

perience. The more promising candidates also were judged on the research papers and essays (containing their ideas on space research, for example) which they submitted at the panel's request.

In a word, the selection process for scientist-astronauts is such that only hardy individuals with the keenest interest in space exploration need apply. However, according to the prospectus prepared by the Academy, the rewards for the persons chosen will be great. While there seems little likelihood that a scientist-astronaut will take part in the first Apollo flight to the moon (though no one has officially ruled this out), scientist-astronauts are expected to participate in later flights.

"Concurrently with the Apollo flights, and in the post-Apollo programs, manned earth-orbiting laboratories above the earth's atmosphere will permit long-term studies in astronomy, solar physics, magnetic fields, and space radiation," the Academy brochure says. "Viewing the earth from space, investigations in meteorology, oceanography, and geology will also be possible. Biologists and physicians will be able to study life processes in the weightless environment afforded by the manned orbiting systems." The size and scope of the post-Apollo program, it must be added, will remain a matter of speculation until the administration presents it to Congress next year and receives authority to proceed.

Since scientist-astronauts will spend only a small part of their time in space, a key question is, How much of their time on earth will be devoted to scientific work? The scientist-astronauts appointed in June 1965 spent their first year in flight training to qualify as jet pilots. Most of the scientist-astronauts recruited next year presumably will undergo flight training too, although NASA is saying only that they will be given flight training as "appropriate."

Training at the Manned Spacecraft Center at Houston starts with 4 to 6 months of "academic" instruction in such subjects as geology and spacecraft systems. Following this, the scientist-astronauts will spend another 12 months becoming thoroughly familiar with the Apollo spacecraft and its subsystems.

However, during the astronaut training phase the scientist-astronauts will be encouraged to continue work in their own specialty. According to Donald Gregory, executive officer for flight crew operations at Houston, they will

be allowed a generous amount of time for that purpose. They may get a week each month for research, plus a day of each of the other 3 weeks for journal-reading and other scientific pursuits. They would be free to do research at the Spacecraft Center's own laboratories, at their home university, or perhaps at one of the three local universities (Rice, Texas A & M, and Houston).

Each of the scientist-astronauts will be expected to work out, in agreement with NASA, his own program of research. Much preparatory work for the lunar and earth-orbital flights is yet to be done. For example, investigations being prepared for Apollo include lunar-surface experiments, geological exploration, and lunar-sample analysis.

Once their basic training is completed the scientist-astronauts will devote much of their time to maintaining their proficiency as astronauts and to participating, as students and as teachers, in science-training programs. They will, of course, be drawn from a variety of disciplines, and the science training is expected to increase interdisciplinary understanding. (In the present group of scientist-astronauts are a physician, a geologist, and three physicists.)

Willis B. Foster, NASA's director of manned space science programs, believes that, once trained, the scientist-astronauts will spend 2 or 3 days a week on scientific research. Again, much of this work will be done at places of their choosing. Their research opportunities will be enhanced if and when the Spacecraft Center's new space science division begins to flourish. The division's eight laboratories include fa-

cilities for research in such fields as geophysics, geochemistry, optics, and radiation.

The space science division, put together from units formerly a part of the Spacecraft Center's engineering development directorate, seems a long way from attaining the strength in scientific personnel needed for a major space research center. The division employs 68 scientists and engineers, but of those only four hold Ph.D.'s (all in geology). Nine of the 15 professionals who hold master's degrees are Ph.D. candidates.

The Space Administration, together with the Space Science Board, has been trying for several months to find a prominent scientist who will agree to accept appointment as director of the division, which is now headed by an acting chief. The Space Science Board has been urging NASA since 1962 to establish a space science division or institute at Houston. But Harry Hess, the board's chairman, predicts that, unless it is headed by the right man, the division will be a dull place.

However, with further effort by NASA and with the solicitude of the Space Science Board, the scientific component of the manned space flight program should continue to expand and improve in quality. The recruitment of scientist-astronauts may symbolize the coming of a new phase in the space flight effort. As the program's leaders gain more confidence in the rapidly developing space flight technology, their preoccupation with engineering tasks and the problem of putting men into space and getting them back should diminish.—LUTHER J. CARTER

## John F. Kennedy School: Helping Government's "In-and-Outers"

Harvard University, which already maintains extensive contacts with political power, has now taken steps to become the American university most committed to increasing communication between the academic and political worlds. In recent weeks it has become clear that the institutions associated with the memorial to John F. Kennedy in Cambridge will become the principal

bridge linking Harvard to practical politics.

On 19 September the Harvard Corporation and the Kennedy Library Corporation announced that they had petitioned the Massachusetts Supreme Judicial Court of Suffolk County for permission to create the John Fitzgerald Kennedy School of Government by combining the School of Public Ad-



Richard E. Neustadt, director of the Kennedy Institute of Politics.

ministration with the Kennedy Institute of Politics. Both petitioners want the school to be built adjacent to the John Fitzgerald Kennedy Library, on a 12-acre site directly across the Charles River from the arc of Harvard's football stadium. The location, now a yard for the Massachusetts Bay Transit Authority (MBTA), was obtained after it became apparent that the original 2-acre site by the business school was too small for a suitable Presidential library. During his lifetime President Kennedy expressed his preference for the MBTA site.

The proposed Kennedy memorial complex will have a divided administration. The library portion, which will consist of an archive and a museum, will be run by the National Archives, as are other Presidential libraries. The Kennedy School of Government, plus the other academic activities which will be housed with it, will be under Harvard's jurisdiction. I. M. Pei is the architect for the library and is expected to be hired to design the Kennedy school.

When eventually constructed, the Kennedy complex promises to be one of the leading social science centers in the country. In addition to the Kennedy school and library, the site will contain the Harvard government and economics departments, the Center for International Affairs, and the regional study centers for Russia, East Asia, and the Middle East, as well as the scholars engaged in Latin-American studies and the journalists studying under the Nie-man fellowship program.

As the name of John F. Kennedy achieves greater identification with Harvard government studies, the name of Lucius N. Littauer will become somewhat less visible. In 1937 Littauer gave the money to establish the School of Public Administration; the building

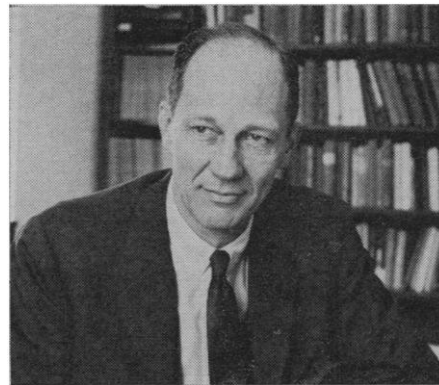
in which the school is now located is named for him. On the new site the structure which houses the public administration school will still be called the "Littauer Center of Public Administration," although the school itself will be named for Kennedy. Harvard officials hope the court will decide that the change does not violate the intent of Littauer's will.

Don K. Price, who is dean of the Graduate School of Public Administration and who will continue as dean of the Kennedy school, has commented that the resources available to his school under the Littauer endowment have not been sufficient to enable it to assist officials "in positions of political accountability." Under the new merger, the Kennedy school will have the combined resources of nearly \$5 million in the Littauer endowment plus the \$10 million that the Kennedy Library Corporation has promised to give the Institute of Politics by 1976. Price (who is also president-elect of AAAS) said that the addition of the institute would give his school "the capacity to do extracurricular work" for politically interested people who are not destined to be career men in the civil or military services.

"The difficulty," Price noted, "is that our schools of public administration have set their sights on the British or European career servants and wished that we had something like them." Price said that the new school could better help "the band of people between the career people and the elected politicians" which exists in American government.

The creation of the Kennedy school means that Harvard is now giving a far higher priority to assisting the non-bureaucratic political activist than at any time in the past. This formal commitment is a logical outgrowth of the formation of the Kennedy Institute of Politics. The institute was founded late in 1964 to provide a memorial of continuing influence in American political life to supplement the "bricks and mortar" tribute of the John Fitzgerald Kennedy Library.

The man primarily charged with effecting the innovations of the Kennedy institute is its director, Richard E. Neustadt. Neustadt has had a richly varied career in which he has combined academic and political experiences. Among other activities, he served as a consultant to President Kennedy, as a member of President Truman's staff, as an official in the Bureau of the Budget,



Don K. Price, dean of Harvard's Graduate School of Public Administration.

and as a professor of political science for 10 years at Columbia University before moving to Harvard. His influence in the academic and political worlds is further enhanced by the high reputation of his book *Presidential Power*, a work studied by John F. Kennedy before he assumed the Presidency.

The Kennedy Institute is sometimes described as a promoter of intellectual exchange between scholars and politicians. Neustadt, a man who speaks with thoughtful deliberation, dismisses this concept as too simplistic. "Having professors meet with politicians isn't too important. They usually don't understand each other anyway," Neustadt said in a recent interview with *Science*. He explained that politicians, unlike scholars, had to think continually within the parameters of political "feasibility."

Neustadt thinks that the main carriers of ideas between the academic community and government are neither scholars nor professional politicians but, rather, intermediaries whom he often terms the "in-and-outers." These men move back and forth between their professions and appointed or elective offices in government. Neustadt points to lawyers and economists as "the two professional cores" who form the most central elements of those who move in and out of government service. These men will be the "first target" for institute fellowships. The first eight institute fellows began their period in Cambridge in September; they include some of the brightest young officials in recent federal service in Washington.

The institute's "secondary target for fellowships" will be the "serious, non-academic observer"; most of them will be journalists. Neustadt hopes to offer journalists institute fellowships beginning with the next academic year.

The next category of intermediaries Neustadt hopes to make use of consists of the men he smilingly terms the "programmatic back-roomers," the influential Washington lawyers of whom "Clark Clifford is now the prime example." A few of these men will be invited to the institute as visiting associates. The final category of intermediaries is the "in-and-outer who is also an academic."

If one wants to give reality to the idea of increasing communication between the academic world and government, it is to be done, Neustadt maintains, "by finding ways that the university can serve these intermediaries and can be served by them. No other university is doing this."

The second major aspect of the institute's program will be to increase the political awareness and interest of college and graduate students. This enlargement of the student's educational experience will be conducted outside regular course work. Neustadt says that the extracurricular education is especially relevant since "the increasing rigor of the social sciences have removed from the curriculum what you would have found there 30 years ago—classroom attention to contemporary policy questions in economics and politics."

Neustadt has already appointed Barney Frank, a popular government tutor from Winthrop House (the college residence of the Kennedy brothers), as the institute's liaison to the undergraduate community. Although no plan for the institute has been set with complete finality, Frank expects the eight Harvard houses to make extensive use of the institute fellows for discussions and seminars with the undergraduates.

The institute will use part of its substantial budget to sponsor the visits of several leading government officials to meet with undergraduates during the coming year. It will probably also help students find summer jobs in government and slots in campaign organizations, as well as organize student seminars to discuss these experiences. If the student programs prove successful, Neustadt plans to expand them to Harvard's graduate schools.

Neustadt does not regard government service as a primary profession for most students. "Most intermediary participants will always be drawn from other professions," he maintains. The institute's activities will be directed toward helping students train for their

"nonprofession"—in other words, for the political activities they will perform in addition to their regular professional work.

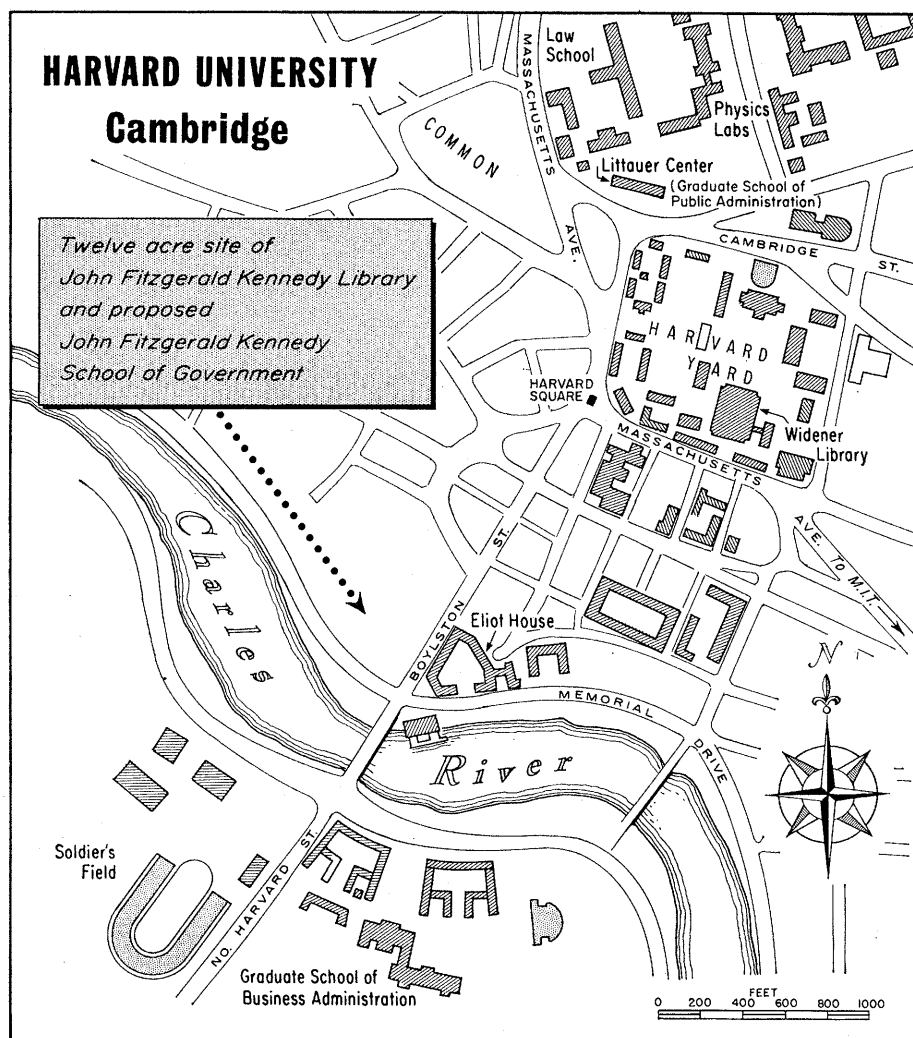
A third major area of the institute's activity will be the subsidizing of "intermediate" public policy research with "action bite." Neustadt explains this as research which lies between the immediate policy questions that most concern government officials and "the indefinite time perspective of the academic disciplines." For Neustadt and the institute, performing the proper kind of research in relationship to government will require the maintenance of a delicate balance.

"It is a great mistake to organize research in an academic community as if it were a research arm of the government, but if we can get academics thinking in policy formulation terms, it is all the better," Neustadt argues. "Research, not on immediate questions, but on questions looking 5 years ahead,

can be of tremendous use to the government. We ought to be serving government by doing research which is relevant, whether the government knows it is relevant or not."

Neustadt makes it clear that he will not demand that the research subsidized by the Kennedy Institute be turned into book-length publications. "Plenty of books will be produced by some of our members but much of their study will not produce books; it may result in speeches and memoranda, or it may make no trace at all in the public record," he explains. "We can afford to be very loose and informal. With this kind of research program you put resources into people and the side curiosities of the academic community. Our money will go into individuals and facilitating their interaction."

The institute will not appoint its own faculty members, Neustadt said, "but rather help permanent faculty



Harvard University recently announced that it planned to move the offices contained in the Littauer Center of the Graduate School of Public Administration to the 12-acre site of the John Fitzgerald Kennedy Memorial. One effect of the move will be to clear more of the area north of Harvard Yard for science buildings.

members of various schools who have substantial acquaintance with government. We'll cheer and facilitate the arrival of an Adam Yarmolinsky or a 'Pat' Moynihan or the part-time interests of a Kistiakowsky. We'll provide a club for these people."

The relationship between the scientific community and the policy makers will be extensively discussed at the institute, Neustadt said. George B. Kistiakowsky, Harvard professor of chemistry and former science adviser to President Eisenhower, will assist the institute on scientific matters. Neustadt also notes that, even though the institute will be run by Harvard, he regards Harvard and M.I.T. as being "on a plane as far as the institute is concerned"; he plans to have an M.I.T. man on his planning committee at all times. After the institute's student education activities have proved their feasibility at Harvard, Neustadt plans to expand them to include M.I.T. students. Expansion of institute activities to other colleges in the Boston area may come later, but only after programs have been established at M.I.T.

Interest in the Kennedy institute and the proposed Kennedy school has been high among Harvard undergraduates. Franklin L. Ford, dean of the faculty of arts and sciences, comments that "the undergraduate aspects of the institute have got off to a faster start; there is quite a lot of excitement about it in the college." The *Harvard Crimson*, the undergraduate newspaper, has given extensive coverage to the institute and school.

Even before the Kennedy institute was created, President Kennedy's example seems to have had a substantial effect on Harvard undergraduates. John U. Monro, dean of Harvard College, has said that the institute will give extra impetus to the "Kennedy magic" which already influences the undergraduates. Barney Frank notes that most students uncritically view President Kennedy as a "mythic hero." Dean of Admissions Fred L. Glimp said that President Kennedy's association with Harvard has helped spur a large increase in the number of high-quality applicants to the college, especially from Catholic schools and from small-town backgrounds.

Harvard's enthusiasm for the new Kennedy school is impressive, especially when one considers the traditional Harvard disdain for fervid commitment. The enthusiasm affects the high-

est university officials as well as the newest undergraduates. President Nathan M. Pusey himself suggested creation of the Kennedy school to the Kennedy Library Corporation, and is sponsoring a gala dinner on 17 October to celebrate the founding of the new school. The dinner, which will be held at the top of the modern Holyoke Center, will be attended by Mrs. John F. Kennedy, her two senatorial brothers-in-law, and a carefully chosen list of other notables. The dinner promises to be one of the most widely noticed events at Harvard in many years.

The unavoidable identification of the Kennedy school and institute with the Senators Kennedy poses one of the main difficulties for the school as an academic institution. Some press accounts have already referred to the institute as a "ready-room" for those preparing to serve Robert F. Kennedy when he is elected President. Both Price and Neustadt are determined to avoid this kind of identification.

The past experiences of some of this year's institute participants would hardly qualify them as automatic supporters of Robert Kennedy. One, John Stewart, is taking a year's leave from his job as legislative assistant to Vice President Humphrey. James C. Thomson, Jr., an institute member, wrote speeches for Humphrey and worked as a member of the White House staff under President Johnson. Jonathan Moore is currently helping in a Republican campaign in Massachusetts. Barney Frank worked for Edward McCormack in his race against "Ted" Kennedy in 1962 and continues to campaign for McCormack in his current race for governor.

"Everybody here and especially both Senators Kennedy fully realize that the Institute is not a tool of any political party or faction," Dean Price emphasizes. And Neustadt is also emphatic that "the institute must keep a balance—it's a memorial to John Kennedy, not Bob Kennedy, much as I love Bob Kennedy. We are not going to discriminate in favor of the Kennedys, but on the other hand, the Kennedys are the most reliable users of academic talent."

Needless to say, the Kennedy identification is a much greater asset for the new school than it is a potential liability. Operating under the name of the John Fitzgerald Kennedy School, the Harvard governmental studies de-

partments should have no trouble in attracting all the high-quality teachers, guests, fellows, and students that any university could reasonably desire. Pointing to the ample budget as well as the illustrious name, Barney Frank said, "The Kennedy institute can have whatever it wants." For Neustadt, the greatest potential hazard is "settling into a self-satisfied pattern."

There are still some problems to be solved before the Kennedy School of Government sits with the Kennedy Library on the banks of the Charles River. Harvard authorities are optimistic that the court will give approval to their petition, but even when such approval is granted, the obstacles of money and construction remain. It will take some time to collect the estimated \$15 to \$20 million for the Harvard portion of the complex, especially in light of the fact that Harvard is currently trying to raise about \$100 million in various fund-raising campaigns. Harvard's largest effort is a \$49-million science drive, which includes construction of a major undergraduate science center.

Even if the money for the Kennedy School is quickly raised, no one expects construction to be completed before 1971 or 1972. It will be at least 1968 before any construction can begin, since the MBTA will need years to relocate its yards.

But, at the moment, all these physical difficulties seem peripheral. The excitement of building a living memorial to President Kennedy has made people somewhat oblivious to future troubles. The Kennedy school and institute give great promise of success and seem likely to have substantial effect on the programs of other American universities.

Not so many years ago the Boston Irish were regarded as something like second-class citizens at Harvard, that one-time citadel of the Boston Brahmins. But now Harvard has decided to pay much greater honor to President Kennedy than it ever did to the other Presidents who graduated from Harvard College—Franklin D. Roosevelt, Theodore Roosevelt, John Quincy Adams, and John Adams.

The conclusion is clear: the spirit of that reserved Irish-American has won over the heart of a once-reticent Harvard. Those who were touched by John Fitzgerald Kennedy are now prepared to help perpetuate his example.

—BRYCE NELSON