Thompson, D'Arcy Wentworth | Encyclopedia.com

(*b*. Edinburgh, Scotland, 2 May 1860; *d*. St Andrews, Scotland, 21 June 1948)

natural history, classics, mathematics, oceanography.

Thompson was the son of D'Arcy Wentworth Thompson, classical master at the Edinburgh Academy and, later, professor of classics at Queen's College, Galway. His mother was Fanny Gamgee, daughter of Joseph Gamgee, a veterinary surgeon. Her brother was Arthur Gamgee, "the first biochemist." Thompson was educated at the Edinburgh Academy and the University of Edinburgh (1877–1880), where he studied anatomy under Turner, chemistry under Crum Brown, and zoology under Wyville Thomson, recently returned from the *Challenger* expedition. He then studied at Trinity College, Cambridge (1880–1883), where he was subsizar and later scholar, and where he read zoology under Francis M. Balfour and physiology under Michael Foster. While there he published his first work, a translation of H. Müller's *Fertilisation of Flowers*, for which Charles Darwin wrote the preface. He gained first-class honors in parts I and II of the natural sciences tripos and for a year taught physiology under Foster. In 1884 Thompson was elected professor of biology at University College, Dundee, and in 1917 was transferred to the chair of natural history at St. Andrews.

Thompson's first marine investigation, that of the fur-seal fisheries, took place in 1896, when he was sent by the British government to the Bering Sea. After representing Great Britain at Washington, D.C., at the Anglo-American commission of inquiry into the Bering Sea seal fishery in 1897, Thompson was made Companion of the Order of the Bath in 1898, in recognition of the success of his mission. A foundation member of the Conseil Permanent International pour le'Exploration de la Mer, he served on the Council from 1902 to 1947, was chairman of the Statistical Committee, and editor of the *Bulletin Statistique* (1902–1947).

In 1901 Thompson married Maureen Drury; they had three daughters. In 1916 he was elected fellow of the Royal Society, in 1928 president of the Classical Association (of England and Wales), from 1934–1939 president of the Royal Society of Edinburgh, and in 1936 president of the Scottish Classical Association. He was awarded a knighthood during the coronation honors in 1937.

Thompson did not fit into any particular category; he was equally a scholar, scientist, naturalist, classicist, mathematician, and philosopher. Inheriting a love of the classics from his father and brought up by his scientific grandfather, he straddled two worlds and dominated both.

Thompson's paper "On the Shapes of Eggs and the Causes Which Determine Them," published in *Nature*, 1908, shows the direction in which his thought was taking him. In his 1911 presidential address to section D of the British Association, "Magnalia Naturae; or the Greater Problems of Biology," he discussed, for the first time, what he called "the exploration of the borderline of morphology and physics." This was preparatory to the 1917 *On Growth and Form*, his great contribution to scientific literature. In this work Thompson departed from contemporary zoology, which was occupied with orthodox questions of

comparative anatomy and evolution, and treated morphological problems by mathematics. The theme was original, unorthodox, and revolutionary. The chapter "On the Comparison of Related Forms" is a demonstration of the orderly deformation of related organic forms mapped out in accordance with Descartes's method of coordinates. The diagrams of transformation have contributed to other work on problems of growth and have influenced research in embryology, taxonomy, paleontology, and ecology.

Thompson initiated no school of research and was followed by no band of disciples. But the indirect influence of *On Growth and Form* is so wide and so important that it is hard to calculate. Scientists, engineers, architects, painters, and poets have acknowledged their indebtedness to this essay that ranges over a wide field of scientific discovery, thought, and history.

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Ruth D'Arcy Thompson