in research contracts and about $8 million in other types of aid. If the company achieves its goals, repayment of the money is provided for.

The budget for the Plan Calcul has been put at 104 million francs ($21 million) for this year and a total of 450 million francs ($90 million) by 1970. Most observers think that government funds going to the program could far exceed these figures. The Plan Calcul is designed to mesh with the present Fifth Plan for social and economic development (1966–1970), but it is interesting to note that the Plan Calcul was not called for in the Fifth Plan, which was formulated in 1964 and 1965. The Plan Calcul was presumably an urgent afterthought, prompted by the events of the past 2 years.

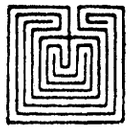
In administering the Plan Calcul, Galley will have not only the funds available under the special budget but other sorts of leverage as well. It is understood, for example, that he will have final approval on purchase of computers by government departments or nationalized industries, in France a very sizable market. He will also be able to draw on his experience of dealing with French industry, gained as chief builder and troubleshooter for the French atomic-energy program.

Galley directed construction of the plant at Marcoule for the extraction of plutonium and then directed construction of the plant at Pierrelatte for the production of enriched uranium. Both were key requirements for fulfillment of the regime's nuclear aspirations, and Pierrelatte is to be completed on schedule this spring.

There may well be some parallels between the French nuclear-energy program and the new effort in the field of computers. The French, like the British, have made a heavy investment of resources in an atomic-energy program, with the French, perhaps even more systematically than the British, shaping their program to meet military requirements. The result in technological terms has been impressive. The most recent accomplishment was the launching on 29 March of the first French nuclear submarine, the *Redoutable*, built with the conspicuous absence of American technological assistance. (The U.S. did sell France enriched uranium, the fuel required by the nuclear submarine.) Militarily, the French deterrent might be said to be credible but, viewed in the perspective of the arsenals of the United States and Soviet Union, not very convincing. How much French technology has suffered or profited, on balance, from the very costly military program is an open question.

In the case of the Plan Calcul, the French feel they are grasping at a last chance. Their intention, it should be emphasized, however, is not to challenge the United States in the production of the giant computers which caused the recent falling out. The French aim to compete at the level of the small and medium-sized computers, where demand is great and growing, and they are thinking in terms principally of French and European markets. They know that they will have to rely partly, in the immediate future, on American technology and even on American components. The French are famous realists, and they are banking on a unique new relationship between government and industry to overcome formidable problems. The recent record shows that, within the limits of what they set out to accomplish, the French should not be underestimated.

—JOHN WALSH



Dædalus: Marking a Decade of Journeys from the Labyrinth

Cambridge, Massachusetts. It was the careful Dædalus who escaped from imprisonment and flew to Sicily on feathered wings. It was his adventurous son Icarus who soared too near the sun and fell to his death in the sea below.

Like the figure of Greek mythology, the quarterly *Dædalus* does not make the mistake of Icarus—it does not surrender to youthful passion. It may not know the heat of the burning sun, but at least it makes its journey in safety.

Considering the precarious nature of the vehicle, it is surprising that *Dædalus* has been able to launch so many flights. At best, the publishing of periodicals in the United States is a chancy business, but the risks are increased with the production of an academic journal which is meant to appeal to all intellectual disciplines.

One of the principal explanations for the quality of *Dædalus* is undoubtedly the deliberative pace of its editorial procedure. From the time of the initiation of the idea for an issue until its publication, an 18- to 24-month gestation period is required. Furthermore, few publications have so highly a structured writing process as does *Dædalus*, or subject their authors' work to as much criticism from fellow contributors.

The success of *Dædalus* has greatly exceeded the expectations of its founders. In its present form, *Dædalus* began life 10 years ago under the editorship of Harvard physicist Gerald Holton. It was originally designed to be an interdisciplinary "house organ" for the select membership of the American Academy of Arts and Sciences. Harvard Law School professor Paul Freund, who is now finishing his term as Academy president, says that "*Dædalus* has become the principal ornament of the Academy." In the last decade, *Dædalus* has increased its circulation more than 20-fold to a current total of 42,000. Ten to twenty thousand additional copies of each issue are ordered after publication date by interested readers. All issues of *Dædalus* are now republished in hard-cover form by Houghton Mifflin Company within 9 months of the original issue and then published again in paperback by the Beacon Press. Part of this growth in public attention to *Dædalus* has been achieved under the direction of historian Stephen R. Graubard, who replaced Holton when he resigned in 1963. Holton still plays a large part in consultations about the publication.

Most issues of *Dædalus* consist of about a dozen essays organized around a single, but rather general, subject. For instance, the first issue of *Dædalus* which Holton published was entitled "Science and the Modern World View" and included contributions by P. W. Bridgman, Philipp Frank, J. Robert Oppenheimer, and Jerome S. Bruner. The latest issue (Spring 1967) deals

with the international implications of "Color and Race." Other issues during the past 5 years have included: Religion in America; Creativity and Learning; The Contemporary University, U.S.A.; The Professions; Perspectives on the Novel; and American Foreign Policy—Freedoms and Restraints.

When the editor of *Dædalus* decides upon a likely topic for a forthcoming issue, he calls upon various authorities to attend a planning session. After the planning group discusses the shape of the issue and suggests names of possible authors, the editor writes to those wanted as contributors. Most of those who write for *Dædalus* are not members of the American Academy, but some have achieved election after their essays have been published in the quarterly. Graubard indicates that "about 95 percent" of those who are asked agree to write. The contributors are requested to complete their articles well in advance of a second conference which is held to discuss the issue. The completed articles are distributed to all the authors and other participants before the second session is held. Each author at the conference is given a few minutes to defend his paper before he receives the criticism and suggestions of his fellow participants. On the basis of comments made by others and in light of his own further thoughts, an author is expected to revise his work before submitting it for final publication.

Articles for *Dædalus* are commissioned by the editor; the authors are always paid for their efforts. The amount is largely determined by the size of the foundation grant which *Dædalus* is able to obtain for the preparation of each issue. A minimum fee of $100 is given, but, on two well-subsidized occasions, the amount has been $1000. The average honorarium, Graubard indicates, runs from $300 to $500.

If *Dædalus* conferences are successful—and the number of distinguished academics who are willing to repeat attendance is an indication that they are—much credit must be given to the persistence and skill of editor Stephen Graubard. Graubard specializes in modern British and French history and taught at Harvard before accepting a professorship at Brown University. He still lives near Harvard Square, commuting to Providence to fulfill his teaching duties, and returning to Cambridge where he spends much of his week editing *Dædalus*.

Graubard is able to attract many writers by the prospect of reaching a wider group of readers, both in terms of numbers and interests, than these authors can reach in the professional journals. Other writers are pleased to participate in conferences which often draw scholars from a number of nations and which always bring together people from a wide variety of specialties. Graubard indicates that this interdisciplinary mixing is one of the main purposes of *Dædalus* and its conferences.

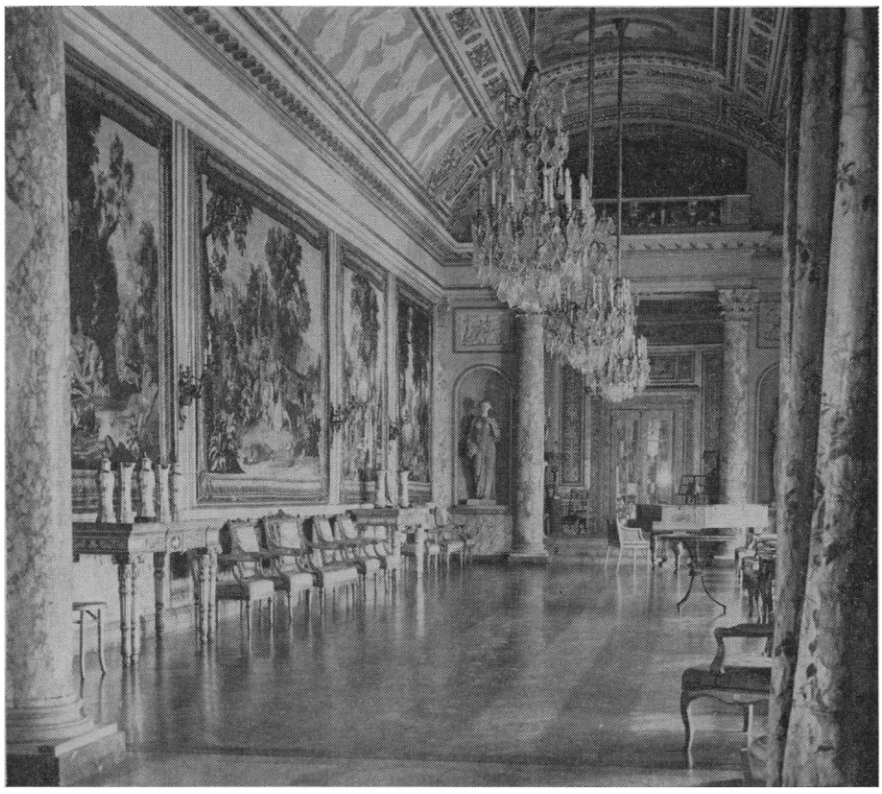
The editor of *Dædalus*, Stephen R. Graubard (left), and Gerald Holton, a Harvard physicist, discuss plans for a forthcoming issue. Holton served as editor during the beginning years of the publication.

Building New Communities

To the extent that *Dædalus* is able to build what Graubard calls "new communities," either in terms of readers or authors, it is fulfilling the designs of its founders. Graubard and others connected with the quarterly feel that there is a great need for academics to overcome the tendency to stay confined in one part of the intellectual labyrinth. The labyrinth pictured at the beginning of this article is the *Dædalus* emblem which is on the cover of each issue. "The *Dædalus* maze is very symbolic for us," Graubard says. "We are all in the maze." In his introductory essay upon becoming editor, Holton said that he hoped that *Dædalus* would "lift each of us above his cell in the labyrinth of learning in order that he may see the entire structure as if from above, where each separate part loses its comfortable separateness."

Dædalus was created in the mid-1950's to serve as a medium through which the members of the various specialities comprising the American Academy might speak to each other. Astronomer Harlow Shapley, a former Academy president, suggested the name *Dædalus*. This publication helped bring new life to the Academy, a somewhat obscure institution of antique vintage. Started in 1780, the Academy's founders and early members included John Adams, John Hancock, Benjamin Franklin, George Washington, and Thomas Jefferson. Unlike many honorary groups, the Academy wishes to recognize and propagate intellectual achievements in all fields. Among the slightly more than 2000 members are those with as varied backgrounds as James Shannon, I. I. Rabi, Jonas Salk, Eric A. Walker, Bruce Catton, Martin Luther King, Jr., Cardinal Cushing, Hubert H. Humphrey, David Dubinsky, Leontyne Price, and such foreign associates as Arnold Toynbee, C. P. Snow, Alec Guinness, and Jean-Paul Sartre. Although these names suggest considerable geographical distribution, in fact the Academy has shown a natural tendency to choose a disproportionate number of its members from the Boston area. Several members have described the Academy as a club of Harvard and M.I.T. professors. In the last few years, however, there has been a great effort to expand the non-Massachusetts membership. Generally, the Academy provides a framework in which various kinds of intellectual activities can take place and, specifically, it sponsors the Pugwash conferences on science and world affairs, tries to arrange informal talks between U.S. and Soviet scientists, and produces *Dædalus* for distribution to all its members.

After Holton was appointed editor,



The main ballroom of the House of the American Academy of Arts and Sciences in Brookline, a suburb of Boston. Most of the *Dædalus* conferences are held in this mansion, as well as monthly Academy meetings and continuing seminars on such subjects as arms control and poverty.

Dædalus began to appeal to an audience wider than the Academy. The most striking public success of the quarterly occurred in the autumn of 1960 with the publication of the noted "Arms Control" issue. The thousands of extra copies sold out immediately after publication, and the issue was widely discussed among academics and government officials. The timing was especially fortunate because of the election of John F. Kennedy (an Academy member) to the Presidency and the desire of his administration to make progress in disarmament. The "Arms Control" issue was turned into a book, received the endorsement of President Kennedy, was made an alternate Book-of-the-Month-Club selection, and sold approximately 50,000 copies in its hard-cover version.

If the membership needed convincing that *Dædalus* was a worthwhile project for the American Academy to sponsor, the attention given the "Arms Control" issue seemed to remove any remaining doubts. Academy officers are quick to praise the editing skills of both Holton and Graubard. "*Dædalus* has energized the Academy," comments Paul Freund. "It stimulates our working groups. It gives us a cohesiveness about which our planning can revolve."

In addition to "Arms Control," the issues of *Dædalus* which have seemed to attract particular attention in recent years have been: "The Woman in America" (Spring 1964), "A New Europe?" (Winter 1964), "Science and Culture" (Winter 1965), and "The Negro American" (a two-issue production in Fall 1965 and Winter 1966). Since Graubard became editor there has been a greater emphasis on subjects with public policy impact, but several issues have appeared in the humanities and on science-related topics during his tenure.

Foundation Grants

One of the reasons why so many issues of *Dædalus* have concerned themselves with social science subjects is that it has been easier to obtain grants for work in these areas. The current budget of *Dædalus* is about $400,000 annually. Part of this comes from subscriptions ($6.50 a year) and from the sale of back copies. *Dædalus* tries to elicit foundation grants to cover most of the rest of its expenses. Such dependence on outside funds has its editorial disadvantages: for instance, Graubard says that *Dædalus* wished to get aid to produce "The Negro American" as early as 1960. It was impossible to obtain financing until several years later. If the issues had been published in the early 1960's, they would probably have had greater national impact.

The rising circulation of *Dædalus* seems somewhat remarkable, especially when one considers the erudite quality of the product. But, as is true for all other publications, *Dædalus* is not held in universally high regard, even by readers intelligent enough to appreciate it. Although many praise *Dædalus*, some also describe it as "pompous," "establishment-oriented," "stuffy," or "long-winded."

It is true that as the financial position of *Dædalus* has improved, the issues have seemed to swell to tremendous bulk. Graubard says that he prefers articles to be from 4000 to 7000 words, does not hesitate to allow longer articles. Although he indicates that an issue of 200 to 220 pages is optimum, an issue can be 400 pages or more, if necessary. "We don't have a vision of how long the issue should be," Graubard says. One *Dædalus* regular describes it as "The last place you can print a 19th century essay."

The problem which a somewhat esoteric publication like *Dædalus* faces was accurately phrased in a review written by Leslie W. Dunbar for the Harvard Educational Review. He concluded: "Will 'The Negro American' affect public policy? Not likely. Will it guide scholarship? One doubts that. . . . Will the book be used as a reference source? Probably. Will it be read? No."

Dunbar's review is not a typical reaction, but inducing people to read a publication of intellectual content is difficult, especially if the material is not presented in a lively manner. The charge that *Dædalus* is an organ of a stuffy intellectual "establishment" is an especially serious indictment when *Dædalus* undertakes an issue of burning topical concern.

If one were looking for an indication of "establishment" orientation in *Dædalus*, it would perhaps be easiest to find in "The Negro American," the only subject to which *Dædalus* has devoted two complete issues. The first volume was honored by an introduction from President Johnson. Those who contributed the essays were sober scholars and officials; no flaming activist leaders were represented at the conferences. On

a topic where a man's age might have reasonably been expected to affect his view of the subject, the average age of the contributors to "The Negro American" was approximately 47. Their birthdates ranged from 1897 to 1931. One participant notes that the representation at the conferences "was predominantly white, predominantly middle-aged, and entirely middle class." These *Dædalus* conferences were held in an era when much of the change in the position of the Negro American was occurring as the result of the activities of those who were predominantly black, predominantly young, and partially lower class.

Despite any imbalances in these conferences, "The Negro American" generally received praise from scholars when it appeared in book form. In a review appearing in the current *Transaction*, Rice University sociologist William M. McCord commented: "While the writers seldom report new evidence concerning the Negro American, they artfully synthesize existing knowledge in a way which produces unique insights into the plight of the Negroes."

McCord's judgment might equally apply to most issues of *Dædalus*: its contributors do not report new findings so much as "artfully synthesize" that knowledge which already exists in their own specialty. When done well, as it often is in *Dædalus*, this synthesis represents a considerable achievement.

—BRYCE NELSON

Appointments

Robert D. O'Neill, AEC congressional liaison officer, to director of the Office of Congressional Relations, succeeding **John J. Burke** who has been appointed special assistant to the assistant general manager for operations. . . . **Kathryn M. Smith**, dean of the University of Colorado School of Nursing, to member of the Board of Regents of the National Library of Medicine. . . . **John M. Buchanan**, head of the division of biochemistry, Massachusetts Institute of Technology, to John and Dorothy Wilson Professor at M.I.T. . . . **Albert O. Hirschman**, faculty member of the John Fitzgerald Kennedy School of Government, Harvard, to Lucius N. Littauer Professor of Political Economy at the University. . . . **Jim Douglas, Jr.**, professor of mathematics, Rice University, to professor of mathematics, University of Chicago. . . . **Richard E. Faust**, supervisor of research projects, College of Pharmaceutical Sciences, Columbia University, to adjunct instructor in pharmacy administration at the College. . . . **Bruno W. Augenstein,** research adviser to the president and vice-president of the Institute for Defense Analyses, to a newly established position of vice-president for research, RAND Corporation. . . . **Warren E. Nyer**, former deputy director general for administration, liaison and secretariat of the International Atomic Energy Agency, Vienna, to vice-chairman of the AEC's Atomic Safety and Licensing Board Panel, from which members of atomic safety and licensing boards are chosen. . . . **D. Kenneth Baker,** manager of professional personnel and university relations, General Electric Research and Development Center, Schenectady, to vice president of the University and dean of the College of Letters and Science, St. Lawrence University, Canton, New York. . . . **John C. Brandt, Jr.,** senior staff member in the fields of solar wind and solar physics, NASA's Goddard Institute for Space Studies, New York, to head of the Solar Physics Branch, Laboratory for Space Sciences, Goddard Space Flight Center. . . . **Eugene Availone,** chairman of the mechanical engineering department, City College, to the newly established post of dean of campus planning and development at the College. . . . **Thomas F. Bates,** science adviser of the Department of the Interior, to vice president for planning at Pennsylvania State University. . . . **Douglas H. K. Lee**, chief of the Public Health Service's Occupational Health Research and Training Facility, Cincinnati, to associate director for scientific information, Division of Environmental Health Sciences, NIH. . . . **G. N. Ramachandran**, professor of physics, dean of faculty science, and director of the Center for Advanced Study in Biophysics and Crystallography, University of Madras, India, to an additional appointment of professor of biophysics, University of Chicago. . . . **George Grassmuck**, acting director of the University of Michigan's Center for Near East and North African Studies, to assistant vice president to coordinate international programs at the University. . . . **Leon Gintzig,** professor of hospital administration, George Washington University, to chairman of the department of health care administration at the University. . . . **Alexander D. Kenny**, professor of pharmacology, West Virginia University, to professor of pharmacology, School of Medicine, and senior investigator, Space Sciences Research Center, University of Missouri, Columbia. . . . **Wayne Vasey**, former head of the schools of social work at the University of Iowa, Rutgers University, and Washington University, to professor of social work at the University of Michigan. . . . **The Most Rev. Ernest J. Primeau**, bishop of Manchester, N.H., to president general of the National Catholic Education Association. . . . **Will M. Myers,** associate director for Agricultural Science, Rockefeller Foundation, to vice-president of the Foundation. . . . **Marshall N. Rosenbluth**, professor of physics at the University of California, San Diego, to professor in the School of Natural Sciences, the Institute for Advanced Study, Princeton.

Recent Deaths

Daniel Abramson, 64; associate clinical professor of obstetrics and gynecology, Harvard Medical School; 1 April.

Julian Blanchard, 81; retired physicist for the Bell Research Laboratories; 25 March.

Paul E. Golden, 79; physicist in the sugar laboratories of the National Bureau of Standards; 29 March.

Jaroslav Heyrovsky, 76; director of the Czechoslovak Polographic Institute and recipient of a Nobel prize for chemistry; 28 March.

Rowell H. Johnson, 90; retired director of the department of counseling of the American Institute of Family Relations; 17 January.

Hermann J. Muller, 76; professor emeritus of genetics, Indiana University and recipient of a Nobel prize for physiology or medicine; 5 April.

Jule Nydes, 56; supervisor of the postdoctoral training program in psychotherapy at Adelphi University, Long Island; 21 March.

Richard S. Schweet, 48; chairman of the department of cell biology, University of Kentucky; 3 April.

Victor C. Twitty, 65; head of the biological sciences department, Stanford University, and past president of the American Society of Zoologists; 22 March.

G. Reynolds Watkins, 52; chairman of the Professional Engineers in Private Practice of the National Society of Professional Engineers; 3 April.