

From America, too, there is the famous example of Henry Kaiser, who brought assembly line methods to shipbuilding. These are compelling examples of the power of the purchaser to stimulate innovation. But how is the British Government to influence the textile and clothing industries or the printing industry, from which it buys little? The effects of mergers and reorganization of the administration of firms are also likely to be slow.

But isn't foreign competition an important spur to innovation? Won't Britain's entry into the European Eco-

nomic Community, which can be expected fairly soon now that it will help DeGaulle in his aim to keep the Community from developing into a tight political union, stimulate British industry? The critics answer that such competition has always been important for British firms. And yet, Britain's share of total international trade has been falling, just as the United States' share has been. It is clear to economists that an important reason for this lag in export growth has been the relatively high price charged for British manufactures. Furthermore,

many British firms are content to export rugged machinery of conventional design to underdeveloped countries rather than convert to the manufacture of more advanced products.

In short, to some critics of the Ministry of Technology, Britain's technological crisis is serious enough to warrant moving beyond the modest, long-term moves now being made by many governments. They want more direct, brutal intervention. They are not sure they will get it from the newly strengthened government of Harold Wilson.—VICTOR K. MCELHENY

Kapitsa To Visit England

London. In May, Pyotr Kapitsa, the Soviet physicist, is scheduled to visit Britain for the first time since 1934, when he was detained in the Soviet Union during his annual visit to his mother. From 1921 to 1934 he had worked at the Cavendish Laboratory, Cambridge.

Kapitsa has accepted an invitation to come to Britain to receive the Rutherford medal and prize, recently awarded him by the Institute of Physics. He will lecture to the Institute of Physics and the Physical Society, and also to the Royal Society. Kapitsa's Royal talk will be about Lord Rutherford, who was head of the Cavendish during the 13 years Kapitsa worked there.

During his stay at the Cavendish Kapitsa did much work on intense magnetic fields, moving on to elaborate experiments at very low temperatures. A laboratory for Kapitsa's work was opened in 1933 by Prime Minister Stanley Baldwin. By 1934, Sir John Cockcroft has noted, the laboratory was equipped to carry out experiments down to liquid helium temperatures.

Before Kapitsa had published his paper on an expansion-engine helium liquefier which he had designed, he was held in the Soviet Union by Stalin's order. As Cockcroft noted [*New Scientist*, 10 December 1964]:

There were strong protests, particularly by Rutherford. "Science," he said in a letter to the *Times*, "is international and

long may it remain so." However, this was of no avail. In April 1935, the news of Kapitsa's detention was announced in the press and the [Soviet] Academy of Sciences announced that [Kapitsa] had been appointed director of the Institute of Physical Sciences in Moscow and that 3.5 million rubles had been set aside for its building and equipment.

Rutherford then negotiated the sale of the whole scientific equipment of the Mond Royal Society Laboratory [Kapitsa's installation at the Cavendish] to the Academy for £30,000 [over \$120,000]. . . .

These events and Kapitsa's eminence and identification with Britain during an exciting period in the history of physics rouses special interest here in Kapitsa's scheduled visit.

The interest is increased by two recent strong public stands Kapitsa has taken in the Soviet Union. He and many other scientific and literary figures recently signed a letter urging the 23rd Congress of the Soviet Communist Party not to "rehabilitate" Stalin. Then, in January, Kapitsa surprised many by writing an article in *Komсомolskaya Pravda*, the Communist youth newspaper, in which he asserted that the scientific effort of the Soviet Union lagged behind that of the United States. He urged that laboratory directors be given authority to send 15 to 20 percent of the duller, older researchers off to industry, to make room for vigorous younger scientists (see *Science*, 28 January).

Kapitsa's statement was not the first

public discussion of the problem of promoting younger scientists, nor was it his first entry into public controversy since Stalin's death. In early 1962, a campaign to promote men in the 35-40 age range to scientific leadership was announced in the official publication of the Academy of Sciences by Academician V. A. Topchiev. This was followed by a decree.

Three years earlier, in November 1959, Kapitsa had joined two other physicists, Igor Y. Tamm and Lev Artsimovich, in writing a bitter attack, published in *Pravda*, on journalistic coverage of science in the Soviet Union. They declared that a theory, proposed by the astronomer Nikolai A. Kozyrev, that the flow of time produces energy in the universe was vague, unscientific, and unconvincing and that the intense press coverage it received was the sort of "cheap sensation" that was clouding genuine Soviet achievements in science.

Writing in the Communist Party's *Ekonomicheskaya Gazeta* in 1962, Kapitsa condemned the tendency to judge the truth of scientific discovery by misapplying Marxist dialectics. He said that Linus Pauling's theories of chemical bonding, Werner Heisenberg's formulation of the uncertainty principle, and cybernetics were all at one time denounced because of a supposed conflict with Marxism. He also alluded to similar mistakes in the field of biology.

It appears that Kapitsa did not take part in the development of atomic weapons in the Soviet Union. Cockcroft said recently: "I don't think he had anything to do with it. During the war he worked on the liquefaction of oxygen for the steel industry and since then his main interest has been microwave electronics."—V.K.McE.