

Deparcieux, Antoine | Encyclopedia.com

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(b. Clotet-de-Cessous, France, 28 October 1703; d. Paris, France, 2 September 1768)

mathematics.

Deparcieux's father, Jean-Antoine, was a farmer; his mother was Jeanne Donzel. Orphaned in 1715, he was educated by his brother Pierre, who sent him at fifteen to the Jesuit college at Alès. In 1730, after finishing his studies, Deparcieux went to Paris, where he became a maker of sundials. He also investigated problems of hydraulics and conceived a plan for bringing the water of the Yvette River to Paris, which was carried out after his death. In 1746 he was admitted to membership in the Academy of Sciences.

In his *Nouveaux traités de trigonométrie rectiligne et sphérique* (Paris, 1741) Deparcieux gives a table of sines, tangents, and secants calculated to every minute and to seven places, and a table of logarithms of sines and tangents calculated to every ten minutes and to eight places. He also gives the formula for $\tan a/2$ in the form of two proportions:

$$\sin s : \sin (s - c) = \sin (s - b) \sin (s - a) : x^2$$

but he did not use the words "cosine" and "cotangent." After long investigations of tontines, individual families, and religious communities, Deparcieux published his results in the famous *Essai sur les probabilités de la durée de la vie humaine* (Paris, 1746; suppl., 1760), one of the first statistical works of its kind. It consists of treatises on annuities, mortality, and life annuities. Deparcieux showed a real progress in his theoretical explanation of the properties of the tables of mortality. However, his tables, which were for a long time the only ones on life expectancies in France, indicated too small a value for the probable life expectancy at every age. He also made further inquiries on the concept of the mean life expectancy.

BIBLIOGRAPHY

On Deparcieux or his work, see J. Bertrand, *L'Académie des sciences et les académiciens de 1666 à 1793* (Paris, 1869), pp. 167, 168, 288, 289; A. von Braunmühl, *Vorlesungen über Geschichte der Trigonometrie*, II (Leipzig, 1903), 90; and G. F. Knapp, *Theorie des Bevölkerungs-Wechsels* (Brunswick, 1874), pp. 68–73.

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