

Anniversaries

Born 170 years ago



ORVILLE ADELBERT DERBY (1851–1915) AND BRAZILIAN GEOLOGY

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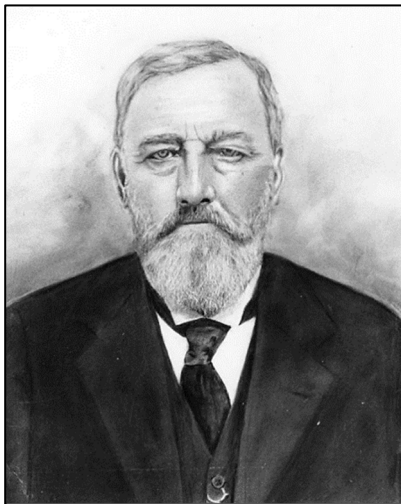


Figure 1 : Orville A. Derby, 1915 ; posthumous portrait. (Earth and Atmospheric Sciences, Cornell University).

Orville Derby was born July 23, 1851, in Kellogsville, New York, a small town in the Finger Lakes section. His early life is little known, except that he attended local schools, and in 1869, he entered the newly opened Cornell University (Branner 1916; Brice 1989). Cornell University was only in its second year when Derby began his “Science Course.” Growing up as he did in an area known for its fossil-rich geology, no doubt young Orville must have been fascinated by the fossils he would have been able to collect around his home. Indeed, paleontology was one of his main fields of investigation. Thus, within that broad subject of science, he turned to geology, and that brought him to Charles Frederick Hartt (1840–1878), who had created the Geology Department at this new University (Brice 1989).

Derby had come to Cornell at just the right time, for Professor Hartt was in the process of developing an expedition to Brazil. Young Orville was one of the eleven students chosen to be part of this exploration in 1870, known as the “First Morgan Expedition” (Brice 1989). This fact was to change Derby’s life forever, for Brazil became the center of his career, his life, and later his adopted home. Hartt and Derby returned to Brazil on the “Second Morgan Expedition” in 1871, when Derby made several extensive collections of Carboniferous fossils on the lower Tapajós River (Hartt 1871). The brachiopods in this collection formed the basis for his master’s degree thesis at Cornell (Derby 1874¹). Derby received his B. Sc. in 1873, his M. Sc. in 1874 and served briefly on the geology faculty at Cornell from 1873–1874. In 1874, Charles Hartt set out again for Brazil, this time to create a geological survey of the country. He was successful in convincing the Brazilian authorities, including Emperor Pedro II himself, to create a geological survey in Brazil, and the Comissão Geológica do Brasil (GCB –

¹ For a complete list of Derby’s publications up until 1909, see Gonsalves 1952.

Brazilian Geological Commission) was founded on April 30, 1875, following the institutional model of the North American State Geological Surveys (Figueirôa 2007). Derby, who had been left in charge of the Cornell Department in Hartt's absence, joined the group in Rio de Janeiro in December of that year. For various reasons, the GCB only lasted until January of 1878, and Hartt died of yellow fever in March of that same year. Derby decided to stay in Brazil and obtained a position at the National Museum on June 1, 1879. His primary responsibility was to preserve the Commission's work, especially the many samples that had been collected², which allowed him to continue the study of Brazilian geology, and to complete former Commission projects. The results were published in the National Museum's journal (Archivos do Museu Nacional) (Lopes 2020).

Although the first national Survey had been dissolved, there was still geological interest at the state level. Therefore, the São Paulo government invited Derby to head the first geological Survey for the state, and he kept his Museum position as well. The creation and direction of the Comissão Geográfica e Geológica de São Paulo (CGG – Geographical and Geological Commission of São Paulo), founded on March 1886, was one of Derby's most prolonged and most significant scientific actions. He tried to revive the GCB on a local scale, modeling this new institution on the same framework. The São Paulo Commission had the main charge of creating an inventory of the natural resources and mapping the whole territory of the state, especially locating soils appropriate for coffee plantations. Because much of this work was done in relatively unknown areas, one of the first things Derby did was to start a topographic division to produce the basic regional maps on a scale of 1:100.000.

He finally resigned from the Museum, but he held the São Paulo survey position until 1905. Then, he briefly headed the Survey of Lands and Mines of the State of Bahia and acted as a De Beers consultant on Brazilian diamonds. In 1906 he was asked to create the Serviço Geológico e Mineralógico do Brasil (SGMB – Brazilian Geological and Mineralogical Survey), a new national geological survey, which saw the light on January 10, 1907. Thus, Derby was able to continue Hartt's original project; but he was more successful, for that organization, though under different names, still exists today. He left a peculiar mark on the SGMB: unlike other surveys, the problem of droughts, water supply, and irrigation, mainly in the Northeastern Brazilian states, was paramount.

In mid-1915 Derby finally became a Brazilian citizen and his life seemed to be settled. However, at the age of 64, Derby unexpectedly committed suicide on November 27, 1915, in the hotel room where he lived for years. Derby's sudden suicide caused the Survey officials to realize they had no recent photographs of him. Several assistants were immediately sent to the hotel, where they sat his body in a chair, propped his eyes open with match sticks, and took his photograph posthumously. The match-stick images were taken out during processing. That likeness was used on a Brazilian postage stamp commemorating the 100th anniversary of his birth in 1951, and on the Derby Medal created that same year (Brice 1989).

Over his lifetime Derby published 173 influential papers about various aspects of Brazilian geology and helped create two national surveys and one state geological survey. Although not a native of that country, he was one of the foreign scientists who participated in the shaping of Brazilian geosciences. Hence, he is considered one of the most outstanding geoscientists of Brazil and deserves being remembered on the 170th anniversary of his birth.

² Unfortunately, much of this material was lost in the tragic fire at the National Museum in Rio de Janeiro on September 26, 2018.

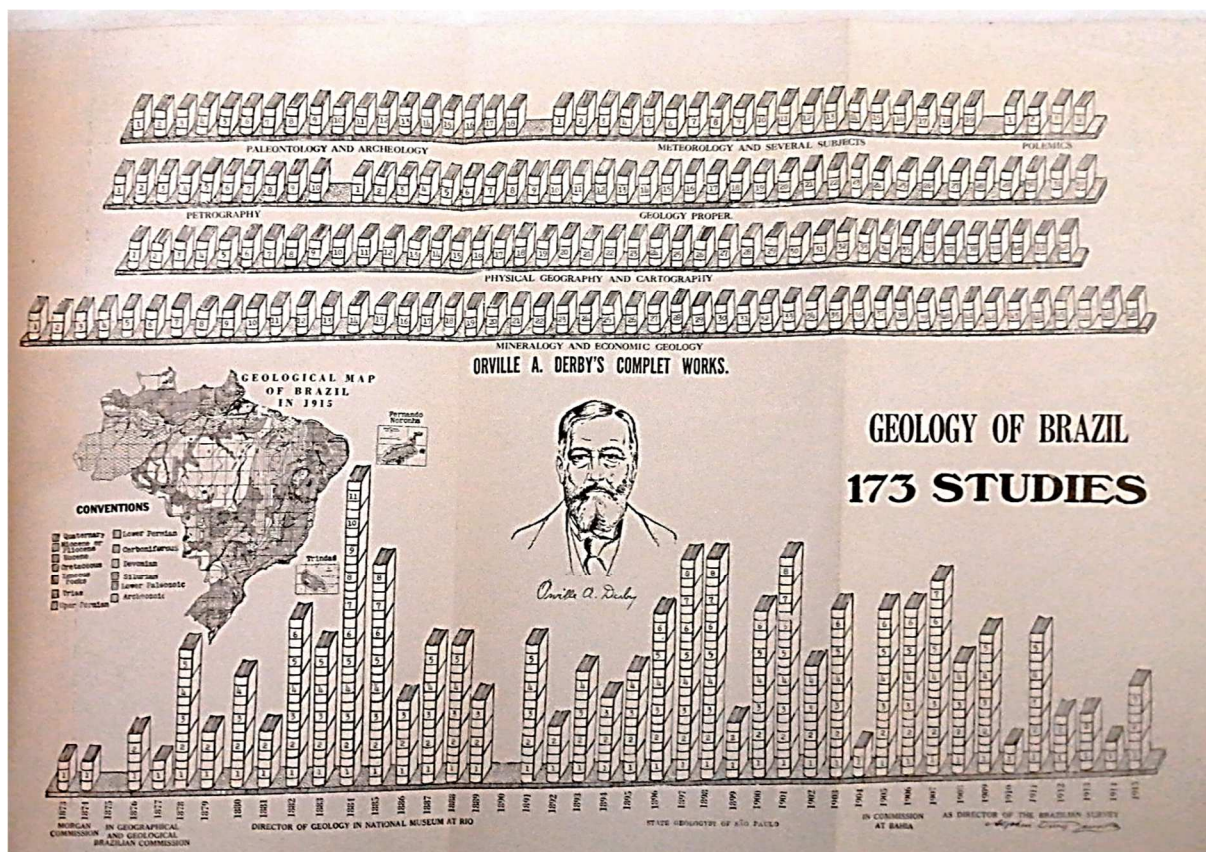


Figure 2: Graphic display of Derby's scientific works (Gonsalves 1952)

Further Reading

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Publication online: Posted IUGS Website / INHIGEO Website Anniversaries April 2021
IUGS E-Bulletin Issue 173, April 2021.

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