

Bayliss and Starling Biography

Bayliss and Starling

The following sections of this BookRags Literature Study Guide is offprint from Gale's For Students Series: Presenting Analysis, Context, and Criticism on Commonly Studied Works: Introduction, Author Biography, Plot Summary, Characters, Themes, Style, Historical Context, Critical Overview, Criticism and Critical Essays, Media Adaptations, Topics for Further Study, Compare & Contrast, What Do I Read Next?, For Further Study, and Sources.

(c)1998-2002; (c)2002 by Gale. Gale is an imprint of The Gale Group, Inc., a division of Thomson Learning, Inc. Gale and Design and Thomson Learning are trademarks used herein under license.

The following sections, if they exist, are offprint from Beacham's Encyclopedia of Popular Fiction: "Social Concerns", "Thematic Overview", "Techniques", "Literary Precedents", "Key Questions", "Related Titles", "Adaptations", "Related Web Sites". (c)1994-2005, by Walton Beacham.

The following sections, if they exist, are offprint from Beacham's Guide to Literature for Young Adults: "About the Author", "Overview", "Setting", "Literary Qualities", "Social Sensitivity", "Topics for Discussion", "Ideas for Reports and Papers". (c)1994-2005, by Walton Beacham.

All other sections in this Literature Study Guide are owned and copyrighted by BookRags, Inc.

Contents

Bayliss and Starling Biography.....	1
Contents.....	2
Biography.....	3

Biography

In 1902, William Bayliss and Ernest Starling collaborated in the discovery of secretin, which they named hormone. The men became brothers-in-law as well, when Bayliss married Starling's sister in 1893. Bayliss was also noted for work on Vaso-motor reflexes and treatment of surgical shock in World War I. Starling was also noted for studies of the heart, circulation, and kidneys.

Bayliss was born into a wealthy manufacturing family in Wolverhampton, Staffordshire, England. He first intended to become a physician and studied medicine at University College, London, but opted instead to study physiology at Oxford University. In 1888 he joined the faculty at University College.

Starling was born in London into a professional family--his father was a lawyer. He received his medical degree in 1889 from Guy's Hospital, London, where he became a lecturer in physiology. He met Bayliss in 1890 while doing research at University College and joined its faculty in 1899. That same year, Starling showed that food in the intestine triggers a nerve signal that causes some intestinal muscles to contract and others to relax. The action produces the wave pattern called peristalsis that moves food through the intestine. The discovery is sometimes called Starling's Law of the Intestine.

The Bayliss-Starling collaboration on hormones began in 1902 when they studied pancreatic secretion of digestive fluid as food leaves the stomach and enters the intestine. The Russian physiologist, Ivan Petrovich Pavlov, believed the secretion was controlled by nervous system signals. Hoping to prove this through experimentation, Starling and Bayliss cut the nerves of an animal's intestine, then injected food from its stomach into its intestine. The experiment disproved Pavlov's theory; the pancreas produced digestive fluids normally. Further investigation showed that the signal to the pancreas was chemical. The intestinal wall secreted a substance into the bloodstream that stimulated the pancreas. They named this substance secretin.

In 1905, they used the word "hormone" (from the Greek, meaning shock or impulse) to refer to secretin. Based on the earlier work of Edward Sharpey-Schäfer, Jokichi Takemine, and Jacob Abel, Bayliss and Starling applied the term to the entire class of chemicals that work in that manner.