

Eratosthenes, Strabo, and the Geographer's Gaze

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Environmental criticism interrogates human perception, description, and action in relation to the environment. Such criticism can explore the institutional practices of geography, the structures and frameworks within which the earth and its spaces are described and mapped. A growing body of interdisciplinary work at the intersection of geography and the humanities explores narrative and ideological dimensions of geographical information. This work also advances the reading of space and place in literary texts. Brian Harley and David Woodward's *History of Cartography* (1987) has been foundational to this project with its emphasis on uncovering the ideological contexts of geographical information by reading "between the lines of the map" (Harley 3). Christian Jacob has charted the geographical discourse of maps as "embedding values, ideology, and subliminal meanings into what seems to be an objective statement on the real world" (*The Sovereign Map* xv). Eratosthenes (c. 275-194 BCE) and Strabo (c. 64/3 BCE-23 CE) each use a distinctive vocabulary to describe the visual spatial, cognitive, and communicative actions of doing geography. Philological analysis of the language they use to describe this work allows us a chance to view the written world through their eyes.¹

There are two strands in the Greek and Roman tradition of writing about the earth: the earlier is the itinerary-based narratives known as *periodos* (a traveling around) or a *periplus* (circumnavigation) or a *periegesis* (circuit). This itinerary-based (or hodological, from the Greek word *hodos* [road]) narrative structure allowed its readers to trace the voyage of its author in the inhabited world, the *oikoumene* (literally, "the world where households [*oikoi*] are located"). While Michel de Certeau's analysis of walking in a city as a pedestrian speech act distinguishes sharply between the embodied experience of an itinerary and the abstract structure of a map (97-100) embodied experience and abstract conceptions of space overlap in Greek itinerary texts, which aim to establish and record what can be known about the world rather than to express personal choice. Attested works of this kind include the lost work of Hecataeus (c. 500 BCE); a similar spirit of inquiry into places can be seen at work in Herodotus's history of the war between the Greeks and the Persians (written before 425 BCE). Pausanias's *Description (Periegesis) of Greece* (c. 150 CE) includes full accounts of monuments and history. Other hodological texts (some lost, some surviving in later versions) seem to have

been more austere.² Another strand in the tradition of writing about the earth emphasizes theoretical concerns and the abstract organization of space including the shape of the earth, the shapes of regions, and the alignment of places along east-west parallels (measured by the observation of shadows over the course of the year) and along north-south meridians. The texts of Eratosthenes and Strabo combine itinerary-based qualities with abstract accounts of the organization of space.

Eratosthenes and the Gaze of Hermes

Eratosthenes probably coined the term *geographia* to describe writing (*graph*) the world (*ge*) (Roller 1). The word *grapho* can describe written or pictorial representation, and thus *geographia* can signify representation in texts, in maps, or in written directions for drawing maps. Indeed, in an age before mechanical reproduction, specific written directions for drawing one's own map could be transmitted more reliably than the image itself, and we see this principle fully enacted in the *Geographia* of Ptolemy, mainly a list of coordinates for drawing a world map.

Around 240 BCE Eratosthenes was invited by Ptolemy III Euergetes to take up the post of head of the Library at Alexandria, which he held until his death at the age of 80.³ Established by Ptolemy I, the library's aim was to acquire and make available for study everything that could be known about the world and its people. Works of geographical interest known to have been gathered into the collection include *On Ocean* by Pytheas of Massilia (Strabo 2.4.2); *The Harbors* by Timosthenes of Rhodes, head of Ptolemy's fleet (Strabo 2.1.40); and accounts of India by men who had served in Alexander's expedition (Strabo 15.1.7).

None of Eratosthenes's projects survive complete, but we know that they encompassed geographical, literary critical, chronological, mathematical, musical and philosophical topics. His didactic poem the *Hermes* (now mostly lost) told the story of the origin of the Milky Way when Hera was about to nurse the baby Hermes and then turned her breast away when she realized he was the child of Zeus and Maia. It also discussed the harmony of the planetary spheres and of Hermes's lyre in a Platonic framework and influenced Cicero's *Dream of Scipio* in the sixth book of his *de Republica*. The longest surviving fragment of the *Hermes* describes what must be Hermes looking down at the earth from the heavens in a Google earth moment: he sees the latitudinal bands of frigid, temperate, and equatorial zones stretching across the earth.⁴ The notion of gazing down upon the earth may derive from Plato's account in the *Phaedo*; indeed, the Suda records that Eratosthenes was known as "a second or new Plato" (Adler ε 2898). In the *Phaedo*, Plato offers a vision of the

world as shaped like a multicolored leather ball whose different parts shine with gem-like beauty (*Phaedo* 110b-111c). Eratosthenes shares with Plato the sense of the world as a shining sphere. The spherical idea goes back to Pythagoras (Diogenes Laertius 8.1.26) and is also discussed by Aristotle (*de Caelo* 297a). In the *Hermes*, Eratosthenes expresses the regions of the world more mathematically and abstractly than Plato does. Hermes sees five beautiful latitudinal bands: "two were blacker than dark-gleaming blue, one was powdery and reddish as though from fire, [...] and there are two encircling the poles on each side always icy."⁵ Eratosthenes's measurement of the earth's circumference was set out in a work separate from his *Geographika* (Roller 263-67) that proceeded from a similarly lofty vantage point. Eratosthenes knew the distance from Alexandria south to Syene (Aswan) and also the difference between the length of a shadow cast at noon on the summer solstice at Alexandria and at Syene, where no shadow was cast. By calculating the proportion of the earth's circumference constituted by the distance between Syene and Alexandria, he determined that the circumference of the earth measured 252,000 stadia.⁶ With this process of inquiry and calculation Eratosthenes positions himself like Hermes, where he can contemplate and grasp the earth's magnitude and arrangement as a whole.

Eratosthenes's *Geographika* evidently privileged abstract conceptions of space over hodological experiences. The work is known to us in about 150 fragments drawn from some eighteen sources; two thirds of the fragments, and the vast majority of what is known about the structure and contents of the work come from Strabo's discussions of Eratosthenes. In both his circumference calculation and the *Hermes*, Eratosthenes treats the earth as a whole. Book 1 deals with the history of geography, the qualities of earth and the geological and hydrological processes that formed it over time, as well as the identification of unreliable mythical or invented geographies. Book 2 lays out the shape and size of the inhabited world, and book 3 discusses the "seal-stones," Eratosthenes's term for the shapes of particular regions.

Although it is not clear if Strabo is quoting Eratosthenes verbatim, it is still possible to give some account of what is distinctive about the uses of the term *geographia* in connection with Eratosthenes's project. *Geographia*, as Eratosthenes understood it, was not limited to an account of the inhabited and known world (*oikoumene*). The Greek word for this kind of account – a record of places one could visit and report on – is *chorographia*, "writing about places." Ptolemy began his directions for drawing a map of the world by distinguishing between *geographia* (world cartography) and *chorographia* (regional cartography): geography deals with the locations of countries and proceeds on a mathematical basis, while chorography presents more details about local features and does not require a mathematical foundation.⁷ For

Eratosthenes doing geography means not (or not only) describing particular places, as the writers of *periplus* and chorographic accounts do, but going beyond the horizon of visible experience to an intellectual construction that can encompass the earth (*ge*) as a whole.

It is clear from Strabo's account that the primary intellectual operation of Eratosthenes's *Geographika* is not a first hand recording of perceptions of the earth but a critical evaluation and correction of existing textual and graphic representations of the world. In his first book, Eratosthenes comments at length to correct those who use Homer as a source of authentic geographical information (cf. Strabo 1.1.10). Strabo notes, "In his second book Eratosthenes undertakes a revision (*diorthosin*) of the principles of geography (*geographias*)" (Strabo 1.4.1). And in an account of the beginning of Eratosthenes's third book: "He thinks he must make a complete revision (*diorthosai*) of the early geographical map" (*archaion geographikon pinaka*; Strabo 2.1.2). Jacob characterizes Eratosthenes's geographical enterprise as a "graphic 'calculating machine' on which lines and points laid out the distances gathered from the [written] sources and where one could verify their compatibility" ("Eratosthenes" 111).

Indeed, only at one point does Strabo say that Eratosthenes gives an eyewitness account. In a discussion of Helice, destroyed by inundation from the sea after an earthquake in 373 BCE, he says, "Eratosthenes says that he himself saw (*idein*) the place, and that the ferrymen say that there was a bronze Poseidon in the strait, standing erect, holding a hippocampus [seahorse] in his hand, which was perilous for those who fished with nets" (Strabo 8.7.2). Strabo's subsequent discussion of rivers that plunge underground through sinkholes at Pheneus (Strabo 8.8.4) cites Eratosthenes and includes a local dialect word for the sinkholes (*zerethra*), and may indicate that Eratosthenes traveled here as well.⁸ Perhaps Eratosthenes's discussion of these geological features and events formed part of his overall discussion of the nature of the earth in his first book.

In general Eratosthenes must not have presented himself as a first hand observer in a prominent way in the *Geographika*. Even in the account of his own native city, Cyrene, no trace of a claim to first hand knowledge survives.⁹ Strabo says that Polemon tries to prove that Eratosthenes never even saw Athens (Strabo 1.2.1). This Polemon was a second century BCE writer known as Polemon of Ilion or Polemon of Athens or Polemon Periegetes ("the traveler"). He wrote several accounts of cities as well as a *Geographia* and is also known for a collection of "inscriptions to be found in cities."¹⁰ Evidently Polemon measured Eratosthenes's text against his own first-hand knowledge of Athens and found Eratosthenes's version wanting. All of this is to

emphasize that Eratosthenes presented the enterprise of geography not as first-hand exploration, but as a critical viewing, evaluation, and synthesis of written accounts that takes place within the Library at Alexandria.

Strabo's Episcopalianism

Unlike historical writers such as Herodotus and Thucydides who announce their name and origins in their first sentences, Strabo does not present information about himself in a systematic way in his *Geographia*. There is no external testimony about his life, but still a few pieces of information emerge in the *Geographia*.¹¹ Strabo was born at Amaseia (mod. Amasya) near the Black Sea (12.3.15, 12.3.39). His mother's family had connections to the court of Mithridates (11.2.18, 12.3.33, 10.4.10). In his youth he studied at Nysa (14.1.48). He spent time in Rome (8.6.23). He traveled in Egypt with Aelius Gallus as far as Syene on the Ethiopian border (2.5.12, 17.1.24). The text's latest clearly datable references are to events in the early years of the reign of Tiberius (14 CE-37CE).

The seventeen books of Strabo's *Geographia* include two introductory books that establish his relation to major predecessors in geographical accounts of the inhabited world. In the fifteen subsequent books Strabo provides a chorographic (cf. 2.5.1) account of individual places, moving from Gibraltar through Europe and Asia and back through Egypt and Africa. References to Eratosthenes bookend the work as a whole. The opening sentences relate Strabo's project to Eratosthenes's. The first two books review and evaluate each book in Eratosthenes's *Geographika* in sequence. And finally, one of the last places Strabo describes is Cyrene and he includes Eratosthenes among its famous people (17.3.22). Jacob views Eratosthenes and Strabo as mostly sharing the idea of constructing a geography of the mind ("Mapping the Mind" 33-35). Strabo himself emphasizes geographical abstraction when he says "The geographer does not write for the inhabitant of any particular place" (2.5.1). And it is certainly true that there is a strong contrast between Strabo's account of places and, say, Pausanias, who is constantly including himself in his narrative of places traveled, roads taken, guides consulted, buildings and monuments seen and customs observed. Still, sometimes Strabo does represent himself in the world rather than in the library.

Episkopein ("to inspect," "to oversee," "to examine") emerges as a key term for Strabo's project of integrating research with observation: he associates it consistently with the proper practice of geographical inquiry, especially in the first two books of his *Geography*. Elsewhere used of a god (Sophocles *Antigone* 1135) or of a ruler overseeing a city (Plato *Republic* 506b), the verb *episkopein* connotes inspection and examination from a vantage point of power. Strabo

himself uses the term on a number of occasions to describe wielding power over territory. Roman officials “inspect” the territories they govern in Iberia (3.4.20). Officials in India “inspect” canals (15.1.50); officials in Egypt “examine” the Nilometer to manage the Nile flood (17.1.48). When Alexander returns from India he travels through Mesopotamia; he travels up the Euphrates and encounters various canals, whose operation he intervenes in as he “inspects” them (16.1.11).

Strabo’s first sentence reads: “The science of Geography, which I now propose to investigate (*episkopein*), is, I think, quite as much as any other science, a concern of the philosopher” (1.1.1). In arguing for a strong connection between geography and philosophy, Strabo uses a language of vision: “wide learning (*polymatheia*), which alone makes it possible to undertake a work on geography, is possessed solely by the man who has investigated (*epiblepontos*, literally ‘looked carefully upon’) things both human and divine – knowledge of which, they say, constitutes philosophy” (1.1.1). “I must go back and consider (*episkopomen*),” says Strabo, the utility of geography and the status of Homer as the first geographer (1.1.2). Eratosthenes argues vigorously against taking Homer as a source of authoritative geographical information: the purpose of poetry was to entertain, not to instruct (1.1.10). Strabo, by contrast, wants to recuperate Homer as the first geographer. Homer, Strabo argues, knew the range of information required for public life, and therefore he pursued information about the whole world: “For otherwise,” Strabo says, “he would not have proceeded all the way to the edges of it, going in a circle (*periion*), in his description (*mneme*)” (1.1.2). Strabo thus uses a language of informed inspection—*episkopein*—to describe his own acquisition of geographical knowledge, while he uses the experiential language of travel through space to describe Homer’s acquisition of geographical information.¹²

To round out his lengthy discussion of Homer as a source of authentic geographical information, Strabo constructs a gazetteer of places mentioned or otherwise referred to by Homer, starting with the Pillars of Hercules in the west, moving eastward through Libya and Egypt to Phoenicia, the land of the Solymi, Lycia, Caria, Mycale, the Troad, the expedition of Jason, the Cimmerians (and, Strabo argues, this shows that Homer knows the Cimmerian Bosphorus). The place names then go westward to the Mysians on the Ister (i.e., the Danube), Greece, Italy and Iberia (1.1.10). Thus, to support his contention that Homer is the first geographer, Strabo processes the Homeric epics into a verbal map of the world.

Turning from Homer to Eratosthenes’s own geographical work, Strabo then says that part of his purpose in *Geographia* is to “correct (*epanorthoun*) Eratosthenes’s geography” (Strabo 1.2.2). As Jacob has shown, the forms of the

word *orthos* ("correctly") in Strabo and in Eratosthenes are an expression of deep and optimistic faith in the progress of human knowledge ("Cartographie et rectification"). Strabo proposes that he will "examine" Aristarchus's analysis of Homer on the Ethiopians (1.2.25); his aim is to align what can be read in Homer with what can otherwise be known about Ethiopia and Ethiopians. In a discussion of the relation of places in Greece to Homer's poetry, Strabo says, "I must likewise both inquire into (*sunepiskopein*) his words and compare them with things as they now are" (8.3.23). Strabo uses *episkopein* to define the scope of geographical inquiry: when criticizing Eratosthenes's engagement with sources that Strabo judges not credible, Strabo says that Eratosthenes should not have "examined" (*episkopein*) them (1.3.23, cf. *sunepiskopein* at 2.1.41).

Strabo's aim in "writing the world" and doing geography is to train his reader to develop the type of informed and decisive gaze that is expressed in the word *episkopein*. The geographer "examines" the inhabited world rather than uninhabited realms (2.5.34). As knowledge of climate "zones" (*klimata*) matters to an architect or city founder, so much the more for a man who is "inspecting" the whole inhabited world (1.1.13). By contrast, someone who is uneducated in geography sees the sun rise and set but does not "examine" why (2.5.1).

Bringing his two-book overview of geography to a close, Strabo lists the spaces of which he has first-hand knowledge: "Now I shall tell what part of land and sea I have myself visited and concerning what part I have trusted to accounts given by others by word of mouth or in writing" (2.5.11). Strabo does not go on to describe the geographical knowledge derived from his own journeys on the ground in the form of an itinerary; rather, he takes a lofty view and describes parallels and meridians: "I have traveled westward from Armenia as far as the regions of Tyrrhenia opposite Sardinia, and southward from the Euxine Sea as far as the frontiers of Ethiopia" (2.5.11). In fact, Strabo is surprisingly sparing in making explicit claims that he has seen a particular place in person. Henry Fanshawe Tozer finds references to a total of twenty places in Strabo's thirty first-hand reports and concludes, "He was not a great traveler, and his journeys were not undertaken with the object of research" (*Selections* 20). Daniela Dueck emphasizes how many additional places are described with sensory or other details that are strong indications of first-hand experience, but are not signaled with "I saw" or a similar verb (15-30). It is difficult to discern a strong pattern in Strabo's use of verbs of first-hand experience, such as "I saw" or "it was pointed out to me." Some of these claims are associated with Strabo's travels in Egypt with Aelius Gallus. It was this journey that brought him to Syene (2.5.12). Strabo marks the extreme points of his travel with explicit claims to first-hand experience. He places the northern edge of his first-hand knowledge at the Black Sea near his birthplace

in Amaseia. He did not travel in the far north, but at Rome he does obtain visual evidence of northern people when he sees young men from Britain (4.5.2). To the west, he says "I myself saw" Corsica, Sardinia and Elba from Italy, and then goes on to specify that,

Neither then is Eratosthenes correct when he says that neither Cynus (Corsica) nor Sardo (Sardinia) can be seen from the mainland, nor Artemidorus, when he says that both islands lie in the high sea within twelve hundred stadia; for even supposing they were visible to some people at that distance, they could not have been so to me. (5.2.6)

Another reference to first-hand experience just before the end of the whole work signals that Strabo saw Cyrene, Eratosthenes's birthplace, from the sea (17.3.20).

In book 2, after mapping out his travels and staking his claim to geographical knowledge, Strabo then goes on to explain his approach to doing the work of writing the earth. It involves combining experience and information, such that the reports of others are analogous to the perceptions of the senses.

However, the greater part of our material both they and I receive by hearsay and then form our ideas of shape and size and also other characteristics, qualitative, and quantitative, precisely as the mind forms its ideas from sense impressions – for our senses report the shape, color, and size of an apple, and also its smell, feel and flavor; and from all this the mind forms the concept of the apple. So, too, in the case of large figures [shapes], while the senses perceive only the parts, the mind forms a concept of the whole from what the senses have perceived. (2.5.10)

The explanation goes on to say that men who are eager to learn will trust the reports of others "as organs of sense." This claim contributes to envisioning the geographer as a colossal figure who can perceive the world as a totality in one glance.

In the *periplus* narrative tradition, a coastal voyage along bays and promontories organizes the communication of information about space. Strabo extends and transforms this idea when he describes the sea itself as writing the land and shaping it for human comprehension.

It is the sea (*thalatta*) more than anything else that defines the contours (*geographiei*) of the land (*gen*) and gives it its shape (*schematizei*), by forming gulfs, deep seas, straits, and likewise isthmuses, peninsulas, and promontories; but both the rivers and the mountains assist the seas herein. It is through such natural features that we gain a clear conception of continents, nations, favourable positions of cities, and all the other diversified details with which our chorographic map (*chorographikos pinax*) is filled. (2.5.17)

It seems to me that Strabo is not so much celebrating the agency and power of the sea here as he is aggrandizing the power of the one who views the geographical work that the sea carries out. To take this image to the extreme: if the sea is the geographer, the reader of the sea's geographical work possesses a gaze that takes in all the earth – that is, the all-knowing gaze of the sun god Helios.

Strabo emphasizes the active potential of the geographer's gaze, especially as expressed in the verb *episkopein*. The programmatic force of the term *episkopein* for Strabo may be compounded by associations elsewhere between the name Strabo, which is related to words for squinting, as in the modern medical term strabismus (Pliny 7.54, 11.150) and also related to the idea of far-sightedness. In a discussion of marvelous examples of vision, Pliny mentions (citing Varro and Cicero as his sources) a certain Strabo (a Greek) who was said to be able to see ships departing from Carthage 125 Roman miles away from the harbor at Lilybaeum (Nat. 7.85). Pliny says Cicero mentions this man (cf. Cic. Ac. 2.81), but adds that Varro is the source for the name. Varro's interest in etymology perhaps drew him to the story of the far-sighted man named "Strabo." When Strabo cites the anecdote he does not give the name but calls him "someone said to be one of the sharp-sighted ones" (*oxydorkounton* 6.2.1). Both Cicero's and Strabo's phrasing may play with associations between far-sightedness, squinting, and the name Strabo.¹³ Strabo's own correction of Eratosthenes and Artemidorus on the view of Sardinia and Corsica from Tuscany may play on his own awareness of the capacity of his gaze (5.2.6).

In addition, Strabo invites readers to consider his work as a totality by comparing it to a colossal statue: readers should not seek "trivial" details in a "*kolossourgia*," a colossal work (1.1.23). This striking comparison evokes the colossus of all-seeing Helios at Rhodes. The island was a center of geographical and astronomical study; geographers described the main east-west parallel and north-south meridian as intersecting at Rhodes (2.1.1 and 2.5.42). Strabo reports of Rhodes's sea power:

Many years before the establishment of the Olympian Games [in 776 BCE] they used to sail far away from their homeland to insure the safety of their people. Since that time, also, they have sailed as far as Iberia; and there they founded Rhodos [for which the Rhodanos river (mod. Rhone) was named], of which the Massiliotes later took possession. (14.2.10)

One expression of this Rhodian mastery of western sea travel may have been in the form of poems about Heracles's labors, including his trip to the far west to capture the cattle of Geryon. Strabo lists Peisander, "who wrote the *Heracleia*," among the island's famous inhabitants (Strabo 14.2.13); he was an epic poet during the seventh or sixth century BCE. Strabo also refers briefly to

Pindar's *Olympian* 7 (464 BCE), a poem that celebrates the Rhodians' connections with Heracles, their cult of the sun god Helios, and their mastery of the sea and metalworking (14.2.10). At one point Pindar tells how Rhodes came to belong to Helios: All the rest of the land had been allotted to the other gods, but Helios was "absent" so he did not get any. Zeus "was about to recast the lots for him but he [Helios] would not allow it because he said that he himself could see a land rising from the floor of the gray sea that would be bountiful for men and favorable for flocks" (*Ol.* 7.61-63).

Helios's all-seeing gaze over the earth was celebrated in monumental form in the colossal statue of Helios at Rhodes, erected sometime after 305 BCE and toppled in an earthquake in 226 BCE. Strabo calls the Colossus of Helios the best of the monuments and buildings dedicated as offerings to gods on the island (14.2.5). Astronomical and geographical studies flourished at Rhodes.¹⁴ Timosthenes of Rhodes (fl. c. 270 BCE) devised a wind-rose centered on Rhodes (Harley and Woodward 152-53) and wrote *The Harbors*, a work in ten books (Strabo 9.3.10). Hipparchus (fl. second half of second century BCE), born in Nicaea in Bithynia and deeply learned in Greek and Babylonian practical and theoretical astronomy, recorded astronomical observations at Rhodes from 147-27 BCE (Dicks 2-12). Poseidonius (c.135-51 BCE) too taught in Rhodes (14.2.13). Hipparchus and Poseidonius, along with Eratosthenes, are the main authorities with whom Strabo engages intellectually. Just before beginning his account of Rhodes, Strabo mentions that he himself studied at Nysa with Aristodemus, who also had a school at Rhodes (14.1.48); perhaps it was through this connection that Strabo first came into contact with the work of Hipparchus and Poseidonius. The mathematician Geminus (fl. 50 CE) also worked at Rhodes (Heath 2: 223). It is this tradition of Rhodes-centered, mathematically rigorous, scientific observation that Strabo rivals in the scope and mastery of his colossal, far-sighted and "episcopalian" gaze.

In the preface of his sixth book, on the relation of architecture to geography and locality, Vitruvius tells a story of the Socratic philosopher Aristippus.¹⁵ When shipwrecked on the shores of Rhodes Aristippus saw geometrical figures (*geometrica schemata*) traced in the sand and said, "There are good hopes for us; for I see men's traces (*vestigia*)!" (Vitruvius *de Architectura* 6 pr. 1).¹⁶ These *geometrica schemata* may be the shapes of geometry in general. Yet Strabo describes "the geometer" more specifically as one who measures the inhabited part of the earth by visiting and the rest of it by calculation (2.5.4). Hipparchus and Poseidonius both lived at Rhodes and both carried out these kinds of earth-measuring calculations. Vitruvius's ancient readers might well understand Rhodes as just the kind of place where such earth-measuring calculations were likely to be made. This anecdote also makes playful use of the term *vestigia*, which typically refers to footsteps or other marks left by a

body as it passes through a location.¹⁷ Aristippus sees in these abstract figures, as we see in the geographical works of Eratosthenes and Strabo, the humanity, the embodiedness, of all those who view the earth with a geographer's gaze.

Notes

1. Harley and Woodward provide a detailed account of the development of ancient Greek and Roman cartographic texts, theories, and practices; Tozer (*Lectures*), Bunbury, and Warmington also remain valuable. On Eratosthenes see Roller; on Strabo see Clarke; Potheary; Dueck; Dueck, Lindsay, Potheary; and Koelsch. On geography and humanities see Cosgrove (*Apollo's Eye and Mappings*), della Dora, Jacob (*The Sovereign Map*), Dear et al., and Daniels et al. Stimulating approaches to the representations of space and place in classical texts include Nicolet, Purves, and Thalmann. Unless otherwise noted translations of ancient works are from Loeb Classical Library editions with occasional small adjustments.

2. See further Dilke (130-44) and Janni (41-49, 120-30).

3. So says the Byzantine historical encyclopedia known as the Suda in its entry for Eratosthenes (Adler ε 2898). To consult the Suda on line (in Greek with English translations), see <http://www.stoa.org/sol/> (accessed 2 November 2011).

4. For the fragments, see Eratosthenes, *Hermes*, Fr. 12-16 Powell; see further the detailed

5. Eratosthenes, *Hermes* Fr. 16 Powell, lines 4-5, 9-10 (translation mine).

6. See Aujac, Geus ("Measuring the Earth"), Nicastro, and Roller (12-14 and 263-67); cf. Strabo 2.5.7, and Pliny *Natural History* 2.247. As Engels demonstrates, Eratosthenes used a stade measurement of 184.98 m, yielding a circumference of 46,000 km; the actual circumference of the earth is approximately 40,000 km.

7. On Ptolemy *Geography* 1.1, see Berggren and Jones; cf. Strabo 1.1.16. For further considerations of chorography with implications for modern geographical thought see Olwig.

8. See Roller F 139 and F 140. Commenting (215) on F 140, he notes that Pheneus is only about 40 km from the site of Helike.

9. See Roller F 100 and his commentary on the fragment at p. 200.

10. Athenaeus *Deipnosophistae* 10.436d and 442e. See also Glare, *Oxford Classical Dictionary* s.v., Polemon (3).

11. See further Clarke ("In Search") and Dueck (1-30).

12. Strabo does not follow the tradition that Homer was blind; see further Kim.

13. So Potheary (695n22), though in general she plays down the idea of actively associating squinting or farsightedness with the name of Strabo the geographer.

14. de Callataÿ emphasizes connections between the Colossus and geographical pursuits at Rhodes.

15. Aristippus was from Cyrene, where his daughter and grandson established a school of Cyrenaic philosophy. Cf. Strabo 17.3.22; Diogenes Laertius 2.65-86.

16. Hence Glacken's title, *Traces on the Rhodian Shore: Nature and Culture in Western Thought from Ancient Times to the end of the Eighteenth Century*.

17. Glare, *Oxford Latin Dictionary* s.v., *vestigium*.

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