

science to the development of the artificial kidney. "To be sure, the artificial kidney is a cumbersome and awkward thing; yet artificial kidneys do work. We have passed the feasibility stage, and what seems to be indicated is massive development . . . to reduce the technique to widespread practice." Other examples, Weinberg continued, would be further development of medical scintillometry, automation of clinical chemistry, and development of the zonal centrifuge and the 1-angstrom electron microscope.

Characterizing these problems as Prospects for Big Biology, Weinberg argued that the national laboratories, such as those operated by the AEC,

were ideal institutions for undertaking huge, costly programs that require multidisciplinary coordination, a view that was in many respects seconded by Harvey Brooks, dean of the school of engineering and applied physics at Harvard. "The range of technological capabilities represented by these laboratories," Brooks said, "is extraordinary, but after a few years, the magnificent machinery tends to get devoted to less and less significant problems and it is extremely difficult to redefine their missions in response to the changing goals of federal science. . . . We do not treat our federal laboratories as a common national resource to be used flexibly for many of the purposes of govern-

ment. Rather we tend to regard each laboratory as the inviolate preserve of the agency to which it belongs. . . . I feel it is time we learned how to use these institutions more flexibly for national purposes with less worry about roles and missions."

I would like to stress that, in the limited space and time available for describing and quoting from the papers at the conference, it is not possible to do justice to their quality and scope. Fortunately, the proceedings are to be published by McGraw-Hill early next year. They are highly recommended reading for anyone interested in the problems of science and public policy.

—D. S. GREENBERG

LBJ's "Great Congress": Rubber Stamp or Creativity?

The second session of the productive 89th Congress could be called "the Vietnam Congress," even though the legislators did not often deal directly with Vietnam. Congressmen were puzzled about how the war would influence their chances for reelection. Not only did they worry about the conflict's effect on their constituents but they also reflected the worry of their home districts about the rising inflation created by American expenditures on the war. In their legislative battles, many congressmen, especially liberals, resented the priority which the President had given Vietnam in his budget. For them, domestic programs had equal or higher priority. They indicated their own priorities by appropriating more than the President had requested in several areas, including education.

Some view the 89th Congress as a rubber stamp for President Johnson. This image is encouraged by the Republican minority and was even fostered by the White House when it recently announced that the Congress had batted ".905" in passing the President's program. Actually, the Congress demonstrated a good deal of independence, even as it enacted many of the President's requests.

Although Congress would certainly not have passed as much liberal legisla-

tion as it did if the President had not provided the necessary backing and initiative, the voting record of the Democratic majority showed a genuine concurrence with the Great Society's programs, rather than an acquiescent response to White House arm-twisting.

In terms of obtaining passage of his program, the President could be faulted for not twisting enough arms rather than for twisting too many. During the past year the President has used his considerable powers of persuasion much less than he did in his early months in office. He has seemed to have a single-minded preoccupation with waging the Vietnam war, and he often appears to be only going through the motions of supporting his domestic legislation. For instance, when Senator Robert F. Kennedy fought to protect funds for the President's foreign aid program and for the war on poverty, it was obvious that Kennedy and other liberals were more interested in the President's program than he was himself.

Had the President been willing to give more of his White House massage treatments to recalcitrant congressmen, he might have avoided some of the defeats which marred his record in the second session. He suffered a major loss when Republican Senate leader Everett Dirksen (Ill.) was able to kill

the President's 1966 civil rights bill. This session, Johnson again failed in his commitment to labor leaders to repeal section 14 (b) of the Taft-Hartley law, which permits state laws prohibiting the union shop. He also was unsuccessful in his efforts to persuade Congress to give "home rule" to the still unrepresented citizens of the District of Columbia. Other major Presidential programs were weakened by Congress or suffered a reduction in appropriations.

But while Congress did not pass all the President's proposals intact, it enacted enough liberal legislation to qualify it as one of the most notable congresses of American history. A few leading Washington political analysts, such as the *New York Times's* James Reston and the *Christian Science Monitor's* Richard L. Strout, suggested Barry Goldwater as the second member of the dynamic duo responsible for the great liberal victories of the last 2 years. Reston called the 89th "the Goldwater Congress" and said that Johnson and Goldwater are "insupportable, even insufferable," when apart but that, together, they are "invincible." Reston justified this whimsy by arguing that the Democrats would never have picked up the 38 new House seats in the 1964 election which insured these liberal legislative triumphs if the Goldwater candidacy had not dragged so many Republican congressional candidates to defeat. Outnumbering the Republicans 2 to 1 in both the House and the Senate in the 89th Congress, the Democratic liberals were finally numerous enough to throw off the incubus of the Southern Democrats who had

joined Republicans to thwart the liberal legislation.

The first session of the 89th had several notable achievements: the most important voting rights bill ever passed, the elementary-secondary education act, medical care for the aged, and repeal of the national-origins quotas for immigration. In 1965 and 1966 Congress appropriated more money for health and education than it had in each area during all previous congresses.

Perhaps the major innovation requested by President Johnson and passed by Congress this session was the "demonstration cities" bill to provide funds for a concentrated attack on urban decay in more than 60 American cities. The \$900-million, 3-year program passed by Congress was less venturesome than the \$2.3-billion, 6-year program requested by the President, but initial approval of the measure is likely to lead to further action in the future. The Administration also obtained about half of the \$65 million it had requested for rent supplements for poor families, and succeeded in persuading Congress to raise the minimum wage for an increased number of workers from the current \$1.25 an hour to \$1.60 in 1968.

Department of Transportation

One of the main areas in which the second session of the 89th made a mark was transportation. During the first session the 89th had created the 11th Cabinet Department—Housing and Urban Development—and during this session it responded to Presidential request by creating the 12th—the Department of Transportation. The new department will draw together various federal agencies charged with transportation policy and safety. Contrary to Presidential request, Congress left the Maritime Administration under the auspices of the Department of Commerce. The congressional commitment to aid the development of urban mass transit systems was extended through 1969.

Auto Safety

An important demonstration of congressional concern for better transportation was the passage of bills for the improvement of safety features on American automobiles and for state highway safety programs. Pressure, especially from the automobile industry, had previously made the federal government reluctant to impose national safety standards. Under the terms of

The Gift of Prophecy

"We look forward to the Congress being able to get out of here early next year. I would say certainly far ahead of the fiscal year in June."—PRESIDENT JOHNSON, autumn 1965

"Mr. President, that long awaited moment has arrived. . . . I move that the Senate adjourn sine die."
—SENATE MAJORITY LEADER MIKE MANSFIELD, 22 October 1966

the bill, safety requirements will be established to go into effect for all 1968-model automobiles. The auto safety bill shows how Congress can push the Administration to action, rather than respond to executive request—the more usual procedure. The abilities of Senator Abraham Ribicoff (D-Conn.) and author Ralph Nader, as well as the ineptitude of General Motors, were largely responsible for the Administration's eventual commitment to auto safety legislation.

Birth Control

The second session of the 89th produced other congressional "firsts." The 89th was the first Congress to hold hearings on birth control, and it approved foreign use of U.S. funds for birth control programs.

Congress passed legislation, the "dognapping bill" (*Science*, 19 August), to prevent the theft of pets for research facilities and to establish humane standards for the care of animals used by such facilities. The bill did not include restrictions governing periods when researchers are experimenting upon the animals.

Although the Congress cut appropriations below the Administration's requests for a number of scientifically oriented agencies during this session, cuts were not universal. For some agencies, the Congress exceeded administration requests. Whether these increases will benefit the agencies involved remains in doubt. In September, President Johnson warned that he would not spend the money which the Congress had appropriated in excess of his budgetary requests.

A summary of part of the congressional action during this session follows:

Conservation and parks. Congress created a national park—Guadalupe Mountains in southwestern Texas, the

second new national park in the last 10 years—and approved four recreation areas—the long-disputed Indiana Dunes National Lakeshore on southern Lake Michigan; Pictured Rocks National Lakeshore, in Michigan, on Lake Superior; Bighorn Canyon National Recreation Area, in Montana and Wyoming; and Cape Lookout National Seashore, in North Carolina. It also increased the funds available to buy land at the already established Point Reyes National Seashore, north of San Francisco.

Wild Rivers

Despite Senate passage of the "wild rivers" bill early this session, Representative Wayne N. Aspinall (D-Colo.), chairman of the House Interior Committee, declined to take any action on the measure. The system covers several rivers, including Idaho's Salmon and Clearwater, Oregon's Rogue, the Rio Grande in New Mexico, and West Virginia's Cacapon. The House also took no action on a Senate-passed bill to create a National Water Commission to study water resource problems.

Congress did not move on the President's request to establish a nationwide system of trails, or on his proposal for a Redwood National Park in northern California (*Science*, 30 September). Proposals to create Great Basin National Park in Nevada and Utah, Oregon Dunes National Seashore, Sleeping Bear Dunes National Lakeshore in Michigan, and a Flaming Gorge National Recreation Area in Utah and Wyoming still remain on the congressional agenda.

Congress expanded the Clean Air Act of 1963 and took even more significant steps to combat water pollution. The Clean Waters Restoration Act of 1966 goes beyond the Administration's request, providing money for the building of community sewage treatment plants and for research on industrial pollution. The bill authorizes almost \$4 billion over the next 5 years for cleaning the nation's waterways.

Health. Congress appropriated \$1.41 billion for the National Institutes of Health, \$109 million more than the amount requested by the Administration. Congress added \$35 million for health research facilities and additional funds for the artificial heart program. Both the Senate and House appropriations committees criticized the Administration for requesting inadequate sums in many areas of biomedical research (*Science*, 28 October). Congress ap-

appropriated \$1.177 billion for the Public Health Service, exclusive of NIH, \$10 million more than the Administration requested. The appropriations for both PHS and NIH have continued to increase in recent years.

In addition, Congress passed legislation to finance improved training of personnel in the health-related professions, but did not act on an administration bill providing a 10-year program to modernize public hospitals and other health facilities. Congress passed the Narcotic Addict Rehabilitation Act, which provides for voluntary commitment of addicts for treatment, in place of prison terms.

Education. In fulfilling its role as "the education Congress," the second session of the 89th appropriated \$3.902 billion for Office of Education activities, \$560 million more than last year's appropriation and \$389 million more than the Administration had asked. Major additions to the President's requests came in the areas of NDEA funds and payments to school districts, where the President had tried to cut back sharply on the appropriation figures for fiscal 1966. Congress appropriated \$414 million for higher education activities, \$30 million less than the administration request, but appropriated the full \$723 million for construction of higher education facilities and the full \$1.342 billion which the President had asked for elementary and secondary education. Congress extended the Higher Education Facilities Act for 3 years and the Developing Institutions program for 2 years, and it restored an allowance of approximately \$12 million for land grant colleges, which the President had urged be deleted this year.

New "GI Bill"

Typical of congressional generosity was the passage of a "Cold War GI Bill" providing for educational assistance and loans to all veterans who have served in the armed forces for 180 days since 31 January 1965. The program, it was estimated, would cost \$358 million in its first year, an increase of about \$200 million over a more restricted administration proposal. Almost 250,000 veterans are attending colleges this autumn with the aid of the new GI bill.

One of the most promising education programs, the Teacher Corps, was treated less kindly on Capitol Hill. Congress granted only \$7.5 million of a

\$31.4-million administration request for the program, which is designed to improve the quality of public school teachers in poverty-stricken areas.

Congress passed, but did not fund, an International Education Act, and extended the Library Service and Construction Act for the next 4 years, under a \$700-million authorization.

NASA. The funds appropriated for the space agency continued a gradual decline. Congress appropriated \$4.968 billion to the space agency, \$44 million less than the Administration requested, \$207 million less than the figure for fiscal 1966, and \$282 million less than that for fiscal 1965.

AEC. Funds for the Atomic Energy Commission showed a similar decline. The \$2.2-billion appropriation was \$64 million less than the administration request, \$167 million less than the figure for fiscal 1966, and \$426 million less than that for fiscal 1965. The AEC budget cuts are largely due to a decrease in the production of nuclear weapons.

Included in the AEC total for this year is \$15 million for a nuclear power and desalinization plant in southern California. However, the Congress failed to approve an appropriation for the Interior Department's share in building the plant.

NSF. The National Science Foundation has yet to break the \$500-million appropriation mark, and it failed again this year, as Congress appropriated approximately \$480 million, \$45 million less than the administration request and about the same amount NSF received last year. Congress refused to approve funds for Project Mohole (*Science*, 26 August).

During this session, Congress has displayed initiative in acting to improve the status of oceanography and marine studies. Under the National Sea Grant College and Program Act of 1966, NSF is authorized to distribute grants to institutions of higher education for the purpose of developing marine resources (*Science*, 3 June).

OST. The Office of Science and Technology, the group charged with coordinating U.S. science policy, received an appropriation of \$1.2 million, \$160,000 less than the administration request but \$130,000 more than the figure for fiscal 1966 and \$224,000 more than that for 1965.

Defense research. The Department of Defense receives a lion's share of the money which the federal govern-

ment spends for research. This year the Congress appropriated \$6.984 billion for the research, development, test, and evaluation title of the DOD appropriation, \$79 million more than the President's request. This appropriation continued the steady increase in the funds allotted to military research.

FDA. The Food and Drug Administration received an appropriation of \$63 million, \$5 million less than the administration request but \$4 million more than last year's appropriation.

In view of comparative legislative flurry which has characterized Capitol Hill in the past 2 years, it would seem that Congress could adjourn after a relatively few months next year. But such a calculation does not take into account how much congressmen like to stay in Washington and how much they like to fill the chambers of Congress with their oratory.

Senator Dirksen may be a little bit more verbose than some of his colleagues, but he really is not terribly atypical in his love of the spoken word. Although hospitalized on the last day of the session, he sent a message to his fellow Senators. A small part of Dirksen's message is reproduced here to indicate the terse character of congressional prose:

In the language of General MacArthur, I shall, God willing, return to these haunts minus crutches and a wheelchair and I trust untroubled in body and unvexed in mind or spirit ready to forge the anchors and spin the gossamers which mark the day-by-day work of this durable and imperishable legislative body—the very core of our Government—free and untrammelled, constant and responsive, combative and yet with rare restraint, cooperative and yet independent, and devoted to the preservation and freedom of this land where hope springs eternal and opportunity never ends.

God and the electorate willing, Senator Dirksen and the rest of the Congress will be back next year in Washington—the city where hope of national notice springs eternal among congressmen and where the opportunity for political oratory never ends.

During the past session, members of Congress filled 33,000 crammed pages of the *Congressional Record*, plus numerous books of committee hearings, with their thoughts on the nation's problems. With any luck at all, Washington observers will be deluged with the same flood of statements next year in the first session of the 90th Congress.

—BRYCE NELSON