

Gavin Rylands de Beer (1899-1972)

Gavin de Beer was an English zoologist known for his contributions to evolution and embryology, in particular for showing the inadequacy of the germ layer theory as it was then proposed. He was born in London, England, on 1 November 1899, but was raised for his first thirteen years in France where his father worked for a telegraph company. He entered Magdalen College, Oxford, in 1917 but his studies were soon interrupted by World War I. After serving in the military, he returned to Oxford where he studied under Edwin Goodrich. He graduated in 1922 but stayed on as a fellow of Merton College and to teach in the Zoology Department. He was the Jenkinson Memorial Lecturer between 1926 and 1938.

During his time at Oxford, de Beer authored his first major work, *An Introduction to Experimental Embryology*, which was published in 1926. The book contained de Beer's observations that certain cartilage and bone cells are derived from an area of the ectoderm, now known as the neural crest, instead of the mesoderm, as germ layer theory then asserted. After the publication of this book, he began favoring comparative and descriptive methods over experimentation in his research. In 1930 he released another book, *Embryology and Evolution*, later retitled *Embryos and Ancestors*. This book contained de Beer's ideas about his developmental theory of evolution, which combined Mendelian genetics with Charles Darwin's theory of natural selection. De Beer also built on Walter Garstang's paedomorphosis, a refutation of the argument that ontogeny recapitulates phylogeny (also called recapitulation), meaning that the embryonic stages of an advanced species' development are representative of the adult forms of the ancestors of that species. The argument in *Embryology and Evolution* began more specifically by refuting claims about recapitulation and development made by Ernst Haeckel, a strong proponent of the idea.

De Beer also actively collaborated with Julian S. Huxley, a fellow scientist studying development, and together they published *The Elements of Experimental Embryology* in 1934. This book combined the work of the two authors with Hans Spemann's organizer concept and Charles Manning Child's concept of axial gradients to better explain the process of development. In 1938 de Beer moved to University College, London, to perform further research in embryology, and in 1940 he became a Fellow of the Royal Society. During World War II he again served in the military, working in intelligence and propaganda. After the war, De Beer returned to London as Professor of Zoology at University College and served as president of the Linnaean Society from 1946 until 1949.

Over the next few decades he would head many important societies and organizations, including a ten-year term as Director of the British Museum of Natural History and serving as president of the Fifteenth International Congress of Zoology in 1958. He was knighted in 1954. De Beer retired from his position at the Museum of Natural History as well as his other academic posts in 1960 to dedicate his full attention to writing about the life and work of Charles Darwin, evolution—and Switzerland and the Alps. He died in 1972.

Sources

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3. Gilbert, Scott F., ed. "Ernst Haeckel and the Biogenetic Law." *Developmental Biology*. Sunderland: Sinauer Associates Inc., 2006. <http://8e.devbio.com/article.php?id=219&search=recapitulation>