



Homological Algebra 1956

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Henri Cartan and
Samuel Eilenberg

Henri Cartan and Samuel Eilenberg first met in 1947 in New York, and an intellectual collaboration and friendship ensued. They spent five years writing this book together between meetings in Paris and New York. The manuscript acquired the nickname “Diplodocus,” after the dinosaur of the same name, because it was so

large. Many people, unable to wait for the book, made use of Cartan and Eilenberg’s draft notes. The eventual outcome of their collaboration was *Homological Algebra*, in which the authors tied together strands of algebra and topology to create the new mathematical field named in the book’s title. Homological algebra is an area of mathematics in which the techniques of topology are applied to the structure of algebra.

For more than forty years this book has been considered the primary reference for homological algebra. Not only did it develop an entirely new field, it also provided the tools for the development of modern algebraic geometry. In the decade leading up to the book’s publication, the methods of algebraic topology had invaded the domain of pure algebra and initiated a number of internal revolutions. The purpose of this book was to present a unified account of these developments and to lay the foundations of a full-fledged theory of algebraic topology.

Both Cartan and Eilenberg won the prestigious Wolf Prize, established in 1978 to honor scientists who promote science that benefits humankind. Eilenberg wrote, with Norman Steenrod, *Foundations of Algebraic Topology* (Princeton, 1952), which also remains a primary work in the field.