

# Biographical Encyclopedia of Astronomers

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Mineur, Henri Pau

Born Lille, Nord, France, 7 March 1899

Died Paris, France, 7 May 1954

Mathematician Henri Mineur played an important role in the development of astrophysics in France. His 1944 recalibration of the zero-point of the Cepheid period-luminosity relationship was unnoticed at the time but presaged the later work of Walter Baade. Mineur was the son of Paul Mineur, a mathematics teacher who taught in Lille

and later at the Lycée Rollin in Paris, and Léonie Jacquet. Henri was a pupil at the Lycée Rollin along with Jean Dufay, who became director of the Lyon Observatory and Haute-Provence Observatory. At 18, Mineur gained entry to the École Polytechnique with a good rank and first-rank entry to the École Normale Supérieure. He chose the latter, but with France engaged in World War I, he instead joined the army. At the end of the war in 1919, Mineur returned to his studies and passed the examination (*l'agrégation*) to teach secondary-school mathematics two years later. After completing his doctoral thesis (on the analytic theory of continuous finite groups) in 1924, he spent the following year teaching mathematics at the Lycée Français in Düsseldorf, Germany. In 1925, he took a position as an *astronome adjoint* at the Paris Observatory, then directed by Benjamin Baillaud. Mineur was already familiar with the observatory, having served there in 1922/1923 as a trainee under Paul Couderc.

After serving in various departments at the Paris Observatory, Mineur became involved in the *Carte du Ciel* project, launched in 1887 by David Gill and Ernest Mouchez. Mineur also researched stellar statistics, a topic that influenced his astronomical career and developed his skills in various domains of astronomy. He received positive reports about his research from others at Paris, including Ernest Esclançon, director at that time

In 1931, Mineur directed the work of several students, including Li Heng (1898–1989), whose work led Mineur to study stellar fields and clusters. Li Heng worked on determining the zero point of the period-luminosity relationship for Cepheid variables, studied their spatial and velocity distributions, and in 1932 submitted a dissertation on his statistical research on Cepheids. After Li Heng's departure from France, Mineur pursued and developed this line of research; in 1944, he published a paper giving corrections for the zero point for classical Cepheids and for RR Lyrae variables. He also noted in a later publication that this result served to multiply the distances to such stars by a factor close to 1.8

The 1936 elections in France gave power to the Popular Front, one of whose innovations related to scientific research led to the appointment of both Irène Joliot-Curie and Jean Baptiste Perrin as Undersecretaries of State for Scientific Research. This subsequently led to the creation of a service for research in astrophysics, which comprised the Haute-Provence Observatory (near Manosque in the south of France) and an associated laboratory in Paris. The observatory and the laboratory would later be attached to the Centre National de la Recherche Scientifique

(CNRS), established in October 1939. Mineur played a large role in this effort along with Daniel Chalonge, an *aide-astronome* at the Paris Observatory after 1933, whom Mineur had previously known as an assistant at the Sorbonne. Mineur later obtained the positions of general secretary of the service and director of the laboratory. Mineur was removed from his position in 1941 by the Vichy government while he was engaged in the resistance; the laboratory was moved to several different locations. Part of the domain of the Paris Observatory was allotted to it. After World War II, a new laboratory building, constructed in 1952, housed the newly named Institut d'Astrophysique de Paris. Mineur, still an assistant astronomer at the Paris Observatory, served as its director until his death. He played a large part in centralizing this hitherto widely dispersed astrophysical research, giving France an important role within it.

Mineur, an astrophysicist concerned with the Milky Way, its constituents, and stellar absorption, was also a mathematician who studied relativity, celestial mechanics, and pure mathematics. He was especially engaged with general problems relating to the treatment of data, and wrote a clear, well-written, and widely used book on the technique of least squares. He trained many students, and his courses in stellar astronomy and lectures on the expansion of the Universe enjoyed large audiences.

Mineur was a talented popularizer, helping amateur astronomers mostly through the articles he published in *L'Astronomie*, the magazine of the Société Astronomique de France, which he had joined in his youth. In declining health by 1952, Mineur attended a meeting in Rome during which Walter Baade announced and Andrew Thackeray confirmed that the calculated distances in the Universe had to be multiplied by a factor of 2; on that occasion, Clabon Allen recalled Mineur's 1944 paper that had presented a similar result, also from consideration of Cepheid and RR Lyrae variables. Mineur's early death was a deep loss within the ranks of his generation of researchers.

Mineur married twice, to Suzanne Fromant in 1926 and to Gabrielle Cloche in 1929.

*Jacques Lévy*

### **Selected Reference**

Mineur, Henri (1938). *Technique de la méthode des moindres carrés*. Paris: Gauthier-Villars.