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## European Discontent with the "Technology Gap"

When Charles de Gaulle began his anti-American campaign, leaders of other Western European states were slow to join. Recently, however, a focus for common discontent has appeared in the slogan "technology gap." In many fields, Europe's technology is at least equal to that of the United States, but in some highly visible areas, such as aerospace, electronics, and computers, America is preeminent. European leaders feel that the technology gap is growing, and some foresee an "underdeveloped continent" dependent upon the United States.

Many factors contribute to American success, but in Europe two are emphasized. The large U.S. market encourages investments, such as the \$130 million that RCA poured into color television, and the U.S. devotes a greater fraction of its large gross national product to research and development than Western Europe does.

Less talked about are other differences between us. One is a matter of education. In Germany only 8 percent of college-age youths enter universities, while in the United States 40 percent do so. This contrast contributes to a difference in managerial skill. Middle levels of American management are more competent than their European counterparts.

Some of the most important factors in the technology gap are differences in social attitudes. An illustration was provided me by an official of a large European-based oil company that operates laboratories on both sides of the Atlantic. The company had discovered that the cost of performing comparable work on the two continents was the same despite much higher salaries being paid in the United States. The man's explanation was this: in Europe scientists directed the work of technicians while in the United States scientists personally made the measurements. Moreover, in America top scientists were willing to eat cafeteria-style. In Europe, a leisurely lunch must be served, on a white tablecloth.

In a consideration of the technology gap, developments in Japan are relevant. For more than a decade the Japanese have achieved the fastest economic growth of any major nation (about 10 percent per year). Japan has become strong in the production of electronics devices, optical instruments, steel, and chemicals. Today Japan is the leading shipbuilder, and the Japanese have been pioneering in the construction of gigantic oil tankers and bulk carriers. Japan has become a leading exporter of steel, despite the fact that it must import iron ore from overseas and much of its coking coal from West Virginia. Japan did not discover or develop any principal plastic material, yet today it is second only to the United States in the production of plastics. In achieving this progress Japan utilized foreign R & D, purchasing technical know-how and encouraging the establishment of foreign-owned subsidiaries.

In part, the Japanese success is due to a willingness—even an eagerness—to work. In part, it is due to a policy of using and improving on the best ideas of others. Another important factor is educational policy. The Japanese educate a larger proportion of their youth than the Europeans do. More than 80 percent of the top industrial managers in Japan have a university education, as compared with 30 percent in Britain.

European politicians are looking for easy ways to fill the technology gap. They talk of forming a European Technological Community, but this will not suffice. They should consider an additional course—study of and improvement on the best elements of Japanese and American procedures.

—PHILIP H. ABELSON