

Ocagne, Philbert Maurice D' | Encyclopedia.com

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(b. Paris, France, 25 March 1862; d. [Le Havre](#), France, 23 September 1938)

mathematics, applied mathematics, history of mathematics.

D'Ocagne was a student and then *répétiteur* at the École polytechnique. He then became a civil engineer and a professor at the École des Ponts et Chaussées. In 1912 he was appointed professor of geometry at the École Polytechnique. He was elected to the Académie des Sciences on 30 January 1922.

Active both as researcher and teacher, d'Ocagne published a great many articles, mostly on geometry, in mathematical journals and in the *Comptes rendus...de l'Académie des sciences*. His name, however, remains linked especially with graphical calculation procedures and with the systematization he gave to that field under the name of nomography. Graphical calculation consists in the execution of graphs employing straight-line segments representing the numbers to be found. This discipline was reduced to an autonomous body of principles chiefly through the work of Junius Massau (1852–1909). Nomography, on the other hand, consists in the construction of graduated graphic tables, nomograms, or charts, representing formulas or equations to be solved, the solutions of which provided by inspection of the tables.

The overwhelming majority of formulas and equations encountered in practice can be represented graphically by three system of converging straight lines. By making a dual transformation on the nomograms d'Ocagne obtained nomograms on which the relationship among the variables consisted in the alignment of numbered points. Hence this type of nomograms is called an aligned-point nomogram.

In a pamphlet published in 1891 d'Ocagne presented the first outline of a rationally ordered discipline embracing all the individual procedures of nomographic calculation then known. Pursuing this subject, he succeeded in defining and classifying the most general modes of representation applicable to equations with an arbitrary number of variables. The results of all these investigations, along with a considerable number of applications, were set forth in *Traite de nomographie* (1899), which was followed by other more or less developed expositions. This material appeared in fifty-nine partial or entire translations in fourteen languages.

D'Ocagne retained a lifelong interest in the history of science and published many articles on the subject, some of which were collected.

BIBLIOGRAPHY

D'Ocagne published many articles in *Comptes rendus...de l'Académie des sciences*, *Revue de mathématiques spéciales*, *Nouvelles annales de mathématiques*, *Annales des ponts et chaussées*, *Bulletin de la Société mathématique de France*, *Enseignement mathématique*, *Mathésis*, and other journals. His books include *Nomographie, les calculs usuels effectués au moyen des abaques* (Paris, 1891); *Le calcul simplifié*

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Jean Itard