



Contents lists available at ScienceDirect

Studies in History and Philosophy of Biological and Biomedical Sciences

journal homepage: www.elsevier.com/locate/shpsc

Manifest ambiguity: Intermediate forms, variation, and mammal paleontology in Argentina, 1830–1880

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ARTICLE INFO

Article history:

Received 26 April 2017

Received in revised form

14 July 2017

Available online xxx

Keywords:

Tyrpotherium/Mesotherium

Auguste Bravard

Hermann Burmeister

Florentino Ameghino

Henri de Blainville

Paul Gervais

Charles Darwin

Paleontology

Argentina

ABSTRACT

This paper presents the impact of diverse aspects of Darwin's works on the practices of mammal paleontology in different moments of nineteenth-century Argentina. Starting with Darwin through the publications of Florentino Ameghino, it shows the extraordinary complexity of systematic paleontology that characterized the second half of the nineteenth century. Neither "natural selection" nor "struggle for life" seemed to have shaped the practices of vertebrate paleontology in Argentina. Darwin's earlier work as a voyageur and geologist together with later concerns about intermediate forms and variation allow for an assessment of the impact of Darwin's work on the practice of paleontology in Argentina.

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1. Introduction

Studies of late nineteenth-century Argentine politics, medicine, philosophical ideas, culture and social thought have shown that the notions of evolution and progress, keyed to Charles Darwin, appeared widely in fashionable speech. Historians have tended to see this rhetoric as the "literary reception of science," in the words of Argentinean historian of science Marcelo Montserrat (1995). It is surprising, however, that there is no assessment of Darwinism's concrete impact on scientific practices in Latin America (Barahona & Ochoa, 2014). The following pages fill this gap by assessing the impact of Darwin's works among natural historians in nineteenth-century Argentina. They start with Darwin's publication of 1839 from the *Beagle* expedition and finish with Florentino Ameghino's massive study of mammalian fossils of 1889. The resulting picture is complex and subtle. Neither "natural selection" nor "struggle for life" seems hegemonic in vertebrate paleontology in Argentina.

A proper assessment of Darwin's scientific impact on Argentine paleontology requires an examination of specialist work about intermediate forms and variation as well as Darwin's work as a voyageur and geologist (Brinkman, 2010; Herbert, 2005). The description and publication of the material collected by Darwin on

his *Beagle* voyage, as shall be shown, encouraged trade in fossils, and it defined a structural relationship between commerce and the discipline of paleontology in Argentina. At the same time, Darwin's *Geological Observations on South America* (1846) contributed to what can be called the geography of Argentinean paleontology, an agenda that remained basically unchanged until late in the nineteenth century. Darwin's idea that South American fossil mammals, found in the Pampean mud and in other deposits, were geologically recent became a subject of scientific debate in the 1880s. It did so in a context that one can consider post-Darwinian, in that it was characterized by a kind of second-generation evolutionism whose protagonists were interested in South America's centrality in the history of the origin and distribution of mammals (Podgorny, 2005b). In that search for primitive South American mammals, the long-standing discussion of intermediate forms acquires special meanings.

Here I shall refer to the definition of fossil taxa as they were pieced together by a paleontologist at work, contemplating a collection of bones. In particular, I analyze the work of Hermann Burmeister (1807–1892), a former professor from Halle who took charge of the Buenos Aires Public Museum and its paleontological collections in 1861. I also reflect upon the early work of Florentino Ameghino (1854?–1911), a school preceptor and fossil collector from the Argentine countryside who sketched a phylogenetic classification of fossil mammals in the 1880s. Historians have insisted that Argentine Darwinism, filtered by the French

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