

John George Children (1777–1852)

John George Children described several species of insects and animals while working at the British Museum in London, England, in the eighteenth and nineteenth centuries. Children also conducted research on chemical batteries called voltaic cells and briefly studied and manufactured gunpowder. One of the species he described, the Children's python, or *Antaresia childreni*, was used in the twenty-first century as the subject of experiments that involved the biological cost of reproduction in snakes. Those experiments helped examine the importance of thermoregulation during gestation as a possible reason for the evolution of live birth in previously egg-laying species. By researching the Children's python, Children contributed to the many species of animals used to research reproductive physiology.

Children was born on 18 May 1777 at Ferox Hall, an estate in Kent, England, to Susanna Jordan and George Children. Children's mother died six days after giving birth to him. His father, a banker, was dedicated to his son's upbringing as well as public affairs. Children's father was also his benefactor and provided the location and the funds for his early research.

Children received his early education at boarding schools, specifically, Tonbridge School in Kent, England, and Eton in Windsor, England. In 1795, he was admitted to Cambridge University in Cambridge, England, and studied to become a reverend. However, after becoming engaged in 1798 he left Cambridge University without earning a degree. He married Hester Anna Holwell on 24 June 1798 and, in 1799, they had a daughter together, Anna Atkins. The following year, Holwell died unexpectedly. According to his obituary, Children had intended to return to Cambridge to continue pursuing a career in the church, but instead he traveled to Portugal and North America to mourn his loss.

Children became ill during his travels with what was described as a lake-fever and returned home in 1805 to build a laboratory in his father's home at Ferox Hall. There, he conducted experiments in mineral chemistry, using his father's wealth to fund them. In those experiments, Children constructed a voltaic battery, the largest in existence at the time. A voltaic battery consists of a positively charged metal plate and a negatively charged metal plate. Negatively charged particles called electrons move between the metal plates, creating an electric current. Children conducted the experiment to test the use of mineral chemistry in producing electricity. Minerals are solid, inorganic substances, meaning they do not contain the element carbon. Children experimented with separating minerals into positively and negatively charged particles. He attempted to use those positive and negative particles in the positive and negative plates in voltaic cells.

As a result of his work with mineral chemistry, Children worked with many scientists, including Humphrey Davy, a chemist who isolated many chemical elements for the first time, including potassium and sodium. Children conducted a series of experiments at Ferox Hall with Davy between 1808 and 1812. Many of those experiments continued Children's work with voltaic cells and batteries, while others covered topics like using chemistry to design new light sources. In 1808, Children published an article in the *Philosophical Transactions of the Royal Society of London*, in which he described those experiments. In 1813, Children built a second battery, and each of its plates had an area of 32 square feet, as opposed to the one he had built before with plates of 8 square feet. That was the last major experiment on voltaic cells that Children conducted.

On 20 December 1809, Children married a second time to Caroline Wise, who died the following year. In 1812 Tonbridge Bank, which Children's father owned and operated, failed, ultimately bankrupting the family. As a result, Children discontinued his research with voltaic cells and started a gunpowder business, which ultimately failed a few years later. As a result, Children gave up his

research entirely to seek employment. In 1816, Children became the assistant librarian in the department of antiquities at the British Museum in London, England. His father died in 1818 in a small house at Chelsea that Children had bought for him. On 31 May 1819, Children married a third time, to a widow named Eliza Towers.

In March 1822, the British Museum re-assigned Children to the department of natural history, where he served as director of zoology. Many experts in the field of zoology contested Children's appointment to his position as director of zoology, as he had little experience in the natural sciences. Despite the critiques, Children was assigned to the position and remained in that station for eighteen years.

During his years with the British Museum as the director of the zoology department, Children was the first to describe several species, along with his assistant, John Edward Grey. As a result, many species were named after him. Among them was the Children's python, *Antaresia childreni*, an Australian snake measuring one meter in length and with a color pattern of either a solid light brown or light brown with darker brown spots. The Children's python often goes for a month at a time without water and can survive in hot desert temperatures. Such a characteristic has made them subjects for studies on reproduction in reptiles in the twenty-first century. Children was also the first to describe the Australian stick insect, or *Tropidoderus childrenii*, the mineral childrenite, and the North American lady beetle, or *Exochomus children*, all of which were named after Children as well.

During his career, Children translated several pieces of scientific literature into English. He translated Jean-Baptiste Lamarck's book, *The Genera of Shells*, from French into English and provided annotations. Lamarck was a plant biologist and naturalist, and *The Genera* was a catalogue of species of mollusks, invertebrates with soft, unsegmented bodies, that live in aquatic habitats and often have a shell. Additionally, Children translated Louis Jacques Thénard's *Essay on Chemical Analysis* from French into English, in which he explains how chemists create salt products using ammonium.

Along with his translating work, Children wrote many papers on mineral chemistry for the journal *Annals of Philosophy* and was an editor for the *Quarterly Journal of Science* and the *Zoological Journal*. According to historian Sophie Forgan, there was some doubt about the authorship of three articles Children published on zoology. In 1808 Children published an article in the *Annals of Philosophy* on the voltaic battery that he had built, which was more powerful than any before it. In 1847, he published a second article about his attempt to create an efficient light source by setting fire to wine, quicklime, and oxygen gas. Children also found a way to isolate silver from its ore without using the common process at the time called amalgamation, which was costly due to its reliance on mercury. Mining companies in South America paid to use his new strategy.

Children gained membership to several prominent scientific organizations during his career. In 1807, Children was elected as a fellow to the Royal Society, a professional group initially started by natural philosophers and physicians. Children acted as the Secretary of the Royal Society between 1826 and 1827 and again from 1830 to 1835. Additionally, Children's papers on mineral chemistry, specifically the ones that detailed the creation of his voltaic batteries, were read aloud to the Royal Society in 1808 and 1815. He also helped to establish the Zoological Club of the Linnean Society in 1826 and the Entomological Society in 1833, of which he was the first president. Children had an extensive collection of insects of his own, which the British Museum purchased from him upon his retirement in 1840. According to Forgan, Children was a dedicated Christian and wrote a great deal of religious poetry, as well as humorous prose on domestic incidents.

Children died on 1 January 1852 at his daughter's home of Halstead Place, in Kent, England, at the age of seventy-four. He was buried at St. George's church in Bloomsbury, London, England, on 9 January 1852.

Sources

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