reflects the assumption that physical partition of some sort is inevitable. It is difficult to find anyone who can give a neutral estimate of the effects of a split. In the natural sciences, the immediate effect would be to leave both sections with unsymmetrical programs, with the Flemish section perhaps the more seriously affected.

Chauvinism is not very evident among the physical scientists. When this reporter visited Louvain in February, a strike of Flemish faculty and students appeared to be having no great effect on the ordinary routine of research. The language line seemed easy to cross in the laboratories. In the chemistry department, for example, there are Flemish- and French-speaking units which are, as one scientist said, "officially two, but actually one." The policy, however, is to unmix, and it is being pushed.

Opponents of the move insist that the flow of foreign students to Louvain will cease if the French section is not there. There are 2000 such students in the French section and some 250 in the Flemish section. This does not seem to worry the Flemish activists unduly in the case of students working for first degrees. A lack of foreign graduate students and visiting scholars, however, would be serious. One answer that might not please the more passionate defenders of Flemish is that many of the more competent researchers already publish their work in international journals, most in English. English already seems to be used as a handy neutral language in the laboratories, and would probably be used even more in a Flemish Louvain.

What is most discouraging to moderates close to the university is that there is "no dialogue" among those at Louvain who should make policy. The university's dual structure reinforces this, and church and government, for their own reasons, are reluctant to act.

The outsider may exaggerate the perils. The two Belgiums have lived for more than a century with their marriage of necessity and have endured other serious crises. But it is difficult to see, at the moment, what compromise will work.

It is ironical that Brussels, the city of convenience for international corporations and the headquarters of NATO and the Common Market, is called the capital of the new Europe, while a few miles away the troubled university is a reminder that the ills of the old Europe are still with us.—JOHN WALSH

## Technology Gap: French Best Seller Urges Europe To Copy U.S. Methods

"In ten or fifteen years, the third international industrial power of the world, after the United States and the U.S.S.R., could be, not Europe, but U.S. industry in Europe."—Le Defi Americain (The American Challenge)

Paris. Le Defi Americain\* has perched near the top of the best-seller list since first appearing 4 months ago. With more than 400,000 copies sold, the book represents one of the most phenomenal publishing successes in recent French history. It has quickly become a cornerstone of European thinking on some current transatlantic controversies: the "technology gap," the "management gap," and American overseas investments.

Written by Jean-Jacques Servan-Schreiber, editor of the weekly *l'Express, Le Defi* warns against the growing power of transplanted American firms in Europe, but without being anti-American. The book rejects, for example, restrictions on American investments. Europe depends on advanced U.S. products for its own growth, says Servan-Schreiber; more important, Europe needs the stimulus derived from American competition and America's demonstrated superiority in both marketing and industrial organization.

Servan-Schreiber sees science and technology as a prime pillar of modern power and the key source of economic growth. He writes with almost uncontrollable admiration about the U.S. economy because it has, he says, successfully integrated science with big industry. That giant step, he repeatedly states, has escaped most of the European firms.

Thus, the "technology gap" exists, but Servan-Schreiber considers it only a symptom of deeper problems. He is primarily interested in identifying the reasons for Europe's industrial retardation, and remedies to cure it. What concerns him is not only the size of America's European investments but U.S. domination in the fastest-growing, most technical industries. By the book's figures, in 1963 U.S. industries controlled 40 percent of the continent's oil distribution, 45 percent of the production of synthetic rubber, 80 percent of the production of computers, 50 percent of semiconductors, and 95 percent of integrated circuits.

Why is Europe lagging? Two themes dominate Le Defi.

The first-that there is too much economic nationalism, derived in part from parochial politics-has attracted the most attention. To compete with large American companies, says Servan-Schreiber, Europe needs Continent-wide firms with capital resources matching those of their American counterparts. It also needs a force similar to the U.S. federal government, which provides billions every year for research and development. The author specifically criticizes the six nations of the European Economic Community (EEC) for having failed to formulate an effective law to stimulate continental mergers.

Second, Servan-Schreiber says that most European efforts to pool scientific talent and resources have faltered because of constant political and financial bickering; nations are stingy with their contributions, and there is an unwritten rule that projects must be planned so as to return each country's financial input to its own economy. Servan-Schreiber prescribes flexible laws for international mergers. More importantly, he



J.-J. Servan-Schreiber SCIENCE, VOL. 159

<sup>\*</sup>Published in French by Plon, 8 rue Garancière, Paris 6; \$5.75. A version in English is to be published this spring.

wants the Six of the EEC to abandon the rule that every major decision must be reached by unanimous vote. He recommends the creation of a new, more independent institution, governed by majority rule, that would disburse R & D funds in major growth areas primarily computers, space technology, atomic energy, and supersonic air travel. This new institution would also have a more autonomous taxing power. Just how much money it would distribute and how it would collect this money are questions left unanswered.

The book's other major arguments have stirred less controversy. According to Le Defi:

• The main problem is not American dollars, but American industrial organization. The ability to accommodate and anticipate rapid change characterizes American businessmen, but not their European colleagues. As a partial result, Europeans have been slow to profit from technological innovations or see the necessity to merge. Le Defi hardly attempts to define how the differences of outlook arose. The book suggests that Europe's problems may stem from a more rigid social hierarchy, and a tendency on the part of large businessmen to prefer economic stability and security to competition and uncertainty. The European businessman (particularly in France) is said to distrust subordinates and, consequently, to centralize his organization, leaving little initiative to men in the lower echelons. Americans, by contrast, are reputed to have a more abiding faith in individual abilities and to prefer flexible and more decentralized organizations.

• There is too little education. Not enough students go on to colleges. In America, more than 40 percent of the 20-24 age group is in college; the comparable statistics for European nations vary from 5 to 16 percent. The lack of universities also retards research. Moreover, there is no European tradition of continuing education such as exists in America. "The value of the engineer, the professor, the bureaucrat, and the journalist would be doubled or trebled if, instead of relying only on the skills learned in school, they could update their training two or three times during their active lives."

For Servan-Schreiber, America's accelerating technical and industrial superiority means that the European countries are slowly slipping from the first rank of civilized nations. Not only will the gap widen between the European and the American standards of living, but Europe will lose most of its economic autonomy. American firms will dominate the Continent, determine what is to be produced, and be the major suppliers of European industry.

"The directing elite of Europe will be formed at Harvard, Stanford, and Berkeley. . . [The Americans] will have majority interest, and therefore the power, in the companies which tomorrow will dominate the press, publishing, films, records, and television."

Le Defi Americain is neither anti-American nor pro-Gaullist. It eagerly advocates that Europeans adopt many American methods, and it supports Britain's entry into the Common Market on the grounds that British industry represents one of the best building blocks for a competitive European economy.

European reviews of the book have been predominantly favorable, but there have been criticisms. The barriers to intracontinental mergers are said to include cultural factors quite as annoying as ambiguous Common Market policies and regulations. The doctrinaire Left has attacked the book for encouraging mergers and deemphasizing nationalization. At least one review has also said that Servan-Schreiber's prediction of Europe's "decline" is a bit alarmist and based on a misinterpretation of his own data.

A more commonly cited fault is that Servan-Schreiber paints an idealized picture of the U.S., forgetting even the more obvious industrial failures and mistakes of the last decade. It is easy to find oversimplifications. For example, Servan-Schreiber emphasizes the huge federal stimulus to R&D but hardly mentions the fact that a large portion of the money was channeled through the Defense Department, where appropriations come most easily. Europe may never be able to find a successful substitute for the Defense Department. In addition, if basic research plays any important role in Le Defi's ideal world, Servan-Schreiber, in nearly 300 pages, avoids saying so.

Some critics contend the book's popularity is a result of a tricky title, good writing, a timely subject, and suave public relations. Whatever its merits or demerits, *Le Defi* seems destined for rising sales and a continuing influence. In fact, so great is its success that it is now being translated into more than ten languages; an English version will appear this spring.

-Robert J. SAMUELSON

## APPOINTMENTS





G. H. Williams

M. B. Abram

George H. Williams, executive vice president for planning and development, New York University, to president of American University. He succeeds Hurst **R.** Anderson, who is to retire. . . . Morris B. Abram, lawyer and senior adviser to the U.S. mission at the United Nations, to president of Brandeis University. . . . Walter S. Root, professor of physiology, College of Physicians and Surgeons, Columbia University, has resigned as managing editor of the Proceedings of the Society of Experimental Biology and Medicine. He has become special member, Field Staff-Consultant, The Rockefeller Foundation in Bangkok. Louis J. Cizek, associate professor of physiology, College of Physicians and Surgeons, Columbia University, has sucuceeded him as managing editor of the Proceedings. . . . Rev. Daniel J. K. O'Connell, director of the Vatican's Observatory, to president of the Pontifical Academy of Sciences. . . . Bernard Berman, president, Bissett-Berman Corporation, California, to member of the Advisory Panel for Sea Grant Institutional Support, NAS. ... Carroll W. Zabel, director of research and associate dean of the Graduate School, University of Houston, to chairman of the AEC's Advisory Committee on Reactor Safeguards; and Stephen H. Hanauer, professor of nuclear engineering, University of Tennessee, has been elected vice chairman. . . . Robert B. Duffield, director of the Argonne National Laboratory, to professor of chemistry, University of Chicago. . . . William von Eggers Doering, former director of the division of sciences, Yale University, to professor of chemistry, Harvard. . . . Charles Kimball, Midwest Research Institute, to member of the Army Scientific Advisory Panel, Department of the Army. . . . William N. Fenton, assistant commissioner for the Museum and Sciences Service, New York State, to professor of anthropology, State University of New York at Albany.

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