Archibald Geikie (1835–1924): A Pioneer Scottish Geologist, Teacher, and Writer

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EARLY LIFE AND EDUCATION

Archibald Geikie was born into a middle-class family in Edinburgh in 1835. He was the eldest child of James Stuart Geikie (1811–1883), a chemist and musician, and Isabella Laing Thom (1808–1895), daughter of a captain in the merchant marines. The family was to welcome seven other children during the following seventeen years. His father owned a perfume shop and was also a church musician and later a music critic for The Statesman. He took his son to concerts in Edinburgh, which gave Geikie a taste for music.

Geikie entered Mr. Black’s School at age seven and proved to be an outstanding student, and in 1845, he matriculated at the Edinburgh High School (now the Royal High School), which James Hutton had attended. Geikie enjoyed studying Latin and Greek classics as well as natural history and geology. His passion for geology was stimulated by finding Carboniferous fossils during Saturday trips south of Edinburgh. Later he recalled that he was impressed by the fact that the sedimentary rocks contained fossils of plants and animals never seen by humans. The rich geology of Scotland indeed attracted many minds, including Geikie’s younger brother James Murdoch Geikie (1839–1915), who also became a geologist.

At age 15, Geikie apprenticed in a law office as preparation for a banking career. He found the legal work boring and left it two years later, but there he learned how to write reports. Meanwhile, he read every geology book he could find, including John Playfair’s Illustrations of the Huttonian Theory, Henry de la Beche’s Geological Manual, Charles Lyell’s Principles of Geology, and Hugh Miller’s The Old Red Sandstone.

BECOMING A GEOLOGIST

In the summer of 1851, while the Great Exhibition in London was attracting so many people, Geikie decided instead to visit the Island of Arran in the Clyde estuary and study its geology, aided by a brief report by Andrew Ramsay of the British Geological Survey. Geikie came back with a report titled “Three weeks in Arran by a young geologist,” published that year in the Edinburgh News. This report impressed Hugh Miller so much that the renowned geologist invited its young author to discuss geology over a cup of tea. Miller became Geikie’s first mentor. In this period, Geikie became acquainted with local scientists and privately studied chemistry, mineralogy, and geology under Scottish naturalists, such as George Wilson, Robert Chambers, John Fleming, James Forbes, and Andrew Ramsay—to whom he confessed his desire to join the Geological Survey.

In 1853, Geikie visited the islands of Skye and Pabba off the coast of Scotland and reported his observations of rich geology, including finds of Liassic fossils. Hugh Miller arranged for him to exhibit these fossil finds at the Royal Physical Society’s meeting that year—his first presentation at a professional gathering. Geikie’s reports of Skye and Pabba were published in 1858 in Quarterly Journal of Geological Society of London and Proceedings of the Royal Physical Society of Edinburgh, respectively. Recently, Betterton (2019) has provided the unpublished reports of Geikie’s early fieldwork, which demonstrate the literary, scientific, and painting skills of the young geologist.

In 1854, Geikie entered the University of Edinburgh but had to leave without graduation due to family financial problems resulting from Geikie’s younger brother William’s involvement in 1855 of stabbing a man. Shortly thereafter, when Sir Roderick Murchison, the director-general of the Geological Survey of Great Britain, asked Miller to introduce a young geologist to map the East Lothian district (a project begun by John Ramsay), Miller at once recommended Geikie. Thus, at age 20, Geikie began working at the Geological Survey, just a year after he had left the university.

Geikie’s excellent fieldwork at the Survey as well as his first major publication in 1858, The Story of a Boulder or Gleanings from the Note-book of a Field Geologist, impressed Murchison, who became Geikie’s second and most powerful mentor. When a separate branch of the Geological Survey for Scotland was founded in 1867, Murchison nominated Geikie (at age 32!) to become its director. Murchison also established a chair for professor of geology and mineralogy in 1871 at the University of Edinburgh and appointed Geikie the first professor. (Geikie held