Son of Technology Gap: European Group Setting Up an Institute

Paris. Though political and economic union still eludes Europe, some of her leading figures in industry, government, science, and education have coalesced into an informal network that has become capable of considerable influence and nimbleness in fostering multinational activity. It is impossible to chart the network with any precision, since it is amorphous at best and its membership varies from issue to issue, frequently extending to the United States, and now and then even stretching to the Soviet Union. Furthermore, these statesmen of technocracy—many hold official positions and others have simply appointed themselves to be involved in important matters—generally function as advisers to power rather than as holders of power. Thus, like their counterparts who appeared on the American scene after World War II, they tend to operate out of public view, and their work usually comes to light only in the form of discreetly phrased reports and recommendations. But now, the European network is on the brink of a fair-size triumph—the establishment of what is to be known as the International Institute for the Management of Technology, a graduate institution for study and research that will more or less resemble one of the blue-chip American schools of business administration.

Scheduled to open late this year in a renovated former monastery donated by the city of Milan, the Institute already has the formal backing of Britain, West Germany, France, Italy, and the Netherlands, and a good deal of support has been given or pledged, as one closely involved person put it, by "European companies that want managers who are trained to American standards." In Europe, where institutions for business and management training are still a rarity, there appears to be a highly favorable market for such people, and, as a consequence, the Institute might evolve into the influential role that the Harvard Business School has long played in the training of management for American business and industry. By tracing the Institute's growth from conception to the present some light may be cast on the fascinating, far-flung, and little-known group that is responsible for bringing it into existence.

As now planned, the Institute is a very trimmed-down version of a proposal that first attained prominence in 1967, when the "technology gap" emerged from the obscurity of specialist conferences to become a substantial public issue. Just as the United States is now trying to rejuvenate NATO by making it a center for concern over environmental problems, it then sought to pep up NATO by assigning it to worry about the "gap." A series of meetings resulted in what came to be referred to as the Killian Report (after James R. Killian, Jr., head of M.I.T.), which recommended that Europe get together and build an institution resembling M.I.T. The proposal for a "European Institute of Science and Technology" was enthusiastically received by the many Americans who have assigned themselves responsibility for making Europe realize why and how it must emulate American ways. But with education budgets throughout Europe heavily strained by expanded enrollments, there was little native support for siphoning off national funds for an international super-university. Apparently, like so many other things on the international conference circuit, the idea, after having been raised and acclaimed, disappeared without a ripple. In fact, it was still alive, and eventually there crystallized around it a geographically dispersed but harmonious 15-member group whose affiliations coursed through a variety of European and American institutions. Coming together for the purpose of picking up the Killian proposal and modifying it to their view, the 15 simply called themselves "The Study Committee." As chairman they selected Oliver Giscard d'Estaing, of France, who, with the help of European and American firms plus the Ford Foundation, had set up an international institute of business management near Paris several years earlier. An alumnus of the Harvard Business School and brother of the French Minister of Finance, Giscard d'Estaing is well tuned in to the trans-Atlantic academic-industrial-foundation complex. Vice chairman of The Study Committee was a German, Eduard Pestel, now rector of the Technical University of Hanover. Pestel's very good relations with the Ministry of Science in Bonn are said to have produced an early pledge of substantial German support. Another member was Alexander King, head of the directorate for Scientific Affairs in what is sometimes referred to as "the rich man's club" of international organizations, the 22-nation, Paris-based Organisation for Economic Co-Operation and Development (OECD). The OECD, with minor exceptions, functions as a collector of data, conductor of scholarly inquiries, and adviser. But it has also proved to be a useful staging area for itinerant entrepreneurs who find its professional and government connections, desk space, conference rooms, secretarial service, and telephones useful for doing business.

Other Committee Members

Also on The Study Committee was I. I. Rabi, the Nobel-laureate physicist, who was a key figure in setting up the NATO science office and who, though now in semiretirement, maintains an active interest in what is going on at NATO. And then there was Auerelio Peccei, vice president of Italy's Olivetti Corporation, popular author on the technological gap, and central figure in a vaguely defined group of European technocrats that calls itself the "Club of Rome" after the Treaty of Rome, which established the Common Market. The "Club," a state of mind rather than an organization, mainly reflects a kind of ideological sympathy and harmony within the highest echelons of industrialized Europe's technological elite. And this sense of sameness may even extend to the Soviet Union, where, by some accounts, Herman Gvishiani, vice chairman of the State Committee for Science and Technology, is said to be at least an interested onlooker—so much so, that all relevant papers concerning the Milan Institute have been routinely sent to him.

Another member of The Study Committee was an Englishman, Joseph A. Cade, a nuclear scientist who was on the staff of the NATO science office when the Killian proposal was first raised. Cade later returned to London and became secretary to the office headed by Sir Solly Zuckerman, chief scientific adviser to the British Cabinet. But all along the way he was keenly

interested in working something out of the Killian suggestion. Eventually, at the request of King of OECD, he left his post with the British government to become a consultant to OECD, with central responsibility for nurturing the project.

Among the other members was Peter Cusick, a wealthy New Yorker, who moves along the European conference trail, leaving behind some uncertainty as to his institutional affiliations. On occasion he is said to describe himself as "science adviser to Senator Javits." Also a member was Christopher Layton, a British economist who has written extensively on the political and administrative problems of international technical cooperation. There were other members, but it appears that the aforementioned were most directly involved in picking up the original proposal and carrying it through.

Turning to a number of European foundations, The Study Committee pulled together about $8000 for operating expenses, mainly, as it turned out, for a series of meetings in Paris, Rome, and Cannes. (This slim fund, according to a member, was, in effect, supplemented by other organizations, since travel for The Study Committee often coincided with the considerable travel involved in the committee members' regular activities.)

In May 1968, after limited circulation of several preliminary reports, the group made public its conclusions in the form of a 20-page pamphlet titled, "Study Committee on the Creation of a European Institute of Science and Technology." Bearing no address, but in plentiful supply at NATO headquarters near Brussels and at OECD headquarters in Paris, the pamphlet contained two critically essential points. First, reflecting the newly developed consensus that the technology gap was really a "management" gap stemming from Europe's relative paucity of scientists and engineers in top industrial positions, it recommended that the proposed institute function as a management training and research center for "established scientists and engineers." That disposed of the original Killian proposal, a fact that was no source of joy for those who were looking forward to the establishment of an American-style university on European soil. Some of them tried to fight back by arguing that a management school, though a worthy objective, should not be permitted to preempt an approximation of the Killian title or to divert attention from following through on that particular proposal. The planners of the Milan institute apparently had some sympathy for this point of view, since they dropped the original title of European Institute of Science and Technology and adopted the more descriptive title of International Institute for the Management of Technology. The second point of importance in the pamphlet was a recommendation that the Institute be established as a collaborative project of the member countries of OECD. Since, at the instigation of King's Directorate for Scientific Affairs, OECD had been moving into "technology gap," the proposal landed on fertile ground, and OECD instantly offered its hospitality to The Study Committee, thus providing it with its first official home. At this point, The Study Committee evolved into what came to be known as the Working Party, and eventually seven of the 15 members of the former group were appointed to the latter, with Cade arriving at OECD in May 1969 to look after the project.

That the proposal was well along in terms of governmental acceptance when the 20-page pamphlet was issued in May 1968 is evidenced by the fact that the pamphlet states that a site selection committee (chaired by Cade) had contacted twelve communities, eight had expressed interest, and four had been able to meet "all the conditions necessary to accommodate the Institute." These conditions did not merely involve suitable buildings but also a will-

Environmental Council Named

President Nixon has appointed Russell E. Train, Under Secretary of the Interior, as chairman of the new Council on Environmental Quality, and has named an environmental writer and a prominent environmental scientist to serve with him as council members. Named to the council were Robert Cahn, Pulitzer prize-winning reporter for the *Christian Science Monitor*, and Gordon J. F. MacDonald, vice-chancellor for research and graduate affairs at the University of California, Santa Barbara. MacDonald is currently vice-chairman of the National Academy of Science's Environmental Studies Board, and he recently helped to produce a report on "Institutions for Effective Management of the Environment."

Train is expected to resign from his Interior post, according to an official from the department, when his appointment has been confirmed by the Senate. The Academy did not know, as *Science* went to press, whether MacDonald would resign from his NAS position.

Nixon said the present Environmental Quality Council, a Cabinet-level body, would be renamed the Cabinet Committee on the Environment, and would be used as a forum for consideration of environmental issues by the President and by Cabinet members.

The new Council on Environmental Quality was established by the National Environmental Policy Act of 1969, passed by Congress just before Christmas (*Science*, 2 January). The Act is intended to establish a policy of preserving and enhancing the environment and a council to further this policy. The council is intended to be analogous to the highly influential Council of Economic Advisers, although its actual effectiveness and function remain to be seen.

Train spoke specifically of the group's top priorities in a briefing session after the President's announcement. The council, he said, must consider the needs for a national policy on population, better planning of land use, and technical breakthroughs to solve air pollution.

He said it was his understanding that Nixon had endorsed the concept that industry should pay for cleaning up its pollution, possibly by passing on such costs to its customers. In response to another question he said he favored setting target dates for the solution of specific environmental problems, similar to the target which was set and achieved for a manned landing on the moon, but he cautioned that cleaning up the environment was "infinitely more complex" than a lunar landing.

—NANCY GRUCHOW

NEWS IN BRIEF

• **SOVIETS START JOURNAL ON UNITED STATES:** Soviet specialists have begun publishing a research journal devoted entirely to the United States. The monthly journal, *SShA: Ekonomika, Politika, Ideologiya*, includes in its first issue articles on the supersonic transport plane, the latest Pugwash conference between Soviet and American scientists, the Joint Chiefs of Staff, the Black Panthers, and U.S. policy in Asia. It is published by the newly formed Institute on the United States of the Soviet Academy of Sciences. The rationale for the journal, given in a keynote article, is that underestimating the scientific and technological revolutions of the United States would be a "serious mistake."

• **AIRLINES ACCEPT POLLUTION DEADLINE:** The nation's 31 major airlines have agreed to a speeded-up program reducing air pollution produced by jet aircraft. The airlines had suggested finishing the program in late 1974, but the Nixon Administration pressed for a 3-year deadline which was finally accepted. About 3000 engines in use on short-term and medium-haul aircraft will be fitted with new fuel burners as the engines undergo routine overhauls. The new fuel burners should eliminate about 70 to 80 percent of the solid particles emitted by the engines, but gaseous pollutants will not be affected. The installation of the fuel burners should be substantially completed, at a cost of $13 to $15 million, by late 1972.

• **SETBACK FOR FDA:** The Food and Drug Administration has been temporarily enjoined from acting under its regulations that set procedures and standards for demonstrating the effectiveness of drug products. A federal district judge in Wilmington, Del., agreed with the Pharmaceutical Manufacturers Association that the regulations did not provide "minimal procedural rights of notice and opportunity for comment." According to an FDA official, the ruling will delay action in removing from the market 3000 drugs which were found ineffective by a panel of the National Academy of Sciences. Now FDA must republish a statement of standards in the Federal Register and allow time for firms to comment.

ingness on the part of the host to make them available, and, if necessary, to renovate them at no cost. However, this turned out to be no problem, since Europe has drunk deeply of the Boston area's "Route 128" experience, and many communities are on the lookout for institutions that might serve as a magic catalyst for swift economic development.

Meanwhile, the Working Party encountered a few ups and downs in gathering governmental support. West Germany, though not competing to provide a site, displayed its usual eagerness to support European cooperative efforts. It offered the OECD-based group $20,000 for preparatory work and set aside another $200,000 as evidence of support and good faith. France, in one of its displays of Gaullist schizophrenia, announced it would not take part, but after the Pompidou government was elected last fall the French quietly requested admission to the project and were welcomed in. In one euphoric moment it was thought that perhaps the Soviets might be invited, but then it was decided that, at least for the opening stages, membership would be confined to interested OECD members, though other nations might be admitted through negotiations. The United States government, though eligible through its OECD membership, characteristically announced that it was ready to assist with anything but money; it would not, however, take up membership, since, in the current view, Europe should be left alone to identify and work out its own peculiar problems. American-owned or -affiliated industry, however, has not been at all hesitant to get behind the venture. The European extension of IBM is reported to have put up about $10,000, and another dozen or so such companies have pledged or delivered anywhere from $2,000 to $10,000 each. The five countries that are partners in the venture have provided a total of $200,000 for preparatory work.

Though detailed planning is yet to be completed, it now seems fairly certain that the Institute will open next fall at the Milan site, which was recently decided upon by the selection committee. The buildings, not far from downtown Milan, are valued at approximately $3 million and will be made available without charge, as will an extensive renovation to adapt them for study and research purposes. The Institute will offer a variety of courses in what is generally referred to as "management sciences." They will be of 1 year's duration at most, and there will also be a series of short courses. It is estimated that by the third year of operation perhaps as many as 500 students a year, long- and short-term, will be passing through the Institute, with an enrollment of about 250 at any one time. The faculty and professional staff is expected to number approximately 65. That the Institute is shooting for the big leagues is evidenced by the salary that it plans to offer its as-still-unselected director, who, it has been fairly firmly decided, should be a European. The figure is $45,000 a year—high, though not out of sight, by U.S. standards but quite stupendous on the European scale.

It is not certain where the progenitors of the Institute will turn their attention once this venture is under way, but it may be reasonably assumed that they will be heard from again.

—D. S. GREENBERG

RECENT DEATHS

D. Joseph Duggan, 71; former professor of medicine, Boston University; 19 January.

William Feller, 63; professor of mathematics, Princeton University; 15 January.

Jack A. Gerster, 50; chairman, chemical engineering department, University of Delaware; 20 January.

Robert W. Goss, 78; dean emeritus, Graduate College, University of Nebraska; 10 January.

Oscar C. Hansen-Pruss, 69; an organizer of the Duke University School of Medicine; 24 January.

Charles R. Hauser, 69; professor of chemistry, Duke University; 6 January.

Thomas H. Henderson, 59; president, Virginia Union University; 17 January.

Winston L. Hole, 59; former professor of physics, Wisconsin University; 24 January.

Erratum: In the report by E. L. Fireman, J. C. D'Amico, and J. C. DeFelice, "Tritium and argon radioactivities in lunar material (30 Jan., p. 566), there should have been a reference 7 to indicate that "This work was supported in part by contract NAS 9-8105 from the National Aeronautics and Space Administration."

Erratum: A phrase was omitted from A. D. Kelmers' and M. P. Stulberg's letter "Purified Transfer RNA's" on page 238 of the 16 January issue. The sentence should have read: "The following transfer RNA's from *E. coli* K-12 MO7, fMet (97 percent), Arg (70 percent), Phe 2 (78 percent), and Glu (~95 percent), and from *E. coli* K-12 MO, fMet (~95 percent), Arg (100 percent), and Glu (~85 percent) are ready for distribution."