1912–50 (bauxite exploration and other problems); Panama Canal Commission, 1916 (earth slides); Colorado River Board, 1928 (Boulder dam); U.S. Army Corps of Engineers, 1932–37 (Garrison dam; Fort Peck dam; some 35 other dam sites); and Reynolds Metals Company, 1941–60 (bauxite and fluorspar exploration).

Whether as teacher, consultant, or administrator, Mead was quick to see how new principles, methods, techniques, and instruments could be applied to geological problems. When no device or instrument existed for some desired use, he frequently designed and made one. These inventions were quickly taken up and applied by others. His students will recall his novel method for making isometric block diagrams; his framed screen to illustrate the deformation of a circle; his clasp of thin flexible plates, unsupported at the two ends, to illustrate the ellipsoid of strain; his ingenious nomograph for graphically reducing great masses of physical measurements to simple cubic-feet-per-ton estimates of ore; his original three-dimensional model developed for his senior thesis to relate chemical data so as to establish the limits within which shale-sandstone-limestone ratios must fall; the circular slide rule he developed to accelerate the conversion of chemical data to mineral compositions; the numerous multicolored and multilayered sand and plaster of Paris models for illustrating folding and faulting; and last but certainly not least, the intriguing rubber bags, half-filled with sand, with which he successively demonstrated how the principle of dilatancy could be applied to the deformation of granular and solid materials (geology), the production of a soft molding device to help the prosthetics doctor, and the production of a soft but firm pillow for the radiotherapist. Regardless of the field of human problems or human endeavor into which his restless and inquiring mind wandered, he always found much of interest to challenge him. In his last years, with eyes dimmed after surgery, he still found the motivation and summoned the skill to design and make several ingenious devices for one of his sons to use in research on the physiology of respiration in Harvard's School of Public Health.

He was a member of the National Academy of Sciences, American Academy of Arts and Sciences, Geological Society of America (vice president in 1938), Society of Economic Geologists (president in 1942), American Institute of Mining and Metallurgical Engineers, and American Society of Civil Engineers. He is now remembered best by those he taught, but in the years to come it will be his original contributions in quantitative and experimental geology that will continue to be remembered and to have their influence on the science he served so well.

ROBERT R. SHROCK
Department of Geology and Geophysics, Massachusetts Institute of Technology, Cambridge

Science in the News

Political Scientists and the Working Politician: Notes on the Campaign and the Take-Over

The Brookings Institution, a public affairs research institute, is working with representatives of the two presidential candidates on the problems surrounding the transfer of power to the new administration that will take office on 20 January. The project has a small staff of political scientists who are serving more or less as a secretariat for the project. Using past studies, conferences with men experienced at the top levels of government, particularly those familiar with the experience of the Truman-to-Eisenhower transition, and contacts with members of the present White House staff, the Brookings group is preparing a series of memoranda to be privately circulated among the staffs of the candidates.

It is too early to gauge the importance or the usefulness of the project, which will depend on how much influence the memoranda have on the thinking of the winning candidate. The project is indicative, in any case, of the growing interest of the politicians in the work of the academic political scientists. As government and the problems it must deal with have grown more complex, the mechanisms for making decisions have become more involved, and seeing that the decisions are carried out has become more and more difficult. The political scientist finds the politician interested in what can be learned from studies of past experience and analyses of what has worked well and what has led to trouble.

The transition period begins the day after the election and continues through the first months of the new administration. Neither candidate, of course, has dealt with any such problem before. Nixon has the advantage that he watched the Eisenhower take-over in 1952 from the inside and has close relations with a number of key Eisenhower appointees whom he would be glad to carry over into his own administration. Depending on how sharp a break he is anxious to make with the Eisenhower policies, it might be possible for him to move cautiously during the take-over.

Kennedy has no such choice. He is wholly committed to a sharp break with the Eisenhower policies, and it is necessary for him to move quickly to assert control of the bureaucracy. He must be ready to begin presenting specific proposals to Congress and the public immediately after his inauguration. When he made a speech a month ago talking of all the things he would do in the first 90 days if he is elected it sounded a little grandiose. But that was only a measure of the task he faces if he is elected, for everyone agrees that he will seriously, perhaps irretrievably, weaken his chances for making the major break with the Eisenhower policies he has in mind unless he succeeds in seizing the initiative and beginning to move very quickly immediately after his inauguration.

The role of the political scientist in this is to gather and analyze the experience of the past in the hope that it will offer the new President and his staff some useful insight about what

must be done to achieve effective control and to seize and maintain the initiative in putting a program across. A particularly successful example is Richard Neustadt's book, *Presidential Power*. It has attracted a great deal of attention in Washington and will almost certainly be read by and have some influence on the next President. For although the powers of the President are enormous compared with those of anyone else in the country, the powers are considerably less than enormous compared with the responsibilities the President must bear. Neustadt is concerned with what the President, one individual, can do to assert his influence on the government, the nation, and the world. And although both candidates are undoubtedly quite aware of the problem, neither has had the time, as the professional scholar does, to devote a major part of his working hours for several years to studying and thinking about the situation.

Brookings Study

The Brookings study is concerned only with the transfer of power. A particularly obvious problem relates to the budget. The Eisenhower budget that will be presented to Congress early in January will take no account of the new or expanded programs that both candidates have been talking about. It is being prepared under directives to keep spending down to the level of the current year, although Nixon estimates that his program would cost nearly $5 billion more than this year's, and Kennedy's program would run to considerably more than Nixon's. Either man must be prepared to offer a substantially revised budget very soon after inauguration day, which means that the man who wins must start working on a revised budget soon after election day. (Normally work on the budget begins a year before it is presented.) He must be prepared to appoint men to begin sitting in as "observers" in the key agencies and the Budget Bureau so that the new administration will be able to move quickly on 20 January, when it officially comes into power.

The Brookings memoranda will try to point up the key positions into which the President-elect should get a representative soon after the election. They will try to suggest the sort of relations that will exist between the incoming and outgoing administrations and to suggest approaches that might make the transition as painless as possible. They will outline some of the responsibilities that the new man must start to share immediately after election day; even without an international crisis between election day and inauguration, a good many decisions will have to be made by Eisenhower that will have repercussions beyond 20 January.

How much can the President-elect be expected to share in those decisions? How much influence, if any, can he try to exert on them? How much, if at all, can the new President's "observers" try to assert control over the agencies they are observing. The Brookings study, by drawing parallels with the experience of the Eisenhower take-over in 1952 will try not to provide answers but to provide background to help give the President-elect a firmer basis for making decisions on how to handle such problems. The usefulness of the Brookings work will depend on how much insight into the problems it can provide beyond what the candidate already knows from his own reading and from talking with people who went through the Eisenhower take-over.

Campaign Advice

Before the President-elect can start thinking about the take-over, he must become President-elect, and neither Kennedy nor Nixon has had much time in recent months to think about much other than the campaign. Here too the working politician is interested in what he can learn from the political scientists. He is particularly interested in what the scholars have learned about why people vote the way they do. He is also interested in what the offspring of the university scholar, the commercial poll-taker, can tell him about what is likely to win votes in this particular election. Staff members of both camps seem quite familiar with *The American Voter*, an elaborate study based on extended interviews published by the University of Michigan Survey Research Center. To the extent that it has had any substantial influence it would probably tend to lower the tone of the campaign, for the picture of the typical voter it presents is considerably less than the model of an enlightened citizen.

There has been pressure in Kennedy's camp, for example, based partly on studies such as the Michigan analysis, that the candidate ought to take up Harry Truman's cry and present himself as the spokesman for the little people and the opponent of the vested interests. The argument is that it is the bread and butter issues that the masses of the voters are really interested in, but Kennedy has stuck pretty much to his "let's get America moving" theme, and part of its effectiveness undoubtedly stems from the fact that he obviously believes in what he is saying.

As to the pollsters, it is probable that their influence is generally exaggerated. Only about 1 percent of the presidential campaign budgets are spent on polls, which suggests that the politicians do not value them so highly as to sacrifice many television appearances to save money to pay for more of them. For the most part they tend merely to confirm the politician's own intuitive feeling for what issues the voters are interested in. But although the issue polls are kept strictly private, it is reasonable to suppose that Kennedy had some encouragement from Lou Harris, the Democratic pollster, or at least not strong discouragement, when he decided to base his campaign on the issue of whether America was moving ahead in the world as it should. He has publicly stated that he is staking his campaign on the belief that the American people are uneasy about their position in the world and that he expects to lose the election if this is not true. To suggest that Harris's polls decided the course of the campaign would almost certainly be a great exaggeration. The polls may have been important, though, at least to the extent of giving Kennedy confidence that the issue he most wanted to talk about is an issue the public is in a mood to hear about.

On Nixon's side, Claude Robinson, the Republican pollster, probably had a parallel influence: subordinate, but not insignificant. Nixon talks of moving ahead as much as he can while still upholding, as he must, the Eisenhower record. "A record, no matter how good, is something to build on, not to stand on," he keeps saying. He struck this theme in his acceptance speech, so it is not merely a defensive attitude he was forced into during the course of the campaign. On the other hand, to be simultaneously upholding the record of the past and yet talking of the urgent need to do more blurs his image, as the phrase goes, and it is doubtful if he would have taken this somewhat awkward stand unless he believed the country just isn't in the mood for a stand-pat President; Robinson's polls very likely helped him reach that conclusion.—H.M.