

# THE EVOLVING UNIVERSE OF EDGAR ALLAN POE

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Abstract. In 1848, Edgar Allan Poe (1809-1849) published *Eureka: A Prose Poem*, where he presented his original cosmology. Here I shall briefly describe Poe's cosmology in its historical context, showing how Poe could conceive an evolving universe based on Newtonian physics and the astronomical knowledge of the first half of the Nineteenth century. In this way, it is possible to understand the real nature of the analogies between Poe's ideas and "Big Bang" cosmology, which of course are not an anticipation of the Twentieth century new physics, but still have a scientific and historical interest.

## 1. Introduction

*Eureka* is a peculiar work: my first aim is to clarify what Poe had in mind, in connection with the knowledge of his time. My second, more difficult aim, is to clarify the fascinating relation between some of Poe's ideas and modern cosmology, which requires a rigorous approach, in order to avoid both anachronistic interpretations and *a priori* rejection of any possible relation as "whiggish history".

On February 3, 1848, Edgar Allan Poe read a lecture at the Society Library of New York "On the Cosmogony of the Universe", revised and published a few months later with the title: "Eureka. A Prose Poem". On October 3, 1849, Poe was found on a street in Baltimore, in a state of "great distress"; he died on October 7. From his letters, we know that Poe considered *Eureka* his most important work. Nevertheless, *Eureka* had not the same success of Poe's tales. But in 1921 Paul Valéry wrote an enthusiastic article *Au sujet d'Eureka*, pointing out a "formal analogy" of Poe's ideas with Einstein's General Relativity (It is worth mentioning that Valéry wrote this article before the discovery that the universe is not static). As Poe could not anticipate General Relativity, and *Eureka* had no impact on the development of cosmology, historians of science have never considered worthy of attention this singular literary work. On the other hand, literary critics usually lack the historical and scientific background required to fully appreciate and understand such a peculiar work. Arthur H. Quinn, authoritative biographer of Poe, was aware of this problem, and in 1940 sent a letter to Sir Arthur Eddington, asking for his opinion. Eddington answered him that "Poe [...] seems to have had the mind of a mathematician", but also: "[...] regarded as an attempt to put forward a new physical theory, *Eureka* would rightly be regarded as a crank-theory by scientists of his time." He concluded: "But as a "poem" on the significance of thing as partially revealed in the state of science of the time, I think it showed a fine penetration." However, more recently the cosmologist Edward Harrison has found in *Eureka* the right solution of the Olbers' paradox (Harrison 1987). In what follows, we will see that the Poe's cosmology has a lot of other interesting aspects.

