

Phillip Frank

The successor to Ernst Mach and Albert Einstein as professor of theoretical physics at the University of Prague, physicist and philosopher Phillip Frank, died on 21 July in Cambridge, Mass. He had taught mathematics and physics at Harvard University since 1938.

Frank was born in Vienna in 1894. He received his PhD at the University there in 1907, and in 1910 joined its faculty as privatdozent of physics. Two years later, Einstein, who was then at Prague, decided to return to Zurich (on his way to Berlin), and recommended Frank to replace him.

Frank remained in his chair at Prague for 26 years. In 1938, Harvard University invited him to come to the US as a visiting lecturer on quantum theory and the philosophy of modern physics. As he was about to begin a scheduled 20-university tour, the Germans invaded Czechoslovakia, and he never returned to Prague. He taught mathematical physics and the philosophy of science at Harvard from 1938 until his retirement in 1954.

Frank first was drawn toward experimental psychology and physiology, but quickly decided that he could not properly understand them without a knowledge of physics and mathematics. These studies, along with the influence of Ludwig Boltzmann, changed his orientation completely. In 1906, Frank also spent some time at Göttingen, where he was further influenced by David Hilbert and Felix Klein. Among his interests at that time were analytical mechanics and its relations with the calculus of variations, electronic theory and the fundamental problems of physics.

About 1908, Frank became acquainted with the special theory of relativity, and this proved a decisive turning point in his intellectual activity. Although he continued to teach mathematical physics until his retirement, he is best known as a philosopher of science, and founder of a

small group of like-minded individuals that came to be known as the Vienna Circle of logical positivists. Their meeting place was one of the old Viennese coffee houses, and the most active members besides himself were the mathematician Hans Hahn and the economist Otto Neurath. Reminiscing in the introduction to his book, *Modern Science and its Philosophy*, Frank wrote: "Our field of interest also included a great variety of political, historical and religious problems which we discussed as scientifically as possible. Discussions about the Old and New Testaments, the Jewish Talmud, St. Augustine, and the medieval schoolmen were frequent in our group. Otto Neurath even enrolled for one year in the Divinity School of the University in order to get an adequate picture of Catholic philosophy, and won an award for the best paper on moral theology."

Frank's first paper on the topic, *The Principle of Causality and Experience*, was published in 1907. It attracted two world-renowned commentators: Lenin and Einstein. Despite Frank's reputation as a positivist, Lenin thought he detected in his interest in the relations between Kant and Poincaré a taint of idealism, and said so in his book, *Materialism and Empiriocriticism*. With Einstein, he fared somewhat better, and this interchange marked the beginning of a lifelong friendship between the two. Some years later Frank wrote *Einstein, His Life and Times*, the definitive biography.

By 1929 the Wiener Kreis was able to arrange joint meetings with the German Physical Society, and two years later established its own journal, *Erkenntnis* (Cognition). That same year, Frank arranged Rudolph Carnap's appointment as the first professor of natural philosophy in the faculty of science at Prague, and a new center of "scientific world conception (the term preferred by the Circle to logical positivism) had been established. In



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the following years a series of meetings on the "unity of science" were held in various European cities. In 1936, while one of these international congresses was in session in Copenhagen, one of the group, Moritz Schlick, was assassinated by a student near his lecture hall at the University of Vienna. His murderer pleaded the extenuating circumstances of indignation over Schlick's "vicious philosophy," and was released from prison two years later after the Anschluss. By the end of 1938, logical positivism had been driven from its birthplace in Central Europe to the United States and Great Britain.

While Frank was at Harvard, he began to take a more historical approach, and this shift of orientation is reflected in all his papers published after 1940. A few years later, he began a reexamination of metaphysical systems as interpretations of science.

Georges Lemaître

The originator of the "Big Bang" theory of cosmology, Georges Lemaître, died in Louvain, Belgium, on 20 June, at the age of 71. Lemaître had spent a year in the mid-twenties touring the big observatories in the United States where he talked to the astronomers involved in the spectacular discovery that many "nebulae" were in fact extragalactic spirals receding at phenomenal velocities. In 1927, he published his solution to the problem en-