
The influences in Geology of evolving evolutionary hypothesis in Italy between the XIX and XX Century

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Abstract

The publication of Charles Darwin’s work, *On the origin of species by means of natural selection, or the preservation of favoured races in the struggle for life* (1859) represented the birth of evolutionary biology in the proper sense. Theories on the evolution of organisms had already been discussed for some time. However, the specificity introduced by the Darwinian theory was the identification of possible mechanisms underlying evolutionary processes. His work constituted an event of unprecedented magnitude that radically altered the nature of the debate around these issues and went beyond biology, deeply influencing also geological interpretations of that time. Scientists from all over the world were involved in the discussion that followed, demonstrating on the one hand the growing interest in Darwin’s own evolutionary idea and, on the other, the presence of perplexity regarding the causes of biological evolution, which according to some naturalists could not be traced back to random mutations and natural selection. In this panorama, a number of Italian scientists were also particularly active in the debate, either supporting the validity of Darwin’s proposal or suggesting other theories. It is interesting to note how some elements proposed by theories at one time alternative to Darwinian ideas have actually found their way into the most current formulations of the theory of biological evolution. The aim of this study is to focus on the effects that the evolutionary debate had in Italy on contemporary geology, specifically on the evolving interpretation of the stratigraphy of the northern Apennines and on the creation of the first geological map following the birth of the Italian State, formally constituted as “Regno d’Italia” in 1861.

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