includes NASA, the National Science Foundation, and, on paper at least, scientific activities in general. When the proposed investigation was first discussed before the Rules Committee, Miller expressed violent opposition, principally on the grounds that the inquiry would intrude upon the jurisdiction of his committee. He grudgingly reversed his stand when the proposal came to the floor, but only after the enabling resolution had been rewritten to require the investigating group to make use of information gathered by already existing committees such as his own, and to enlarge the investigating body, thus providing space for representatives of the committees that now have piecemeal jurisdiction over the major areas involved: defense, atomic energy, medical research, and education. Since the power of a congressional committee is closely related to the power of the federal agencies in its jurisdiction—there is more power feedback, for example, from NASA than there is from the U.S. Office of Education—this revision assures that no outside group will be able to tamper with the existing committee-agency relationships. Furthermore, it makes it extremely difficult to obtain information that might be used to whittle down an agency's role.

Melvin Price of East St. Louis, Illinois, who chairs two subcommittees concerned with research and development, one on the Armed Services committee, which has jurisdiction over the Defense Department, the other on the Joint Atomic Energy Committee, the House-Senate body that, in unique fashion, exercises a good deal of executive authority over the AEC. The chairman of Armed Services, Carl Vinson (D–Ga.), told the Rules Committee hearing, in clear and authoritative language, that his committee—and not any fledgling investigative committee—has jurisdiction over the Defense Department's research and development activities, which account for some 55 percent of the federal government's total R&D budget. And the senior House member on the Joint Committee, Chet Holifield (D–Calif.), told the Rules hearing that the proposed investigation was, first of all, impossible, and secondly, the proper function of standing committees. After the rewriting of the resolution to protect the

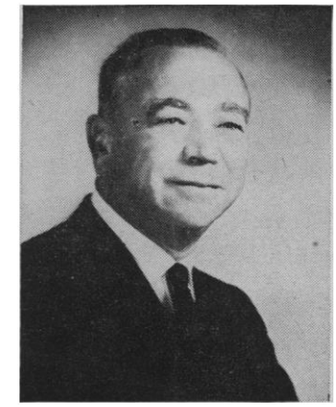
George P. Miller, (D–Calif.)



Melvin Price (D–Ill.)



John Fogarty (D–R.I.)



Philip M. Landrum (D–Ga.)

jurisdictions of those already in the field, Price—with the obvious approval of Vinson—stated that he would support the investigation but emphasized that this reversal was not to be interpreted as any slackening of Armed Service's jurisdiction. Holifield was silent.

John Fogarty, of Harmony, Rhode Island, a supporter of the resolution from the start. Fogarty, as chairman of the appropriations subcommittee which annually showers funds on the National Institutes of Health, has not disclosed his motives for backing the resolution. But a fair guess is that, as congressional guardian of medical research, he figured it would be prudent to serve on the first comprehensive investigation of government support for science. It is known that he went to House Speaker McCormack, who made the committee selections, and requested membership. Fogarty can be expected to serve as a shrewd and tenacious champion of the tradition of annually enlarging federal support for medical research.

Philip M. Landrum, of Jasper, Georgia, a five-term member of the Education and Labor Committee, a lawyer by profession, and a supporter of federal aid to education. Landrum, whose special interest is vocational education, is considered to be extremely influential in lining up southern support for school aid. His congressional career has not brought him into close contact with federal research agencies, and it appears that he shares Elliott's unfamiliarity with the subject.

Selected to serve as minority members were:

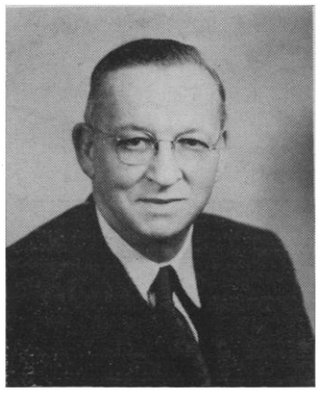
Clarence Brown, of Blanchester, Ohio, a key member of the Republican House leadership and a member of the Rules Committee. Brown, a long-standing opponent of federal expansion, emphatically endorsed an assertion that the investigation was needed because federal support for research had gotten out of hand. This charge was made before the Rules Committee by Michael J. Kirwan (D–Ohio), who appeared in behalf of chairman Clarence J. Cannon, the Missouri Democrat who presides over the House's money spout, the immensely powerful Appropriations Committee. Cannon has an avowed goal of slicing some $5.4 billion from the current budget, and since much of the budget consists of untouchable or well-entrenched items such as interest payments, veterans benefits, and national defense, the annual R&D outlay qualifies for earnest attention. Cannon's emissary drew Brown's approval when he stated, "I am asking you . . . to set up this committee and see if something cannot be accomplished to stop the likes of oceanography which was only $24 million in 1958 and the plan is to go to $350 million by 1972." To this and similar remarks by Kirwan, Brown commented, "I wish every American citizen could have heard Mr. Kirwan this morning because I think he said a lot of things that need to be said time after time, over and over again in a lot of places in this country. We are proud of you."

Brown is well established as an anti-spender, but even some of his long-standing opponents are willing to concede that he is responsive to a well-presented argument and is not given to

The following is the operative section of House Resolution 504, establishing a nine-member select committee to investigate federal support for research. The resolution passed the House 336 to 0 on 11 September. Senate action is not required.

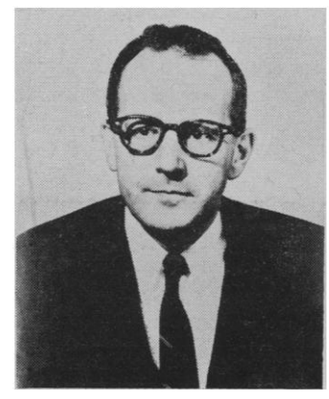
The . . . committee is directed to make a complete, full, and thorough investigation of the numerous research programs being conducted by sundry departments and agencies of the Federal Government and, without limiting the generality of the foregoing, the committee shall give special attention to the following: (1) the overall total amount of annual expenditures on research programs; (2) what departments and agencies of the Government are conducting research and at what costs; (3) the amounts being expended by the various agencies and departments in grants and contracts for research to colleges, private industry, and every form of student scholarships; (4) what facilities, if any, exist for coordinating the various and sundry research programs, including grants to colleges and universities as well as scholarship grants.

In order that this investigation of the numerous research programs may be better coordinated, without limiting the scope of the said committee's investigation, it is directed, among other investigative procedures, to make use of information currently available in the various committees of Congress which have legislative jurisdiction over Government research activities to the end that the said select committee may be able to recommend the necessary legislation to coordinate and prevent unjustifiable duplication in the numerous projects and activities of the Government relating to scientific research.



Clarence Brown (R–Ohio)

John B. Anderson (R–Ill.)



James C. Cleveland (R–N.H.)

Pat M. Martin (R–Calif.)

taking positions out of caprice. Others are less charitable and damn him as a budget-chopper with little regard for the effects of his work. An attorney, Brown is the author of the legislation that established the Hoover commissions for reorganization of the executive and legislative branches. He also served on both commissions, experience that should be extremely valuable in the coming investigation.

The remaining members of the committee are three junior, relatively unknown, Republicans, all attorneys by profession: John B. Anderson, a second-termer from Rockford, Illinois, and James C. Cleveland, of New London, New Hampshire, and Pat M. Martin, of Riverside, California, both freshmen. Martin, a member of the Public Works Committee select committee on federal research programs, is the only one of the four Republicans whose duties bring him into close contact with federally supported research.

The three junior Republicans are, of course, free to approach the inquiry in whatever manner they choose, but it is noteworthy that, in making its nominations for committee membership, the minority party provided very little counterweight for Brown. As an elder statesman of the House Republicans, he is in position to do a lot of good for his junior colleagues on the committee; and they are in position to do nothing but hope that he will regard them kindly. An elder's good will cannot bring about the millennium for a junior congressman, but it is worth a good deal on a variety of matters, ranging from choice office space to campaign assistance, from a helpful nod when a junket is sought to the success of private legislation whose success or failure means a great deal to the people back home. In brief, Brown is not the sort that a junior member would seek to cross, any more than a sane doctoral candidate would go out of his way to lock horns with the dean. And if Brown chooses to regard the investigation as a useful vehicle for reducing federal support for research, it is not likely that his junior party colleagues will go off on their own tack.

As for the five-man Democratic majority, its prospect for harmony recalls Will Rogers' comment: "I am not a member of an organized political party. I'm a Democrat."

Next week, we will examine the genesis of the investigation, the manner in which it will proceed, and what it is likely to produce.—D. S. GREENBERG

United Nations: Space Committee Sees Test Ban, U.S.-Soviet Accord As New Footing for Negotiation

United Nations, New York—One sector of the cold war—space diplomacy—last week showed some signs of defrosting. The occasion for this unfamiliar amiability was a meeting of the United Nations Committee on Peaceful Uses of Outer Space, called to approve a report to be passed on to the 18th U.N. General Assembly, which convened this week. Evidence of a thaw, however, is so far a matter of mood rather than of action.

The friendlier climate in the space committee was obviously produced by two events involving the two great space powers, the United States and the Soviet Union: (i) the nuclear test ban treaty, and (ii) a bilateral agreement on cooperation in space, which last month was elaborated in a "detailed memorandum of understanding."

During the four sessions of the committee meeting, nearly every speaker, from East, West, and the neutralist middle, suggested that the test ban treaty and the American-Soviet agreement might augur a better bargaining atmosphere in forthcoming meetings of the space panel. The test ban, as a matter of fact, has kindled a certain generalized optimism at the U.N. about prospects for the current General Assembly session.

American and British officials have made it clear that the Western powers will use the session to determine whether Soviet expressions of good will over the test ban are translatable into a willingness to seek solutions, acceptable to both sides, of outstanding international problems. The State Department's Deputy Assistant Secretary for International Organizations, Richard N. Gardner, for instance, said in a speech in Boston last week that the U.S. viewed the sessions "as a testing ground of hopes and opportunities," but like U.S. officials at the U.N., he made no predictions about the probable outcome.

In the space committee itself, a representative group comprised of the delegates of 28 nations, the test ban is so popular that the members apparently were assuming that it is equally popular in the United States Senate, and the possibility that the United States might not ratify was never raised.

The tone of the space committee meeting was struck by the opening speeches of the American and Soviet delegates, but the key in the relatively harmonious meeting seems really to have been set by an exchange of notes between the United States and the Soviet Union in advance of the meeting. And bilateral dealings between the space powers seem likely to determine the course of events in the space committee for the foreseeable future.

The space committee has two subcommittees, one dealing with scientific and technical matters, the other with legal problems. The scientific subcommittee made some modest progress last year and gained encouragement from the American-Soviet agreement on space cooperation. Meetings of the legal subcommittee, however, from the beginning served mainly to define the serious differences in this area between the United States and the Soviet Union [*Science* **140**, 621 (10 May 1963)].

Since the legal subcommittee first got down to business in November 1962, the U.S. has taken the position that the space committee should try to reach agreement on practical and pressing problems on which there is a consensus within the committee. There appears to be a consensus on such matters as rescue of astronauts and the return of space vehicles to the launching nation and liability for accidents and damage involving space vehicles.

The Soviets, for their part, have insisted that general legal principles be developed before practical problems are taken up. The Soviet position in the legal subcommittee, in the view of American observers, has amounted to a bulky package deal. The Soviets declined to work on rescue and liability agreements until substantial progress was made on general principles. No work on establishing general principles could go forward until the form of the agreement was decided, and the Russians were apparently insisting that the form should be a treaty rather than a General Assembly resolution. No agreement was possible, the Russians further specified, except on certain terms which the Russians indicated were not negotiable. These terms included prohibitions against reconnaissance satellites, and against war propaganda in space.

The implications for arms control and disarmament in these conditions were obvious, and the prohibition against reconnaissance satellites appeared to be aimed directly at the United States, which has made no secret of its view that the development of a reconnaissance satellite system in space is a necessity for an "open" country like the United States on uneasy terms with a "closed" one like the Soviet Union.

As of last spring the possibilities of