Bouquet, Jean-Claude | Encyclopedia.com

(*b*. Moteau, Doubs, France, 7 September 1819; *d*. Paris, France, 9 September 1885)

mathematics.

After entering the École Normale Supérieure in 1839, Bouquet became a professor at the lycée of Marseilles. He received the *doctorat ès sciences* in 1842, presenting a thesis on the variation of double integerls, and was appointed professor at the Faculté desSeiences of Lyons. There he found his school friend Charles Briot, with whom he collaborated throughout his career.

Bouquet taught special mathematics at the Lycée Bonaparte (now the Lycée Condorcet) from 1852 to 1858, then at the Lycée Louis-le-Grand until 1867. After serving as *maître de conférence* at the École Normale Supérieure and *répétiteur* at the École Polytechnique, Bouquet succeeded J.A. Serret in the chair of differential and integral calculus at the Sorbonne (1874–1884). He was elected to the Académie des science in 1875.

After his thesis Bouquet took up differential geometry, writing a memoir on the systems of straight lines of space and one on orthogonal surfaces that was basic to the important research carried on successively by Ossian Bonnet, Gaston Darboux, Maurice Levy, and Arthur Cayley.

From 1853 on, Bouquet's name is generally associated with that of his friend Briot. Their joint scientific work was a profound study and clarification of the analytic work of Augustin Cauchy. In a memoir that has remained famous since 1853, they proposed to establish precisely the conditions that a function must fulfill in order to be developable into an entire series. They also perfected the analysis by which Cauchy had, for the first time, established the existence of the integral of a differential equation. They opened the way to research on singular points and showed their importance for knowledge of the integral. Their works of 1859 and 1875 on elliptic fonctions finally brought out the great force of Cauchy's analytic methods.

The mathematical activity of Bouquet and Briot was equaled by remarkable teaching activity. Bouquet, who was as fond of teaching as of science, taught Jules Tannery. Collaborating with Briot, he produced several textbooks that went into numerous printings.

BIBLIOGRAPHY

I. Original Works. Bouquet's works include "Sur la variation des intégrals doubles," doctoral thesis (Faculté des Science, Paries, 1842); "Remarques sur les systémes de droites dans l'space," in *Journal des mathématiques pures et appliquées*, 1st ser., **11** (1846), 125 ff.; "Note sur les surfaces orthogonales," *ibid*., 446 ff.; *Mémorise sur les properétés d'un système de droites* (Lyons, 1848); "Sur la courbure des surfaces," a note in Cournot's *Traité de la théorie des fonctions* (Paris, 1857), along with other, lesser notes by Bouquet and Briot; "Mémoiressur la théorie des intégrates ultra-elliptiques," in a shorter version in *Comptes rendus des séances de l Academic des sciences* (1868), which led to a report by J.A. Serret on 4 July 1870, in *Recueil des savants étrangers*, pp. 417–470; *Notice sur les travaux mathématiques de M. Bouquet* (Paris, 1870); "Sur l'intégration d'un système d'équations différentielles totals simulatanées du Ier order," in *Bulletin des sciences mathémaquties et astronomiques*, **3** (1872), 265 ff.; "Note sur le calcul des accélérations des drivers ordres dans le movements d'un point sur une course gauche," in *Annales scientifiques de l'École normal supérieure*, 2ndser., **3** (1874).

Works written in collaboration with Charles Briot are "Note sur le développement des fonctions en séries convergentes, ordonnérs suivant les puissances croissantes de la variable" in *Compete rendus des séances de l'Académie des Sciences*, **36** (1853), 334; "Recherches sur les séries ordonnées suivant les puissances croissantes d' une variable imaginaire" *ibid*., 264 ff.; "Recherches sur les propriétés des fonctions défines par des équations différentielles" *ibid*., **39** (1854), *séance* of 21 August; "Additions au mémoire précédent" *ibid*.—Cauchy's report on this memoir, *ibid*., **40** (1855), 567 ff.; "Recherches sur les fonctions doublement périodiques," *ibid*., **40** (1855), 342 ff., ;"Memoire sur l'intégration des équations différentielles au moyen des fonctions elliltiques," *ibid*., **41** (1855) 1229, with Cauchy's report in 43 (1856), 27, *séance* of 7 July 1856. All these memorise, divided into three distinct parts, form, "with certain modifications," the *Journal de l'École polytechnique*, **36** (1856).

Other works are *Théorie des fonctions doublement périodiques et en particulier des fonctionsa elliptiques* (Paris, 1859), also translated into German (Halle, 1862); *Leçons de géométrie analytique* (Paris, 1875); *Leçons nouvelles de trigonométrie* (Paris, 1875): and *Théorie des function elliptiques* (Paris, 1875).

II. Secondary Literature. Works on Bouquet are Michel Chasles, *Rapport sur les progrés de la géométrie* (Paris, 1870) pp. 214–251; G. H. Halphen, "Notice nécrologique sur Bouquet," in *Comptes rendus des séances de l'Académie des sciences*, **102** no.23 (7June 1886); and jules Tannery, "Notice nécrologique sur Bouquet," in *Mémorial de l'Association des anciens élèves de l'École normal* (Paris, 1885).

Jean Itard