Le Paige, Constantin | Encyclopedia.com

(*b*. Liège, Belgium, 9 March 1852; *d*. Liège, 26 January 1929),

mathematics.

Le Paige, the son of Jeanne Jacques and Constantin Marie Le Paige, received his secondary education at Spa and Liège. After taking a course in mathematics with V. Falisse, he entered the University of Liège in 1869, where he attended the lectures of E. Catalan, to whom we owe a special form of determinants, the so-called circulants. After his graduation on 28 July 1875, Le Paige began teaching the theory of determinants and higher analysis at the university. He was appointed extraordinary professor of mathematics in 1882, and ordinary professor in 1885, which post he retained until his retirement in 1922; he was appointed professor emeritus in 1923. His wife was the former Marie Joséphine Ernst.

Le Paige began work at a time when the theory of algebraic forms, initiated by Boole in 1841 and developed by Cayley and Sylvester in England, Hermite in France, and Clebsch and Aronhold in Germany, had drawn the attention of the geometers. This theory studies the properties of such forms, which remain unchanged under linear substitutions. Le Paige's investigations touched mainly upon the geometry of algebraic curves and surfaces, and the theory of invariants and involutions. He coordinated and generalized the extensions which at that time had been tried. His best-known achievement was the construction of a cubic surface given by nineteen points. Starting from the construction of a cubic surface given by a straight line, three groups of three points on a line, and six other points, Le Paige comes to the construction of a cubic surface given by three lines and seven points. From this he proceeds to the construction of a cubic surface given by a line, three points on a line, and twelve other points, and by means of the construction of a cubic surface given by three points on a line and sixteen other points, he arrives at a surface given by nineteen points.

Steiner's theorem, that a conic section can be generated by the intersection of two projective pencils, had been extended by Chasles to plane algebraic curves. Le Paige also studied the generation of plane cubic curve given by nine points is presented in his memoir "Sur les courbes du troisième ordre" (*Mémoires de l' Académie royale de Belgique*, 43 [1881] and 45 [1882]), written with F. Folie.

Besides writing on algebraic geometry, Le Paige was also a historian of mathematics. He published the correspondence of Sluse, canon of Liège, with Pascal, Huygens, Oldenburg, and Wallis. His "Notes pour servir à l'historic des mathématiques dans l'ancien pays de Liège" (Bulletin de l'Institut archéologique liègeois, 21 [1890]), devotes a large section to the Belgian astronomer Wendelin, and in "Sur l'origine de certains signed d'opération" *(Annales de la Société scientifiques de Bruxelles*, 16 [1891-1892]) Le Paige explains the origin of the symbols of operation. After his appointment as director of the Institut d'Astrophysique de Cointe-Sclessim in 1897 Le Paige wrote a number of astronomical treatises.

Le Paige was elected a member of the Royal Academy of Sciences of Belgium in 1885. His international reputation is attested by the following partial list of his affiliations: member of the Royal Society of Sciences of Liège (1878) and of the Royal Society of Bohemia; corresponding member of the Pontificia Accademia dei Nuovi Lincei (1881) and of the Royal Academy of Sciences of Lisbon (1883); and honorary member of the Mathematical Society of Amsterdam (1886).

BIBLIOGRAPHY

In addition to the works mentioned in the text, Le Paige published the following astronomical works: "Sur la réduction au lieu apparent. Termes dus à l'aberration," in *Mémoires de la Société royale des Sciences de Liège*, **3** (1901); and "Étude sur les visées au bain de mercure," *ibid*.

A fuller account of Le Paige's work and a complete list of his publications is given in L. Godeaux, "Notice sur Constantin le Paige," in *Annuaire de l' Académie royale de Belgique*, **105** (1939), 239-270.

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