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MACHLUP, Fritz (1902-1983)

Machlup was born in Wiener Neustadt, near Vienna, on 15 December 1902. He died January 30 1983 in Princeton, New Jersey. Educated at the University of Vienna, he received honorary degrees from Lawrence College, Lehigh University, LaSalle College, University of Kiel, University of St. Gallen, and Case Institute of Technology. Machlup was president of the American Economic Association (1966), the Southern Economic Association (1959-60), the International Economic Association (1971-74), and the American Association of University Professors (1962-64). He was a member of the American Philosophical Society and the National Academy of Education and was named a Fellow of the American Association for the Advancement of Science in 1966. Machlup was also a founding member of the Mount Pelèrin Society, and, in 1963, he organized a committee of academic experts on international finance that came to be known as the Bellagio Group.

At Vienna, Machlup worked under Ludwig von Mises, producing a dissertation in 1923 – when he was not yet 21 – on the gold-exchange standard. Because Mises was employed by the Austrian Chamber of Commerce, however, Machlup's official supervisor was Othmar Spann. Machlup became associated with Mises's circle of economists and philosophers, and he continued his intellectual activities while taking part in his father's cardboard business. In 1927, Machlup became a board member of the Austrian cardboard cartel, an experience that influenced his later interest in industrial organization.

In 1933, Machlup accepted a Rockefeller Foundation grant to come to the United States, where he visited Columbia, Harvard, and Chicago, and became acquainted with many of the leading lights and rising stars of American economics. In 1935, he liquidated his Austrian business interests and took up a position at the University of Buffalo, where he remained until 1947, albeit with many visiting stints elsewhere. During these early years, Machlup's work was focused primarily on issues of international finance. He published papers on the supply of and demand for foreign exchange, and his 1943 book *International Trade and the National Income Multiplier* pointed to the limitations of the Keynesian-multiplier approach to international finance.

Like most Austrian economists of his generation, Machlup was conversant with and interested in philosophical issues and the methodology of economics, and he counted philosophers like Alfred Schultz among his close friends. In one of his earliest publications in English, Machlup asked the profession 'Why Bother with Methodology?' (1936). In a famous exchange of articles beginning in 1946, later dubbed 'the marginalist controversy', Machlup defended Marshallian marginalism against attack from the institutionalist Richard Lester. Machlup's defense of marginalism is often lumped together with that of Milton Friedman, but its philosophical basis is quite different and arguably more sophisticated. Machlup summarized his arguments about marginalism in his 1967 presidential address to the American Economic Association.

In 1947, Machlup moved to Johns Hopkins University. Although he continued his interest in international finance, the late 1940s saw a move in the direction of industrial organization. Machlup's 1949 book on the basing-point system – a scheme according to which all produces charge the same delivered price regardless of transportation costs – is said to have influenced President Truman's veto of a bill that would have enforced the scheme for cement manufacturers. Machlup followed this with two more general treatises on industrial organization, both appearing in 1952.

Throughout his career, Machlup insisted on clarity and simplicity in writing, traits that he himself brought to his adopted language. (And this in sharp contrast to the convoluted formal German that Spann had required of him as a student in Vienna.) One of Machlup's specialties was the essay on the 'semantics' of particular terms in economics, by which he meant a careful survey and analysis of how economist did – and should – use terms. For example, he chided economists (and others) for often implying that equilibrium is necessarily a good thing and disequilibrium always a bad thing. And he gave us his famous definition of statics and dynamics: "Dynamics is my theory; statics is the other fellow's theory." These writings were collected together in his 1963 *Essays on Economic Semantics*.

In 1960, Machlup moved to Princeton, where he succeeded Jacob Viner as the Walker Professor of International Finance. What was to become his more prominent research track, however, was the economics of knowledge and information. Machlup had begun thinking about the production of knowledge in the early 1950s, and in 1958 had produced a thorough analysis of the patent system that is still routinely cited in the literature on intellectual property. In 1962, Princeton University Press published Machlup's *The Production and Distribution of Knowledge in the United States*, a careful treatise on the place of knowledge and the 'knowledge industry' – a Machlup coinage – in the modern economy. The book was immediately hailed as a pioneering work. It stands as the first major scholarly announcement of the 'information revolution' and the 'knowledge society' – ideas that have proved to be among the most significant of the late twentieth century..

In 1971, Machlup retired from Princeton and took up a position at New York University. During the subsequent decade – when he was himself in his 70s – Machlup began the monumental task of expanding and updating the 1962 volume. The new work was to be called *Knowledge: Its Creation, Distribution, and Economic Significance*. Roughly speaking, each volume of the new work was to perform the function that had been played by a chapter of the 1962 volume. Machlup remarked in characteristic fashion that the project was itself 'a flagrant instance of the knowledge explosion'. In many ways, the project was informed by Machlup's interest in semantics as much as by his interest in economics. It was nothing less than an attempt to embrace knowledge in all its manifestations – to categorize it and to discuss its economic implications.

The first of these ten volumes, which was published in 1980, contains a preface in which Machlup recounts his involvement with the topic of knowledge. It is a trail that began with his interest in the theory of the firm in the 1930s; that led to a concern with patent policy; that turned to an interest in research and development and in science-and-technology information; that moved on to the role of education in the R&D process; and that culminated in a concern with the

role that knowledge plays in the economy as a whole. The project was cut short by Machlup's death, but in the end three of the planned volumes found their way into print.

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