Codazzi, Delfino | Encyclopedia.com

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(*b* Lodi, Italy, 7 March 1824; *d* Pavia, Italy, 21 July 1873),

mathematics

Codazzi first taught at the Ginnasio Liceale of Lodi; then at the *liceo* of Pavia; and, from 1865 to his death, at the University of Pavia as professor of complementary algebra and analytic geometry and, for a while, of theoetical geodesics. His best-known paper, on the applicability of surfaces, was written as an entry in a prize competition sponsored in 1859 by the French Academy. All three entries in the contest—those of Edmond Bour, Ossian Bonnet, and Codazzi—have been very valuable, Bour's and Bonnet's papers were published long before that of Codazzi, which appeared in 1883; however, its main ideas were incorporated in a paper in *Annali di matematica pura ed applicata* (1867–1872). Here we find the formulas that Bonnet (1863) called "les formules de M. Codazzi." They were not new, for Codazzi's colleague at Pavia, Gaspare Mainardi, had derived them in his paper "Su la teoria generale delle superficie" (1856); however, Codazzi's formulation was simpler and his applications were wider. Bonnet (1867) used Codazzi's formulas to prove the existence theorem in the theory of surfaces.

Codazzi also published on isometric lines, geodesic triangles, equiareal mapping and the stability of floating bodies.

BIBLIOGRAPHY

Codazzi's papers are in *Annali di scienze matematiche e fisiche*, **7** (1856) and **8** (1857), continued in *Annali di matemarica pura ed applicata***1** (1858) and 2nd ser., **1–5** (1867–1872). His best-known paper is "Mémoire relatif a l'application des surfaces les unes sur les autres," in *Mémoires présentés par divers savants à l'Académie des sciences de l'Institut de France***27**, no. 6 (1883), 29–45; its main ideas are incorporated in the paper "Sulle coordinate curvilinie d'una superficie e dello spazio," in *Annali di matematica pura ed applicata*, 2nd ser., **1** (1867–1868). 293–316, **2** (1868–1869), 101–119; **3** (1869–1870), 269–287; **4** (1870–1871), 10–24; **5** (1871–1872), 206–222.

The only biographical material on Codazzi seems to be U. Amaldi, in *Enciclopedia italiana*, app. 1 (Rome, 1938), 438; and E. Beltrami, a biographical notice, in *Memorie per la storia dell 'Universita di Pavia*, ser. la (1878), 459. On the history of Codazzi's formulas see G. Darboux, *Leçons sur la théorie générale des surfaces* 11 (Paris,1889), 369. n. 1. Codazzi's formulas were derived in Gaspare Mainardi, "Su la teoria generale delle superficie," in *Giornale del R. Istituto lombardo*, **9** (1856), 385–398. Bonnet's relevant papers are "Note sur la théorie de la déformation des surfaces," in *Comptes rendus hebdomadaires des séances de l'Académie des sciences***57** (1863), 805–813; and "Mémoire sur la théorie des surfaces applicables sur une surface donnée," in *Journal de l'École polytechnique***42** (1867), 1–151.

Some of the data in this article were supplied by professors A. Pensa and S. Cinquini of the University of Pavia.

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