with the results of the current session, it is going to have a great deal left to push for next year. This, in turn, puts special significance on the outcome of the fall elections. Unless the Administration can at least hold on to its present majorities in Congress, the prospects for the coming session are most dim, since in general they will involve the proposals that could not be pushed through during the 2-year term of the Congress elected with Kennedy in 1960. For the Republicans the election is at least as important: the Gallup poll still shows nearly 60 percent of the country favoring a Democratic Congress, and if this holds true in November, it will be the first time since 1934 that the Administration party has gained seats in an off-year election. The Republicans, quite aside from a distaste for what Kennedy might want to do if he increased his now very tenuous control of Congress, will not have much to look forward to in 1964 if they cannot even hold their own in an off-year election.

The shape of the fall campaign has already become quite clear. Kennedy set the tone of the Democratic campaign with a series of speeches in New York last weekend in which he repeatedly portrayed himself and his party as the heirs to Franklin D. Roosevelt, eager to get on with the "unfinished business of this generation," in danger of being tied up by a Congress dominated by "people who think everything was done 25 years ago." Along with this came a great deal of stress on the Democrats as the "party of the people" and, implicitly, on himself as the beleagured champion of the common man: "I refuse to see us live on the accomplishments of another generation. I refuse to see this country and all of us shrink from these struggles which are our responsibility in our time. . . . Harry Truman said that 14 million Americans had enough resources so that they could hire people in Washington to protect their interests, and the rest of them depend on the President of the United States and others."

The Republican answer to this approach will be formally unveiled in a few more weeks, when the much-heralded statement of Republican principles will finally be completed. But the essential points are easily predictable: an attack on the Kennedy budget, which is now certain to produce a deficit in the coming year; a blast at the Billie Sol Estes case as an example of corruption in government, tied to an argument for Republican control of at least one house of Congress so that the Democrats will not control all the committees that are empowered to investigate such affairs; but above all an attack on the Kennedy policies as a grab for power that needs to be restrained by an independent-minded Congress.

The difficulty with this approach is that the Estes case, by itself, is not likely to be enough to make corruption in government a major issue, while the attacks on deficit spending and centralized power have been standard Republican fare, used in every election in the past three decades without notable success. They may represent good and valid arguments for voting Republican, but the record shows that they are not enough to provide a major victory. What the Republicans could use is a positive program to answer the Democratic charge that they are just against things. In a presidential year, the party nominee is in a position to offer such a program, but in an off year no one can speak for the party, and the individual leaders are too far apart to offer a coherent picture of what the party is for. This is what makes it easy to predict that the Republican statement of principles will be brisk in announcing what the party is against but vague in announcing what the party is for.

The Republicans' problems, combined with the confidence the country apparently has in the President has led to a general assumption that the normal goal of the opposition party in an off-year election, that of picking up enough seats to take control of at least one House of Congress, is a wholly unrealistic goal this year.

The interesting thing is that despite this favorable outlook for the Democrats, buttressed by Gallup polls showing a strong preference in the country for a Democratic Congress, the President obviously plans to play an unusually vigorous role in the congressional elections. In the past, there has always been a good deal of speculation, beginning about this time of year, about how much the President will involve himself in the elections. There is no such speculation this year, for the President has already made it clear that he plans to play the central role. He apparently intends to attempt to turn the congressional elections into a vote of confidence on his conduct of the Presidency.

In a way this is risky, for in recent decades the majority party has always, except in 1934, lost at least a few seats. By involving his personal prestige, a normal result might appear to be a personal defeat for the President. But although there will be a great deal of hokum on both sides during the campaign, the President gives every indication of being serious in seeing himself as the heir to FDR. He is apparently willing to fight hard to win the kind of Congress that will go along with him in making the New Frontier as revolutionary a period in American politics as the New Deal.

—HOWARD MARGOLIS

White House, Congress Seek Means To Guide Governmental Relations with Science and Technology

The federal government's deep and growing involvement with science and technology has spurred the legislative and executive branches to provide themselves with better means for making judgments affecting these fields.

The efforts toward this goal are going on simultaneously, but they are neither coordinated nor, in any important way, an expression of rivalry; rather, they are attempts at two different points in government to achieve some control, or at least some influence, over the enormous role played by science and technology in American life.

The problems that beset the executive and legislative efforts are very different, but the motivation is the same. In the 1930's, the federal government spent about $100 million annually on research and development. This year it is spending over $10 billion; next year the sum will exceed $12 billion. Federal money now supports about two-thirds of all research and development work in this country. There has been nothing resembling a master plan to guide this growth, nor has any responsible observer suggested that one is desirable or possible. The growth, of necessity, has been piecemeal, usually in response to specific problems, such as military needs, which take up more than half of federal research and development expenditures. In many instances, political pressure, based on regional interests, has been a factor behind research and development expenditures, such as those in behalf of coal or fisheries. But rarely, regardless of the reason for a particular undertaking, has any serious

consideration been given to its implications for the nation's overall resources and needs; nor has Congress or the public fully digested the idea that the feats of science and engineering are intimately related to the nation's educational system.

The consequences of this fragmentary approach are now seen throughout what might be called the nation's scientific-engineering-industrial and academic complex.

NASA Manpower Problems

They become visible on a grand scale when the National Aeronautics and Space Administration is forced to raid other government agencies, industry, and universities to fill its ranks for the $20 billion manned lunar program; or, on a small scale, when federal agencies vigorously compete to provide fellowships for graduate science students, while even highly talented undergraduates find slim pickings in federal assistance.

From the fragmentary approach to government and science there also come a number of anomalies, such as the Department of Agriculture's effort to discourage farm output while it spends about $160 million a year on research largely devoted to increasing output. In transportation the research funds for safety in air travel far exceed the funds for safety in highway travel. Last year, 275 persons died in crashes of scheduled U.S. airlines; nearly 40,000 were killed in highway accidents. Concern over these and similar examples is not based on doubts of the worthiness of any particular project but rather on the gaps and imbalances that result from widely dispersed responsibility for federal support for science and technology.

For the executive branch, the problem of exercising beneficial control over the nation's science establishment is largely limited by the realization that science, after all, is not a very manageable enterprise. While a proper vantage point can help cut down duplication in research and development and can help direct resources to neglected areas, the White House sees nothing but travail in recommendations that government should try to run science through one big agency, in the same fashion that it tries to run agriculture. The cautious approach to the problem of better control without harmful interference is reflected in plans for an Office of Science and Technology to advise the White House on science, just as the Council of Economic Advisers provides advice on economics; but just as the Council has no operational power in fiscal or monetary affairs, the new Office of Science and Technology will not be running laboratories or contracting for research and development programs. Its function will be to carry on a continuing review of federal activities related to science, very much along the lines now followed by the presidential special assistant for science and technology and his staff. These people will, in fact, become the personnel of the office, but their standing will have a firmer institutional basis, and, of great significance, the director, who will also continue as the special assistant, will be available for congressional appearances. He will no doubt come to be as much the main spokesman for American science as any one man can be. (The reorganization plan establishing the Office was endorsed by the House last week and faces no opposition in the Senate; the reorganization automatically takes effect at the end of this month, unless either house of Congress votes disapproval.)

Congressional Rule

Congressional efforts to exert an influence on science and government are faced by infinitely more complex problems than those facing the executive branch. This may inspire indifference or even pleasure among those who look askance at recent congressional performances, but Congress, for better or worse, is the executive's constitutional partner in virtually all government undertakings; its power of initiative has been seriously eroded by the complexities of government and the need for the sort of focal point of power that only the executive can provide, but its powers of obstruction are nevertheless enormous, as it vividly demonstrates with considerable frequency. In short, its relationship to the grand issue of the federal government and science is of enormous importance.

Until a few years ago, this relationship was carried on all over the congressional map. Almost every committee had jurisdiction over scientific matters of one sort or another. In the Senate, this situation still prevails, but in the House, steps were taken in 1959, with the formation of the Science and Astronautics Committee, to provide a channel to concentrate legislative review of scientific matters. The vast scope of the subject itself made the odds unfavorable for the committee to achieve the influence or prestige of, for example, the Joint Committee on Atomic Energy or the Senate Foreign Relations Committee. But, in addition, the Science and Astronautics Committee was from the outset afflicted by other handicaps, not the least of which was its late chairman, Overton Brooks, of Louisiana. Brooks, who presided over the committee from its inception until his death last September, has been described by an acquaintance as "an 18th century bayou politician trying to deal with 20th century science."

Brooks had a number of peculiarities, some of them simply amusing, but others that were harmful to the committee's development. In the short biographical sketch which each Congressman provides for the Congressional Directory, Brooks recorded that he completed "the 4-year high school course in 3½ years," and also that he "lacks one hour credit for the master's degree." On a serious level, Brooks did not believe in the subcommittee system and undertook by himself to preside over the committee's excursions into a variety of subjects, ranging from space exploration to oceanic research. In his early 60's during his reign as chairman, without any grounding in the subjects he chose to bring before the committee, and determined not to enlist the support of his committee colleagues, he inevitably failed to achieve a commanding legislative role. Where publicity was to be reaped from the committee's activities, Brooks made certain that he reaped it for himself. The result was that with Brooks cornering the possibilities for a creditable legislative job and publicity, the other members had little zest for their committee assignment. Secure in his position because of the seniority system, Brooks ran the committee as he chose, and there was nothing that anyone could do about it. The committee was generally regarded to be a dud.

Committee Revitalization

Since Brooks' death, however, the committee has undergone a rapid revitalization that has given it a good start toward providing the legislative branch with a partial counterpart to the executive's science advisory setup. The transformation is the work of the new chairman, George P. Miller, a 71-year-old California Democrat who has served in Congress since 1945 without receiv-

ing any broad public notice. Miller is one of those House figures who satisfies his constituents—he wins regularly by overwhelming majorities—holds the respect of his congressional colleagues, but goes virtually unnoticed outside of Washington and his home district. The chairmanship is obviously the crowning event of his political career, and he is shrewdly and diligently exercising his authority to make the committee a useful force, not only in the House but in all governmental relations with science and its applications.

Miller's effort in the House is bounded by problems and circumstances far different from those that face Kennedy's effort to give the executive branch a more potent science advisory setup. Miller himself is no powerhouse of executive energy, nor does the organization of the House afford him the maneuvering room that the entire executive domain provides for Kennedy. The legislative area assigned to the committee when it was established runs from the National Aeronautics and Space Administration to "across-the-board jurisdiction over basic scientific research and science scholarships" and on to "legislation affecting scientific agencies," including the National Bureau of Standards and the National Science Foundation. This would seem to be a mandate that could justify the committee's involvement with virtually any aspect of science and government. It has turned out in practice, however, that the committee holds clear authority over only NASA, the NBS, and the NSF, and its principal work so far has been with NASA affairs. Its broad authority beyond these agencies becomes meaningless because other committees jealously hold specific jurisdiction and have no desire to render themselves less important or powerful by giving up authority to the fledgling Science and Astronautics Committee. Representative John E. Fogarty's appropriations subcommittee is the legislative power in medical research; the Agriculture Committee holds agricultural research within its domain; the Interior Committee has jurisdiction over research on saline water conversion; the Defense Department's $6.3-billion research and development budget is lumped with the whole defense budget and comes under the authority of the Armed Services Committee and defense appropriations subcommittee, neither of which gives it very much scrutiny.

Miller's desire to expand the role of his committee is also afflicted by staff problems. Kennedy can command the efforts of Jerome Wiesner as his chief scientific aide, but science administrators of that rank are not clamoring for opportunities to staff committees of the House. Salary is something of a limitation—the top staff pay is $17,649, but perhaps even more important is the feeling that the opportunities to exert influence are pretty well limited by the complexities of the legislative process.

Consultants Panel

Miller has been unable to escape these difficulties, but to some extent he has reduced their importance. Under his predecessor, the committee enlisted a distinguished panel of consultants in science, engineering, and education, but Brooks and the panel never developed a productive relationship. Miller has come to lean heavily on the panel, and a number of its members have commented that Miller has succeeded in opening a broad and easy-flowing line of communication between the scientific community and the House. This relationship's most notable achievement to date is the elimination of military security from the geodetic satellite project. The Defense Department, which has jurisdiction over the project, sought to justify secrecy on the grounds that the satellite would provide precise earth measurements that would be useful for missile aiming. Those who discounted this fear found no useful forum available to them until Miller's committee met last March with its panel and heard Fred L. Whipple, director of the Smithsonian Astrophysical Observatory, plead for declassification of the project. Whipple was joined by James A. Van Allen and George B. Kistiakowsky. The steps that followed their testimony go off in a number of directions, but assistance was soon forthcoming from the President's science adviser and a number of other administration officials. It is generally felt, however, that Miller and his committee forced the issue to a decision.

Under Miller's chairmanship, the subcommittees—manned space flight, space science, applications and tracking and data facilities, and advanced research—have been turned into thriving operations. The bulk of the work so far this session has been on the NASA authorization act, which has afforded the members an opportunity to become lay experts on space. This is a subject that is considerably more interesting than, say, tax reform (some committee members are close to being regular commuters to Cape Canaveral and other space facilities, where they receive VIP treatment, and absorb, for home consumption, some of the reflected glory of the space program).

Miller, unlike Brooks, has no aversion to keeping his committeemen happy through a combination of interesting work and opportunities for publicity. One indication of his success is an increase in angling for committee membership.

The expansion of the committee's scope and influence is another matter. The jurisdictional problems that it faces are formidable, but, in addition, it is hampered by the fact that initiative and superior powers for compiling and assessing information lie with the executive. The committee this year scrutinized the NASA authorization with remarkable industriousness, but when the bill emerged the committee had in effect merely ratified the Administration's proposals. It cut $116 million from a request totaling $3.79 billion; this is a modest cut as these things go, but more significantly, it applied only to long-range intentions and will have virtually no effect on the program that NASA has laid out for itself in the coming fiscal year. In most instances where it deleted funds, it courteously told the Space Administration that if it turns out that the money is actually needed for fiscal 1963, "NASA should bring this to the committee's immediate attention."

Miller does not underestimate the problems that lie in the way of his desire to make the committee the legislative focal point for relations between science and government. He believes that the committee's influence can be expanded, though no more than a few steps at a time, if it displays an expertise unattainable elsewhere in Congress. Since the Senate has no equivalent of his committee, he feels that the House, in its own interest, will want to stake out the area and establish itself in a dominant position.

These are optimistic views that do not mesh with the realities that bear on the committee's future. While the executive branch is speedily revising the forms for handling science and technology, the congressional effort is aimed in the right direction, but it is very much a one-man operation that is poking along a difficult path.

—D. S. GREENBERG