



3-2023

**Book Review: Duane W Roller. *Eratosthenes' Geography: Fragments collected and translated, with commentary and additional material***

Tseggai Isaac

Follow this and additional works at: <https://scholarsarchive.byu.edu/ccr>



Part of the [Comparative Literature Commons](#), [History Commons](#), [International and Area Studies Commons](#), [Political Science Commons](#), and the [Sociology Commons](#)

---

### Recommended Citation

Isaac, Tseggai (2023) "Book Review: Duane W Roller. *Eratosthenes' Geography: Fragments collected and translated, with commentary and additional material*," *Comparative Civilizations Review*. Vol. 88: No. 88, Article 15.

Available at: <https://scholarsarchive.byu.edu/ccr/vol88/iss88/15>

This Book Review is brought to you for free and open access by the Journals at BYU ScholarsArchive. It has been accepted for inclusion in *Comparative Civilizations Review* by an authorized editor of BYU ScholarsArchive. For more information, please contact [ellen\\_amatangelo@byu.edu](mailto:ellen_amatangelo@byu.edu).

## Book Reviews

**Duane W Roller. *Eratosthenes' Geography: Fragments collected and translated, with commentary and additional material*  
Princeton: Princeton University Press, 2020**

Reviewed by Tsegai Isaac

Duane W. Roller brought back to life the enigmatic and flamboyant Eratosthenes by capturing the rich details of Eratosthenes' intellectual background, his personal life, Eratosthenes' *Geographika*; and how Eratosthenes was received by contemporary and nascent critics in later years and decades. Eratosthenes was practical and controversial in the sense that he seemed to use unorthodox methodology of practical observation combined with creative and inventive scientific and mathematical intricacies to explain, define, and analyze his findings. He was flamboyant and fertile in his discoveries and the breadth of his creative imaginations of unparalleled perspicuity. Roller observed:

The discipline of geography began with Eratosthenes of Kyrene and the publication of his *Geographika* in the last third of the third century B.C. Before that time there had been interests in the surface of the earth, its formative process, and its shape and structure, but it was Eratosthenes who brought these divergent streams of thought and experience together to create a new scholarly discipline (p.1).

In this book, the first English translation in over a century of fragments compiled by Strabo and “handful of other authors”, Roller brings to life the intellectual senses of Eratosthenes.

### **Eratosthenes, “Polymath”**

Eratosthenes was from the port city of Kyrene, northeastern Libya, North Africa. He came from humble origin. Irrespective of his birthplace and humble origin, Eratosthenes was “librarian at Alexandria and tutor of King Ptolemaios IV”. This book defines Eratosthenes as a precocious, inventive, veracious reader and inquisitive interviewer of seafarers and sailors. Kyrene was a bridge between Greece and North and the interior of Africa. It was also a center of intellectual enlightenment benefiting from the resident and transitional contacts of empires such as Alexander’s and that of the Persians. The “cosmopolitan outpost” nature of Kyrene was convenient for Eratosthenes’ intellectual influence and advances.

Eratosthenes’ outstanding character was his diligence and his ability to let his research, mathematical calculation, and his philosophical underpinnings speak for him in confounding his critics (pp. 20-23).

He was typecast by Strabo and others as “Beta”, meaning “Second” for his eclectic intellectual reaches instead of focusing on philosophy only (p.9). In the end, he proved to be a trailblazer of geography. He demonstrated creativity in explaining the complex elements of geography such as demography, botany, anthropology, and cultural dispositions relevant to distant and nearby lands (Book 3, pp.15-30; 69-107). “[H]e created new terminology to explain his new ideas” (p. 21). He is credited with defining “the character of the surface of the earth in a straightforward fashion, presented in proper scientific style with propositions and proofs, and free of the ambiguities and layering of source material that characterize Strabo’s [his critic] text (p. 21).

### **Eratosthenes and the History of Geography**

This first introductory chapter captures the holistic scope of Eratosthenes’s origin, background, the totality of his work, and the accolades and criticisms he received in his life throughout the centuries. The context of Eratosthenes’s work begins with Homer and Herodotus; he benefited especially from the vast treasure trove of Homer. In his book, *the Measurement of the Earth*, Eratosthenes integrates material from his *Geographika*, causing Strabo some irritation due to the eclectic tendencies of Eratosthenes. Eratosthenes coined the word *Geographika* and applied it to describe and in “recognition of Homer’s world, astonishingly broad, with vague knowledge of the mountains of central Europe, the people north of the Black Sea, and the upper Nile and pygmy tribes.” (p.2).

Other Greek philosophers were instrumental in enriching Eratosthenes’s intellectual foundation. In earlier epochs, an explorer named Skylax of Karyanda, who sailed to Indos and came back to the Red Sea, enlightened Eratosthenes. Hekataios of Miletos, “a prominent political leader in his own city around 500 B. C, who wrote a “*Circuit of the Earth*,” defined the world into continents. Thales was an intellectual giant in the “development of Greek natural science and cosmology” (p.3). Anaximandros of Miletos, a consummate philosopher of “theoretical and practical origins of geography” was another inspiration to the fertile mind of Eratosthenes. And so was Herodotus. Herodotus was detail oriented, and combined historical narratives, distances of locations, “stopping points and topographical features.” Amongst these trailblazing giants, Plato, and his associate and master mathematician, Eudoxos of Knidos, shine bright and stark in influencing Eratosthenes.

### **The Substantive Aspects of *Geographika***

The components of Eratosthenes’ work are Book 1, Book II, and Book III. Professor Roller looks at fragments collected by various studies of Eratosthenes with special emphasis on Strabo and offers summaries and commentaries on their essential cultural, scientific, historical, linguistic, and attitudinal components.

Among the detailed commentaries, the cultural and civilizational components of the summary bring a fresh look at ancient societies such as the cultural ripple effects of Alexander the Great's globalized point of view. Eratosthenes refined narrow Hellenic nationalism. He "says that it is better to make such a distinction between a good and bad characteristic, for there are many bad Hellenes or urbane barbarians, such as the Indians or Arians, or moreover, the Romans and Karchedonians [Carthaginians], who administer their governments so marvelously" (p. 107).

Each of these books is summarized in Roller's first chapter. Book I is introductory highlights of Eratosthenes' sources and the vast insights he accumulated to venture his writings. Book II spells out the various features of the globe in terms of latitudes, longitudes, meridians, shape, and measurement of the earth's circumference. He specifically stated the earth's circumference as 252,000 stadia. "He divided the inhabited world latitudinally into five zones devising inventive terminology to do so" (p. 23). He shows his flamboyancy in Book III where he jettisoned the conventional outlook of his contemporaries and those before him; leading to "significant advance in geographical theory, moving from a world defined ethnically to a purer geographical conception based on landforms" (p. 27). His classification of the meridian is an aspect of his creative gifts, blending his personal genius with his deep learning of past masters. He invented a catchall Greek word meaning "gem or seal stones". The world was not new, but Eratosthenes, "with his taste for innovative vocabulary, took the word in this meaning, and gave it a still newer sense as a broad geographical division" (p.27). As Alexander the Great looked upon the world as a unity without ethnic differences, Eratosthenes was cosmopolitan also. He was inclusive and saw global citizenship with superficial divergence, but with a uniting sense of conscience, empathy, and many character contradictions of virtuous and carnal means of human self-expression (p.29-30; 107).

### *Eratosthenes in the Eyes of His Critics*

Eratosthenes is admired as the first geographer with practical approaches and mathematical genius. He was practical, in that he collected interviews with explorers and travelers, and applied to it mathematical rigor with conceptual articulation of invented terms such as the "seal stones".

Hipparchos referred as "hearsay" to Eratosthenes's use of information from itinerants. This criticism was from the points of views of post-Eratosthenes innovations in math and intricate calculations. Still, the echo of Eratosthenes's voice was unmistakable, because, as he, Hipparchos, critiqued Eratosthenes, his "structure" of his analysis as he wrote his book titled *Against the Geography of Eratosthenes* "mirrored the structure of the very work he was dismissing" (p.31). In general, Eratosthenes shines brightly in the esteem of his critics, but he is dimly cast in substantive details.

Some critics are reluctant to credit him with geographical skills calling him a “philologist and a poet.” Plutarch referred to Eratosthenes as a “polymath” to highlight Eratosthenes’s mastery of mathematical skills and multidirectional intellects while reducing Eratosthenes’s affinities to geographical contributions. In later years, Strabo was a reluctant admirer of Eratosthenes, but writing his own *Geography* was not impressed by Eratosthenes or others who followed Eratosthenes.

By the Hellenistic period, Eratosthenes’ work was overshadowed by scientific advances. His discovery of the circumference of the earth was undeniable, but he was also minimized by those who identified him as “obsolete” in view of newer innovations.

### ***Eratosthenes in a Modern Context***

Toward the end of the 19<sup>th</sup> century some scholars re-examined Eratosthenes, his reputation and contributions. Gunther Carl Fridrich Seidel laboriously compiled fragments of *Geographika* and *Measurement of the Earth*. Gottfried Bernhardt “identified 127 fragments of the *Geographika* and also structured them according to the three books of the work” (p.34). Ernst Hugo Berger presented extensive work of Eratosthenes, but it seems, as with all of those who examined Eratosthenes, Berger judged him repetitious.

Then, Professor Roller feels no nostalgia for Eratosthenes’s charisma, but simply acknowledges his claim to due credit by stating: “The discipline of geography began with Eratosthenes of Kyrene and the publication of his *Geographika* in the last third of the third century BC. (p.1).” Professor Roller’s work is also the first English translation and commentary in over a century, bringing to life and offering modern attention to the great geographer, philosopher, mathematician, and poet. His work is an “attempted to salvage Eratosthenes’s treatise” via extended commentaries based on Strabo’s fragments viewpoint (p. 34), making the case for Eratosthenes’ immortality via proposing that he merits additional attention from historians of science.

Professor Roller in this book looks at Eratosthenes with sharp and elegant analytical focus and incorporates rich pedagogical resources. He writes seamlessly, despite his use of voluminous references. He is not ambitious in his claim; he only sees his work as “an attempt to...choose a middle path, with the understanding that the possibility of error is in both directions: there is the certainty that some material originating with Eratosthenes is not included” (p. 36). Yet, in his rendition of Book 1, 2 and 3, Roller’s commentaries and summary highlight enough to enable a diligent reader to capture the intellectual forces that characterized Eratosthenes and the nuanced points of views of his critics.

*Note:* As a political scientist, my skills in geography are limited. I am translating into **Ge'ez**, the ancient Ethiopic language, on which I am trained, excerpts and summaries of ancient philosophers such as Anaximander, Pythagoras, Anaximenes, Anaxagoras, Socrates, Plato, and Aristotle, for the Eritrean Tewahdo Orthodox Church, North America Diocese. These excerpts and summaries are those of Alexander Roberts (Editor). *Ante-Nicene Fathers, Volume V*. My acquaintance with this topic is based on my familiarity with the philosophical backgrounds that are highlighted in Dr. Roller's *Eratosthenes' Geographika*.