

Thesis Title: “‘The Limit of Our Inhabited World’? Identifying Subversive Elements in Eratosthenes’ Geographical Treatises”

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Statement of Originality

This work has not previously been submitted for a degree or diploma in any university. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

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Date: 20th October 2019

Research Question.

"Modern scholarship has increasingly moved away from traditional views of Eratosthenes' geographical treatises as informed purely by academic considerations, towards an understanding of these works as performing a propagandistic function for the Ptolemies. However, recent subversive readings of ancient geography, which are yet to be applied to Eratosthenes' geographical works in a substantial way, may provide further nuance to this view. Are there elements of Eratosthenes' geographical treatises which can be understood as politically subversive, undermining rather than affirming the ideological concerns of the Ptolemaic regime?"

Abstract

The landmark geographical works of Eratosthenes of Cyrene were produced under Ptolemaic patronage in the latter half of the third century BCE. These treatises have been traditionally understood as shaped by the heated philosophical debates of Athens, rather than the ideological concerns of the Ptolemaic regime in Alexandria. Much needed revision of this view has been adopted by recent scholarship, re-examining Eratosthenes' geographical treatises through the lens of imperial geography. However, such propagandistic readings tend to overlook significant elements which do not seem to support Ptolemaic ideological concerns. Identification of subversive elements can contribute to a more nuanced reading of Eratosthenes' geographical works as literature developed within the sympotic court culture, in which an élite scholar was expected to flatter, yet also challenge, his royal patron as a 'friend of the king' (φίλος τοῦ βασιλέως). Examination of the geographer's natural and cultural digressions with narratological tools reveal a distancing of the reader from a sense of imperial control, instead elevating competing forces which diminish or even undermine vital Ptolemaic religious and geo-political concerns. Alternate political systems are celebrated, natural causation emphasised and ideologically-potent mythological causation challenged, distancing the reader from a sense of the regime's primacy within the inhabited world. Eratosthenes' mathematical geography requires a different approach. For the identification of subversion within the mathematical elements of Eratosthenes' geographical works, the role of the focaliser is considered. Whilst some aspects may encourage the privileged unified focalisation that is the hallmark of imperial geography, other areas resist such a reading, instead elevating alternate focalisation of the landscape, effectively challenging geo-political claims of the regime. The identification of subversive elements and consideration of their sympotic context provides a more nuanced understanding of Eratosthenes' geographical treatises as court literature which may have ostensibly reflected his patron's concerns, but also carefully challenged elements of Ptolemaic imperial and religious ideology.

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Introduction

Eratosthenes of Cyrene was Chief Librarian, poet, mathematician, geographer, chronographer, and literary critic for the Ptolemaic court in the latter half of the third century BCE.¹ His seminal treatises, the *Geographica* and *The Measurement of the Earth*, have been traditionally understood as the products of an environment removed from the ideological concerns of the Ptolemaic court.² However, recent scholarship has challenged these assumptions, increasingly emphasising the works' propagandistic function as an imperial expression of organisation and control.³ This paper aims to identify the elements of Eratosthenes' works which resist the privileged focalisation of such a reading. Identification of these elements are needed to prepare the foundations for future subversive readings of Eratosthenes' geographical treatises. New developments in subversive geography, which are yet to be fully applied to Eratosthenes' geographical texts, may help us identify these aspects. For Eratosthenes' descriptive geography, adopting the tools of narratology, which have proved effective in identifying counter-imperial elements in other ancient geographies, may assist in identifying elements which resist a propagandistic reading. The mathematical geography may require a different, but not unrelated approach, considering the effects of cartographic alternate focalisation, from the discipline of human and integrated geography.

Part One of this thesis will introduce Eratosthenes' geographical works initially through the traditional perspective, which emphasised the polymath's philosophical concerns as a scholar in the Library, his geographical works characterised as the product of discourse with fellow scholars rather than the

¹ Chief Librarian: *P. Oxy.* 10, 1241, col. 2 (= *BNJ* 241 T7). Legacy as geographer: Eratosth. F28 (=Plin. *HN* 2.247); Censorinus, *DN* 15.2 (= *BNJ* 241 T5). For Eratosthenes as poet and literary critic, see: Strabo 17.3.22 (= *BNJ* 241 T2); Clem. Al. *Strom.* 1.79.3 (= *BNJ* 241 T8). As polymath, see: Suet. *Gram. et rhet.* 10 (= *BNJ* 241 T 9); *Suda*, s.v. 'Ερατοσθένης (= *BNJ* 241 T 1); F. Pownall, "Eratosthenes of Cyrene (241)", I. Worthington (ed.), *Brill's New Jacoby*, http://dx.doi.org/10.1163/1873-5363_bnj_a241, (2016), accessed 23rd April 2019, *BNJ* 241 T1 commentary.

² Ideologically unaffected by patronage: P.M. Fraser, *Ptolemaic Alexandria*, vols. I-3 (Oxford, 1972), 1.306, 308, 309-10, 456; P.M. Fraser, *Eratosthenes of Cyrene: Lecture on a Master Mind*, British Academy (London, 1971), 10-11; W.W. Tarn, *Hellenistic Civilization* (Cleveland & New York, 1952), 239, 269; E.H. Bunbury, *A History of Ancient Geography Among the Greeks and Romans from the Earliest Ages till the Fall of the Roman Empire*, Vol. 1 (London, 1879), 576, 615-6; D.W. Roller, *Ancient Geography: The Discovery of the World in Classical Greece and Rome* (London & New York, 2015), 121-31; D.W. Roller, *Eratosthenes' Geography: Fragments Collected and Translated, with Commentary and Additional Material*, by Duane W. Roller (Princeton and Oxford, 2010) 10-15; G. Aujac, "The Growth of an Empirical Cartography in Hellenistic Greece", J.B. Harley, & D. Woodward (eds.), *The History of Cartography*, vol. 1 (Chicago & London, 1987), 152-157.

³ For Eratosthenes' geography as ideologically informed, see Kosmin's seminal work: P. Kosmin, "The Politics of Science: Eratosthenes' Geography and Ptolemaic Imperialism", *Orbis Terrarum, Journal of Historical Geography of the Ancient World*, vol. 15 (2017), 85-96; S. Bianchetti, "The Invention of Geography", S. Bianchetti, M.R. Cataudella, H.-J. Gehrke (eds.), *Brill's Companion to Ancient Geography: The Inhabited World in Greek and Roman Tradition* (Leiden & Boston, 2016), 132-149; R. Strootman, *The Birdcage of the Muses, Patronage of the Arts and Sciences at the Ptolemaic Imperial Court, 305-222 BCE* (Leuven, Paris, Bristol, 2017), 141-6, esp. 146; cf. R. Netz, *Ludic Proof: Greek Mathematics and the Alexandrian Aesthetic* (Cambridge, 2009), 55. For both political and scholarly concerns, see: P.T. Keyser & G. Irby-Massie, "Science, Medicine and Technology", G.R. Bugh (ed.), *The Cambridge Companion to the Hellenistic World* (New York, 2006), 243-249.

concerns of the Ptolemaic regime. Part Two will consider the revision of Eratosthenes' geographical treatises as propagandistic court literature, claiming and organising the landscape for his royal patrons. This thesis proposes that both of these approaches risk oversimplifying the complex concerns of a scholar navigating the Ptolemaic court. Part Three will establish the groundwork for a more nuanced reading, examining the world of sympotic court culture, in which careful flattery, self-promotion and παρρησία (frank speech) can potentially work hand in hand for a "φίλος" (friend) of the king.⁴

Part Four will attempt to identify thematically subversive patterns from Eratosthenes' wider literary works, establishing a foundation for a subversive reading of the geographical texts. Having established thematic concerns, Part Five, Six, and Seven will consider Eratosthenes' geographical texts themselves, attempting to identify potentially subversive elements which may highlight the way forward for future, more extensive, subversive readings. Part Five will examine the cultural digressions of Eratosthenes' descriptive geography with the literary tools of the genre, considering emplotment and juxtaposition as means of challenging Ptolemaic religious and cultural ideological concerns. Part Six will consider the treatment of natural forces by Eratosthenes, and will examine the scholar's use of Peripatetic inquiry and a deep temporal lens to diminish Ptolemaic mythological concerns and imperial agency within the landscape. Part Seven will examine mathematical geography and the ways in which demarcation and alternate focalisation can potentially undermine imperial claims upon the οἰκουμένη (the inhabited world).⁵

I. Prior Scholarship: Scientist or Propagandist?

Part 1) Eratosthenes the "Scientist": A Traditional Reading

The centripetal pull for the Hellenistic academic élite towards Alexandria and its Great Library-Museum complex is well established, royal patronage playing no small role in this attraction. Scholars arriving after crossing Posidippus' "sounding seas" would be greeted with institutions both novel and recognisable, unique in their grand manifestation, but built on familiar foundations of royal patronage.¹ Timon famously likens the Library-Museum's scholars to exotic birds. He called them

⁴ For παρρησία: *LSJ* s.v. παρρησία 1: "outspokenness, frankness, freedom of speech", Cf. Isoc. 8.14. For titular use of φίλος, see: *LSJ* s.v. φίλος 1d: a title at the Ptolemaic court, *OGI* 99.3 or simply οἱ φ. τοῦ βασιλέως *OGI* 100.1. M. Berrey, *Hellenistic Science at Court* (Berlin & Boston, 2017), 33-47; Strootman, *Birdcage of the Muses*, 63-73; cf. "ritualised friendship" in G. Herman, *Ritualised Friendship and the Greek City* (Cambridge, 1987), 10, 17, 29-33.

⁵ οἰκουμένη: *LSJ* s.v. οἰκουμένη A: since Aristotle, "the inhabited world" including non-Greeks, Arist. *Mete.* 362b 1-5, cf. uninhabited: Plut. *Cleom.* 2.1.

¹ Posidippus *P. Mil. Vogl.* A-B 89 (XIV 2), trans. F. Nisetich, "The Poems of Posidippus", K. Gutzwiller (ed.), *The New Posidippus: A Hellenistic Poetry Book* (Oxford, 2005), 37; P. McKechnie, "Our Academic visitor is missing:

“cloistered papyrus warblers”, being “fattened in Egypt” and “quarrelling endlessly in the Muses’ Birdcage”.² This hostile view of their patronage, essentially mud-slinging from the Antigonid court, nevertheless speaks to the powerful attraction of the Museum and Library as beacons of Ptolemaic patronage, an embodiment of the “Ptolemaic project”.³ This was an ambitious assertion of Alexandria as the new “cultural centre” of the Greek world.⁴

Traditional scholarship has tended to present the scholastic literature under Ptolemaic patronage as unfettered by ideological interference. Heyne likened this patronage to the enlightened despots of his own century, whilst Bunbury’s nineteenth century reading notes the “peculiarly favourable” environment for scholarship in an autonomous space, something echoed in the twentieth century by Tarn.⁵ Fraser exemplifies this view in his seminal work, *Ptolemaic Alexandria*, portraying “an affluent,

Posidippus 89 (A–B) and ‘smart capital’ for the thalassocrats”, K. Buraselis, M. Stefanou, & D.J. Thompson (eds.), *The Ptolemies, the Sea and the Nile: Studies in Waterborne Power* (Cambridge, 2013), 132-3, 35-6, 39-2, see also 140-1; S. Stephens, “For you Arsinoë”, B. Acosta-Hughes, E. Kosmetatou and M. Baumbach (eds.), *Labored in Papyrus Leaves: Perspectives on an Epigram Collection Attributed to Posidippus (P.Mil.Vogl. VIII 309)* (Cambridge MA, 2004), 170. Contra philosophical attraction to Alexandria: Fraser, *Ptol. Alex.* 1.484, 581-4; W.W. Tarn, “Ptolemy II”, *Journal of Egyptian Archaeology*, vol. 14, no. 3/4 (Nov., 1928), 253-4. For philosophers at other Hellenistic courts see: A. Erskine, “Between Philosophy and the Court: The Life of Persaios of Kition”, A. Erskine & L. Llewellyn-Jones (eds.), *Creating a Hellenistic World* (Swansea, 2010), 177-194; R.L. Fox, “The First Hellenistic Man”, *Creating a Hellenistic World*, A. Erskine & L. Llewellyn-Jones, (Swansea, 2011), 1-31; D. Ogden, “From Chaos to Cleopatra”, D. Ogden (ed.) *The Hellenistic World: New Perspectives* (London & Swansea, 2002) i–xv. For Ptolemy III’s bibliophilia, see: Gal. *Comm. Hipparch.* iii (17 a 606-607); P. Green, “The politics of Royal Patronage Early Ptolemaic Alexandria”, *Grand Street*, vol. 5, no. 1, (1985), 162. For the Museum as continuity of patronage traditions, see: Strootman, *Birdcage of the Muses*, 24-40; A. Erskine, “Culture and Power in Ptolemaic Egypt”, 39-41; for uniqueness: 45-7; Fraser, *Ptol. Alex.* 312-335.

² Timon Fr. 12 *Supplementum Hellenisticum* 786 (= Ath. 1.22d); Strootman notes that Timon himself, as a patron of Antigonas Gonatas, was a hostile source: Strootman, *Birdcage of the Muses*, 7-8. Adding weight to Timon’s account, scholarship has emphasised the limits of Hellenistic influence on élite indigenous culture: A.B. Lloyd, “The Egyptian Élite in the early period: some hieroglyphic evidence”, *The Hellenistic World: New Perspectives*, ed. D. Ogden, (London, 2002), 117-136, esp. 122-4, 130-1; for Sensenshepsu of Coptus inscription, Lloyd follows Petrie’s translation: W.M.F. Petrie, *Koptos*, (London, 1896), 19-21 with pl. 20, right, col. 1, 3 & 4. See also: J.G. Manning, *The Last Pharaohs: Egypt Under the Ptolemies, 305-30 BC* (Princeton, 2010), 5, 40, 45-7, 92; continuity of indigenous Egyptian élite: 5, 37-8, 50-54; cf. 50.

³ F. Montana, “Aristotle, Eratosthenes and the beginnings of Alexandrian scholarship on the Archaia”, *Trends in Classics*, vol. 5, no.1 (2013), 155.

⁴ Library-Museum as assertion of Ptolemaic power: Fraser, *Ptol. Alex.* 1.306-10, 311, 313, 315-16, 483-4; Hölbl, *Ptolemaic Empire*, 26; E.H. Bunbury, *Ancient Geography*, 576; G. Sarton, *Hellenistic Science and Culture in the last Three Centuries B.C.* (New York, 1959), 111-13; J.V. Luce, “Greek Science in its Hellenistic Phase”, *Hermathena*, vol. 145 (Winter, 1988), 23-25, 30-32, 36-37; P.T. Keyser, & G. Irby-Massie, “Science, Medicine and Technology” in G. Bugh (ed.), *The Cambridge Companion to the Hellenistic World* (New York, 2006), 242. For value of scholarship in antiquity see: Vitruvius, *De arch.* 9. praef. 1.1-3; I. Worthington, *Ptolemy I: King and Pharaoh of Egypt* (New York, 2016), 139-41; W.W. Tarn, “Ptolemy II.”, *Journal of Egyptian Archaeology*, vol. 14, no. 3/4 (1928), 246-60; A. Erskine, “Culture and Power in Ptolemaic Egypt: The Museum and Library of Alexandria.” *Greece & Rome*, vol. 42, no. 1 (1995), 41, 45-6; P. Green, “The politics of Royal Patronage”, 155-6, 161-2. Alexandria had a series of cultural competitors for scholarship: A. Erskine, “Between Philosophy and the Court”, 177-78, 182, 187; D. Ogden, ‘From Chaos to Cleopatra’, D. Ogden (ed.) *The Hellenistic World: New Perspectives* (London & Swansea, 2002) i–xv.

⁵ C.G. Heyne, “De Genio Saeculi Ptolemaeorum”, *Opuscula Academica Collecta*, vol. 1 (Göttingen, 1785), 76–134. For analysis of Heyne’s work, see: O. Murray, “Ptolemaic Royal Patronage”, P. McKechnie, P. Guillaume (eds.), *Ptolemy II Philadelphus and His World* (Leiden & Boston, 2008), 9-24. For “favourable” environment, see: Bunbury, *Ancient Geography*, 1.576; Fraser, *Ptol. Alex.* 1.316; Tarn, *Hell. Civ.* 239, 269.

carefree, and peaceful life under conditions of patronage”, perhaps informed by his own experiences in All Souls College at Oxford, in which he aspired to a life of study uninterrupted by self-promotion or teaching.⁶ In return for the support of research and literary production, the regime was understood to benefit from prestige (τιμή or δόξα), the “intellectual achievement”, according to Fraser, providing “justification of the empire”.⁷ This traditional reading depicts the Librarian, Eratosthenes of Cyrene, within idyllic circumstances, free to pursue research, unfettered and well-funded, the scholar’s literary achievements functioning as a cultural gift to the enthusiastic royal patron.

a. Eratosthenes, the “Vacillating” Philosopher

Traditional analysis of Eratosthenes’ work tends to emphasise his philosophical influences, partly from Cyrene and, in a much more substantial way, from Athens. The *Suda* suggests that his time as a youth in Cyrene was shaped by Callimachus and Lysanias. Fraser is keen to emphasise the “deeply conservative” nature of Cyrene, alluding to the polymath’s later conservative values.⁸ For Fraser, this is in contrast to the flourishing philosophical developments in third century Athens. Although dating is tentative, Pfeiffer, Taub, and Fraser believe Eratosthenes departed for the philosophical schools of Athens in his twenties, during the 260s, and spent some twenty years there before being invited to Alexandria by Ptolemy III at, or around, 245 BCE. Such dating is derived from a desire to reconcile Strabo’s assertion that Eratosthenes studied under Zeno of Citium in the 260s, and the *Suda*’s assertion that he lived into Ptolemy V’s reign.⁹ Eratosthenes’ poetic and geographical works are

⁶ Fraser’s “carefree” environment for scholars: P.M. Fraser, *Ptol. Alex.* 1.306, 308, 309-10, 456; Fraser, *Eratosthenes*, 10-11. Fraser “didn’t want to teach” & “never put himself out to reach a wider public”, S. Hornblower, “Peter Marshall Fraser, 1918-2007”, *The British Academy* (November, 2013), 158, 169, <https://www.thebritishacademy.ac.uk/publications/memoirs/fraser-peter-marshall-1918-2007>, accessed 1/7/2019.

⁷ τιμή as attribute of gods and kings: *LSJ.* s.v. τιμή I, 1-4: Hom. *Il.* 1.278, 9.498; Aesch. *P. V.* 172. For public τιμή, see: Arist. *Eth. Nic.* 4.2.5, 10-12, 15.3.10. Fraser, *Ptol. Alex.* 1.307, 9-11, 16, 19. δόξα as prestige or glory: *LSJ* s.v. δόξα A, 1-3: Thuc. 2.11, Dem. *Meid.* 157; *NRSV* 2 Pet. 2.10. Symbol of political power: S. Stephens, “Ptolemaic Alexandria”, J.J. Clauss, M. Cuypers (eds.), *Companion to Hellenistic Literature* (Chichester, 2010), 55-6. Knowledge as gift-giving to the royal patron: Berrey, *Hellenistic Science at Court*, 24-5, 77, 99, 117, 123-4. Gift exchange and reciprocity: Strootman, *Birdcage of the Muses*, 69-73; R. Strootman, “Literature and the Kings”, J.J. Clauss, M. Cuypers (eds.), *Companion to Hellenistic Literature* (Chichester, 2010), 34-7, 84-6.

⁸ “he possessed a mind which was both powerful and unbiased, unique yet conservative”, Fraser, *Eratosthenes of Cyrene*, 3, 4-5. Fraser emphasises “Dorian” conservatism at Cyrene, however the arguably radical Cyrenaic school presents a challenge to Fraser’s assertion: Fraser, *Ptol. Alex.* 1.581; Diog. Laert. 2.8.

⁹ Reconstructing the chronology of Eratosthenes’ life before Alexandria contains difficulties: Strabo refers to him as “acquainted with Zeno of Kitium in Athens” (*BNJ* 241 T10 (= Strabo 1.2.2)); Zeno (Diog. Laert. 7.2,28). This is contradicted by the *Suda*: “He was born in the 126th (?) Olympiad (276/3)” *Suda* s.v. Ἐρατοσθένης (*BNJ* 241 T1). Pownall supports the *Suda*’s dating at the expense of Strabo: F. Pownall, “Eratosthenes of Cyrene (241)”, I. Worthington (ed), *Brill’s New Jacoby*, http://dx.doi.org/10.1163/1873-5363_bnj_a241, accessed 08 June 2019. Contra: Pfeiffer cites the age of Callimachus in the *Suda* as problematic, Pfeiffer, *History of Classical Scholarship in the Hellenistic Period*, 153-4; Geus, *Eratosthenes von Kyrene*, 9-13; Taub, “Eratosthenes sends greetings to King Ptolemy”, 285; Fraser, *Ptol. Alex.* 1.308; Fraser, *Eratosthenes of Cyrene*, 9, 11; J. Blomquist, “Alexandrian Science: The Case of Eratosthenes”, P. Bilde, T. Engberg-Pedersen, L. Hannestad, J. Zahle (eds.), *Ethnicity in Hellenistic Egypt* (Aarhus, 1992), 55.

traditionally understood as being deeply indebted to this period in Athens, the polymath later boasting of his contact with the many philosophers, seen “as never before within... one city”.¹⁰ His recollection of eclectic influences in Athens irritated the Stoically-inclined Strabo, Eratosthenes speaking of the Academic sceptic, Arcesilaus; the Cynic, Bion; the Epicurean, Apelles; and the philosophically ambiguous Ariston; but not of Zeno, revealing “a serious infirmity in his judgement”, according to Strabo.¹¹

Eratosthenes’ philosophical engagement at Athens is traditionally presented as a driving influence behind his work; however, his engagement with a range of philosophical schools has created difficulties for historians attempting to establish his attitudes. There is a temptation for scholars to emphasise one tradition over another to suit a particular reading of Eratosthenes’ works.¹² For Solmsen, Eratosthenes’ production of *Platonicus* and *Hermes* is proof of his Platonist tendencies, naturally enough. In the didactic *Hermes*, the climate zones of the spherical world are likened to the harmony of a lyre’s strings. Conversely, Tarn sees a moderate Sceptic in Eratosthenes.¹³ More recent scholarship has avoided clear labels, cautiously characterising him as “eclectic”.¹⁴ His ancient critics were harsher. Strabo defines his position as “vacillating”.¹⁵ The *Suda* records his unflattering nicknames: “beta” and the “pentathlete”, although it does concede that some also called him the

¹⁰ Strabo 1.2.2; For Fraser, Eratosthenes’ “philosophical training and interests were clearly determined by the years he spent in Athens”, Fraser, *Ptol. Alex.* 1.483-484; for mathematical training in Athens: Fraser, *Eratosthenes of Cyrene*, 7, 9.

¹¹ Strabo 1.2.2; Cf. A. Erskine, “Eratosthenes... probably listened to both Zeno and Aristo”, *The Hellenistic Stoa: Political Thought and Action* (London, 1990), 101.

¹² In an extended debate with W.W. Tarn, M.H. Fisch presents Eratosthenes as essentially Stoic, shaped by Zeno in Athens: “Eratosthenes... had studied in Athens in early youth under Zeno... and was just the [exemplary] stoic”, M.H. Fisch, “Alexander and the Stoics”, *American Journal of Philology*, vol. 58, no. 2 (1937), 139; Fisch goes further, defining him as hostile to Peripatetic traditions, see: 142. Eratosthenes as moderate Sceptic: W.W. Tarn, “Alexander, Cynics and Stoics”, *American Journal of Philology*, vol. 60, no. 1 (1939), 52-4, 58; see also: U. von Wilamowitz-Moellendorff, *Antigonos Von Karystos* (Berlin, 1881), 310. Fraser considers Eratosthenes “mildly Platonic”, Fraser, *Eratosthenes of Cyrene*, 8-9. For Pfeiffer’s view of Eratosthenes as outside philosophical traditions, “as a scientist”: Pfeiffer, *HCS* 156-7, 163. Cf. Sarton’s emphasis of non-philosophical influences: G. Sarton, *Hellenistic Science*, 28.

¹³ For Eratosthenes as Platonist: F. Solmsen, “Eratosthenes as Platonist and Poet.” *Transactions and Proceedings of the American Philological Association*, vol. 73 (1942), 192, 97, 200-1, 5; Theo. Smyrn. *De ratione et intervallo* 20 in Eduard Hiller, *Theonis Symrnaei Philosophi Platonici Expositio Rerum Mathematicarum Ad Legendum Platonem Utilium* (New York, 1878), 80-1; see also *De Numerorum: Proprietatibus* 6.14 at Hiller, *Theonis Symrnaei Philosophi*, 105; cf. Pl. *Tim.* 32b; Eratosthenes as “νέον Πλάτωνα” (*Suda* s.v. Ἐρατοσθένης (= *BNJ* 241 T1)); Roller, *Eratosthenes’ Geography*, 12. Cf. Fraser’s Eratosthenes is Platonist “in little more than name”: Fraser, *Ptol. Alex.* 1.483-4, 2.698 n.9.31. Eratosthenes as Stoic, see: Fraser, *Ptol. Alex.* 1.483; M.H. Fisch, “Alexander and the Stoics”, 129-151. As “moderate sceptic”: Tarn, “Alexander, Cynics and Stoics”, 52-4. Moderate Peripatetic influences: P. McKechnie, “Our Academic visitor is missing”, 140. Philological analysis supporting Peripatetic reading: F. Benuzzi, “Eratosthenes’ studia Aristophanica”, R. Berardi, N. Bruno, L. Fizzarotti (eds.), *On the Track of the Books: Scribes, Libraries and Textual Transmission* (Berlin, Boston, 2019), 125-6.

¹⁴ Eratosthenes as “eclectic”: S.M. Oberhelman, “Eratosthenes”, N. Wilson (ed.), *Encyclopedia of Ancient Greece* (New York, 2006), 269-70; Fraser, *Eratosthenes of Cyrene*, 7.

¹⁵ Strabo 1.2.2.

“second Plato”.¹⁶ Around 245 BCE, Eratosthenes evidently had achieved a degree of fame and, running against the philosophical ideal promoted in many kingship treatises, he accepted an invitation to the court of Ptolemy III to assume the role of chief Librarian, and tutor to the future Ptolemy IV.¹⁷

b. Sources and Geodesy: The Benefits of Patronage

Eratosthenes’ geographical treatises were produced under royal patronage, the chief Librarian having access to the unprecedented data of the Library which, since at least the time of Ptolemy II Philadelphus, had been acquiring a vast swathe of literary resources, the acquisition of books becoming something of a Ptolemaic obsession.¹⁸ Geus and Blomquist consider this wealth of literary data as the driving factor behind Eratosthenes’ “Quantensprung”.¹⁹ The Library’s substantial geographical data were of varying degrees of reliability, from military and mercantile records, to explorers’ logs.²⁰ Strabo critically appraises some of the more famous sources used by Eratosthenes. For Strabo, Deimachus is one of the “fabricators”, followed closely by Megasthenes, the Seleucid diplomat who uncritically indulges in paradoxography.²¹ Onesicritus and Nearchus should be treated with caution.²² Strabo commends Eratosthenes’ use of another Seleucid geographer, Patrocles, whilst

¹⁶ “[Eratosthenes was called] Beta... because of his second-place ranking in every kind of learning”: *BNJ* 241 T1 (= *Suda*, s.v. Ἐρατοσθένης)

¹⁷ For (lost) kingship treaties in the early Hellenistic period: A. Erskine, “Between Philosophy and the Court”, 177-8. Cf. *Plut. Mor.* 1127a. Epicurus contra philosophy at court symposia: *Plut. Mor.* 1095c, 1127a; *Diog. Laert.* 10.24; O. Murray, “Philosophy and monarchy in the Hellenistic world”, T. Rajak et al. (eds), *Jewish Perspectives on Hellenistic Rulers* (Berkeley, 2007), 18. on lost kingship treatises, see: 17-21. For Eratosthenes summoned by Ptolemy: “He was summoned from Athens by Ptolemy III, and he lived there until Ptolemy V” *BNJ* 241 T 1 (= *Suda* s.v. Ἐρατοσθένης). Most scholarship, with the notable exception of Fraser, argues for Eratosthenes as tutor to Ptolemy IV: Bevan, *House of Ptolemy*, 236; J.O. Thomson, *History of Ancient Geography* (New York, 1965), 158; Pfeiffer, *HCS* 142; Roller, *Ancient Geography*, 121. Fraser presents two opposing views: *ex silentio* argument re. P. Oxy 1241 to argue against tutelage: Fraser, *Ptol. Alex.* 2.127. Cf. Eratosthenes as tutor: Fraser, *Eratosthenes of Cyrene*, 10-1.

¹⁸ *Gal. Comm. Hipparch.* iii (17 a 606-607).

¹⁹ Blomquist, “Alexandrian Science: The Case of Eratosthenes”, 54-5. For Ptolemaic cultural mäszenat (patronage) see: P.M. Fraser, *Ptol. Alex.* 1.306-11; 313-16, 483-4, 717; P.M. Fraser, *Eratosthenes of Cyrene*, 6, 10-11, 26; Tarn, *Hell. Civ.* 268-70; R. Strootman, “Literature and the Kings”, 32-4; P. McKechnie, “Our Academic visitor is missing” 139-40; G. Hölbl, *A History of the Ptolemaic Empire*, 63-64; E.R. Bevan, *The House of Ptolemy*, 125; J.V. Luce, “Greek Science in its Hellenistic Phase”, 24-6, 36-7; Strootman, *Birdcage of the Muses* 1-3, 33-40, 75-99; J.B. Burton, *Theocritus’ Urban Mimes: Mobility, Gender, Patronage* (Berkeley & London, 1995), 124-6, 130, 144-5, 153-54.

²⁰ K. Geus, *Eratosthenes Von Kyrene: Studien zur hellenistischen Kultur und Wissenschaftsgeschichte* (Munich, 2002), 227-8.; Fraser, *Ptol. Alex.* 1.521-5; Strootman, *Birdcage of the Muses*, 141-3, 6.; F. Pownall, “Eratosthenes of Cyrene (241)”, I. Worthington (ed.), *Brill’s New Jacoby*, http://dx.doi.org/10.1163/1873-5363_bnj_a241, (2016), accessed 23rd April 2019. See also Luce, “Greek Science”, 28; J.O. Thomson, *History of Ancient Geography* (New York, 1965), 160. A. Ignacio & M. Marín, “Under the Shadow of Eratosthenes: Strabo and the Alexander Historians”, D. Dueck (ed.), *The Routledge Companion to Strabo* (Abingdon & New York, 2017), 294-6. Military sources: According to Fraser, Eratosthenes’ measurements for Asia came directly from the *Asiatikoi stathmoi*, as a result of Alexander’s conquests, and from later Seleucid surveys: Fraser, *Cities of Alexander*, 78 n.4; Strabo 15.2.8; cf. 82 n.11.

²¹ Eratosth. F22 (= Strabo 2.1.9).

²² Onesicritus and Nearchus: Eratosth. F22 (= Strabo 2.1.9); F74 (= Strabo 15.1.13-14). M. Whitby, “Nearchos (133)”, *Brill’s New Jacoby*, I. Worthington (ed.), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a134. Accessed 29th April 2019. M. Whitby, “Onesikritos (134)”, *Brill’s New Jacoby*, I. Worthington (ed.), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a134. Accessed 29th April 2019.

Eratosthenes himself is luke-warm about his credibility.²³ Strabo's faith in Patrocles was evidently misplaced, both Eratosthenes and Strabo erroneously incorporating Patrocles' apparent discovery of a northern inlet to the Ocean in their maps of central Asia. According to Bunbury, followed by Roller, Eratosthenes' data for Carthage and sub-Saharan west Africa seems to be informed by Hanno the Navigator's *Periplus*, a brief pamphlet which alludes to an uncrossable tropic zone of fire.²⁴ To the more immediate south, Eratosthenes's data would probably be more recent, the result of Ptolemy II's southerly expeditions near Meroe.²⁵ Fraser goes further, assuming access to the royal βηματισταί (pacers).²⁶ Pytheas' possibly privately funded explorations for *On the Ocean* informed Eratosthenes' geographical map for north-west Europe.²⁷ Condemned as another fabricator by Strabo, Pytheas has enjoyed something of a revival in credibility by modern historians for his tidal theory and astronomical observations.²⁸ Eratosthenes also seems familiar with sailors' records, something vital for measuring distances east or west between meridians in ancient geography. Measurements from Rhodes to Alexandria are based on "the assumption of navigators"; however, Eratosthenes' claims to use geographic tools, most notably the γνώμων – a sundial that measures solar hours – to verify these.²⁹ Whether the use of the γνώμων suggests the scholar's direct autopsy, or that of a servant or student,

²³ Credibility of Patrocles: *BNJ* 712 T5b (= Strabo 2.1.6); *BNJ* 712 T 3b (= Plin. *HN* 6.58); "a man with a reputation for intelligence and a trusted friend of Seleukos", *BNJ* 712 T2 (=Plut. *Dem.* 47.4). Eratosthenes' caution with Patrocles: *BNJ* 712 F3a (= Strabo 2.1.7). Patrocles as part of longer tradition for erroneous inlet: W.W. Tarn, "Patrocles and the Oxo-Caspian Trade Route", *Journal of Hellenic Studies*, 21 (1901), 10-29, esp. 20. Nearchus naval expeditions: from India: Eratosth. F74 (= Strabo 15.1.13-14); Arr. *Ind.* 25.4-8, 35.7-8; Persia: Arr. *Ind.* 40.2-5; Arabia: Arr. *Ind.* 43.9-13. J.R. Hamilton, "The Start of Nearchus' Voyage", *Historia*, vol. 43 (1994), 499-503.

²⁴ Hanno's journey down West African coast: "he turned southward, he fell in with every sort of difficulty [with]... fiery streams running into the sea", Arr. *Ind.* 43.9-13; *The Periplus of Hanno*, 15; Roller, *Eratosthenes' Geography*, 127; Roller, *Pillars*, 26-7, 31-43; E. H. Bunbury, *Ancient Geography*, 330-1.

²⁵ Plin *HN* 6.194, 37.108; Diod. Sic. 1.37.4-5; cf. 3.36.3: Ptolemy II's patronage of expeditions: 3.37; 3.42.1, 17.1.2; W.W. Tarn, "Ptolemy II and Arabia" 14; S. Burstein, "Elephants for Ptolemy II: Ptolemaic Policy in Nubia in the Third Century BC", P. McKechnie, & P. Guillemae (eds), *Ptolemy II and His World*, 137; Fraser, *Ptol. Alex.* 1.415, Tarn, *Hell. Civ.*, 302-3; M.J.T. Lewis, *Surveying Instruments of Greece and Rome* (Cambridge, 2001), 22.

²⁶ Mart. Cap. 6.596-8; "his ground-measurements were freshly taken by pacers put at his disposal by Euergetes or Philopator", Fraser, *Ptol. Alex.* 1.415; for βηματισταί: Strabo 15.2.8., *LSJ* s.v. βῆμα 1-2.

²⁷ Polyb. 34.5.7 (= Strabo 2.4.2); 34.10.6 (Strabo = 4.2.1); Roller calls any claims that Pytheas was a private merchant "circumstantial", and probably an attempt by Polybius to discredit him: D.W. Roller, *Through the Pillars of Herakles: Greco-Roman Exploration of the Atlantic* (New York, 2006), 62-3; for Polybius' prejudice against Pytheas, see: F.W. Walbank, *Polybius, Rome and the Hellenistic World: Reflections and Essays* (Cambridge, 2002), 35-6. Posidonios *BNJ* F28 (= Strabo 2.2.1); K. Dowden, "Poseidonios (87)", I. Worthington, (ed.), *Brill's New Jacoby* (2016), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a87, accessed online on 19 August 2019.

²⁸ Pytheas "misled" Eratosthenes: "he believes Pytheas, and that, too, though not even Dicaearchus believed him", Eratosth. F14 (= Strabo 2.4.1-2); F34 (= Strabo 2.5.8); F153 (= Strabo 3.2.11) cf. F131 (= Strabo 2.1.41); for Pytheas' northern data, see: Roller, *Pillars*, 74-91.

²⁹ Eratosth. F128 (= Strabo 2.5.24): "Eratosthenes says that this is merely the assumption made by navigators in regard to the length of the sea-passage, some saying it is four thousand stadia, others not hesitating to say it is even five thousand stadia, but that he himself, by means of the shadow-catching sun-dial, has discovered to be three thousand seven hundred and fifty stadia."; Gnomon: *LSJ* s.v. γνώμων, 2B, Euc. 2, Vitruv. *De arch.* 9.7.1-3, 1.6.9. Dioptra: *LSJ* s.v. διοπτρικός; E. Laskowska-Kustzal, *Elephantine XV. Die Dekorfragmente der ptolemäisch-romischen Tempel van Elephantine* (Mainz, 1996), 151-2; development of *gnomon* and later use of *dioptra*: see Lewis' detailed study: M.J.T. Lewis, *Surveying Instruments of Greece and Rome* (Cambridge, 2001), *Gnomon*: 22-38, 123-5; Eratosthenes' use of: 143-7; *Dioptra* sighting tube: 36-41; used by Hipparchus: 41-5, 50.

is an open question.³⁰ Regardless, such measurements seem to form more than just a supplement to literary sources.

The traditional approach emphasises his geographic achievements, the geodesic measurement prominent among these.³¹ Eratosthenes' renowned geodesic measurements required solar measurements at Syene, on the Tropic of Cancer, and at Alexandria, triangulated to measure the earth's circumference.³² For Lloyd and Sarton, the geodesic measurement is understood through a scientific lens, as a Hellenistic triumph, produced independently of ideological concerns.³³ *The Measurement of the Earth* is lost, the treatise remaining as testimonia, the global circumference of 252,000 stadia certainly impressing later scholars of antiquity.³⁴ Pliny the Elder considered it "an audacious venture, but achieved by such subtle reasoning that one is ashamed to be sceptical".³⁵ Such élite dialogue spanned space and time, and may have been fundamental to the regime's prestige, positioning it as a key part of a venerable tradition. Archimedes' correspondence reveals the competitive nature of such mathematical scholarship, at least on a personal level, in his letter to Eratosthenes, "inviting" his friend to "discover the proofs, which at the moment, I did not give".³⁶ In such a context, Eratosthenes' geodesy elevated not only his status as a scholar, but the status of his patrons, the φίλος τοῦ βασιλέως perhaps pitted against the Syracusan. The τιμή for the Ptolemies deriving from the geodesic measurement would have been profound, one of the ripe fruits of their cultural project.

c. Eratosthenes' *Geographica*: Traditional Interpretations

Eratosthenes' landmark geographical treatise, *The Geographica*, has been traditionally understood as a scholarly project essentially unaffected by political concerns, a view maintained by Roller in his

³⁰ Lewis argues that scholars like Eratosthenes "rarely ventured into the field": M.J.T. Lewis, "Greek and Roman Surveying Instruments", 131.

³¹ Fraser, 1.413-5; Roller, *Eratosthenes' Geography*, 12-3, 23, 263-7; Geodesy replicated by Longman & Hughes of Dept. of Chem., Phys., Mech. Engr. & I.F.E. at Q.U.T. Geodesic reference points: Christchurch, NZ., Rosebud, Vic. & Jimboomba, QLD. were used to successfully replicate Eratosthenes' geodesic measurement. M. Longhorn, & S. Hughes, "Modern Replication of Eratosthenes' Measurement of the Circumference of Earth." *Physics Education*, vol. 50, no. 2 (2015), 175-178.

³² For geodesic measurements see: Plin. *HN* 2.247; Macrobius, *Commentary on the Dream of Scipio*, 2.6.2-5; Vitruvius, *De arch.* 1.6.9; *BNJ* 241 T5 (= Censorinus, *DN* 15.2); *BNJ* 241 T5 commentary: F. Pownall, "Eratosthenes of Cyrene (241)", I. Worthington (ed.), *Brill's New Jacoby*, (2016) http://dx.doi.org/10.1163/1873-5363_bnj_a241. Accessed 23rd April 2019. Gnomon measurements: Eratosth. F128 (= Strabo 2.5.24).

³³ Eratosthenes as "Science": Lloyd, *Greek Science after Aristotle*, 2-5; 21-33; J.S. Keltie, & O.J.R. Howarth, *History of Geography* (New York & London, 1913), 22-5; G. Sarton, *Hellenistic Science*, 111-13, 172-3.

³⁴ Fraser notes that Eratosthenes "himself rounded off the figure," *Ptol. Alex.* 2.599 n.311., 1.414.

³⁵ Plin. *HN* 2.247.

³⁶ Archimedes, "The Method of Archimedes Treating of Mechanical Problems to Eratosthenes", prooem; Fraser, *Eratosthenes of Cyrene*, 14-15.

recent treatment of the fragments.³⁷ The *Geographica* seems to have consists of three books: the first is an introduction, adopting agonistic assessment of prior scholarship to position the text within the early geographic tradition.³⁸ Book Two adopts a broad lens, using mathematical descriptions to measure the οἰκουμένη within a global context. The globe is divided into climate zones and a summary of *The Measurement of the Earth* may also have been included. The third and final book, from which we have the most fragments, is the descriptive geography, using cultural and natural digressions to investigate the οἰκουμένη.³⁹

Book One positions the work within an early geographic literary tradition. Notably, the introduction asserts the *Geographica* as weighty παιδεία (instructive literature) by distinguishing itself from poetry, the latter being designed to “entertain, not to instruct”, according to Eratosthenes.⁴⁰ It is notable for its derision of Homer, whose geographical knowledge is ridiculed. Traditional readings have framed this in sceptical, even proto-rationalist terms. Fraser remarks that Eratosthenes “contempt for Homer” was driven by the poet’s inaccurate geographical “mistakes” beyond the Poet’s corner of the Aegean.⁴¹ Homer’s ignorance of the Nile Delta was, perhaps, the most immediate example for the Alexandrian scholar.⁴² However, there is a sympotic playfulness overlooked here by the traditional

³⁷ Roller’s commentaries emphasise sources, reception, philosophical & literary contexts: Roller, *Eratosthenes’ Geography*, see especially: 12-14, 17-, 30-33, 5; commentaries without ideological reference, 11-220, with the notable exception of F155 (at 220), however, political emphasis is also minimised.

³⁸ Berrey argues that self-conscious literary positioning was active, agonistic, and sometimes ironic technique for presenting treatises. Berrey, *Hellenistic Science at Court*, 28, 31-2, 56-9, 132-7. For more passive “belatedness”, see: M. Fantuzzi & R. Hunter, *Tradition and Innovation in Hellenistic Poetry* (Cambridge, 2004), vii, 49-50.

³⁹ The survival of 155 fragments of Eratosthenes’ *Geographica* and nine of *The Measurement of the Earth* is substantial. The majority are found in Strabo’s *Geography*; however, a significant minority come from other sources, including Arrian and Pliny the Elder. Strabo’s fragments: Roller mainly follows Berger’s treatment of the fragments, with adaptations based on the later copy of Strabo by Aly: D.W. Roller, *Eratosthenes’ Geography*, x-xi, 15-30, esp. 16; W. Aly, *Strabon von Amaseia 4: Untersuchungen über Text, Aufbau und Quellen der Geographika* (Bonn, 1957); cf. Potheary notes problems with Roller’s translation. S. Potheary, “Roller’s Eratosthenes: A Strabonian Slant: Review of Duane W. Roller, *Eratosthenes’ Geography*, Princeton University Press, 2010”, (2010), <http://www.strabo.ca/Eratosthenes.pdf>. Accessed 11th August 2019. Unless otherwise stated, this paper uses the Loeb Greek with English translations: Strabo, *The Geography of Strabo*, vol. 1-8, trans. H.L. Jones, Loeb Classical Library, Vol. 1-8 (Cambridge MA & London, 1917- 1932), in conjunction with Dueck and Clarke’s important contextual analyses of his work: K. Clarke, *Between Geography and History: Hellenistic Constructions of the Roman World* (Oxford, 1999), 193-336; K. Clarke, “In Search of the Author of Strabo’s *Geography*”, *Journal of Roman Studies*, vol. 87 (1997), 92-110; D. Dueck, *Geography in Classical Antiquity* (Cambridge, 2012), 20-118; D. Dueck, *Strabo of Amasia: A Greek Man of Letters in Augustan Rome* (London, 2000). For analysis of Arrian’s treatment of fragments, A.B. Bosworth’s companions are invaluable: A.B. Bosworth, *A Historical Commentary on Arrian’s History of Alexander*, vol. 1 on *Anab.* 1-3, vol. 2 on *Anab.* 4-5 (Oxford, 1980, 1995); also A.B. Bosworth, *From Arrian to Alexander: Studies in Historical Interpretation* (Oxford, 1988). Pliny’s fragments re. ideological concerns: S. Carey, *Pliny’s Catalogue of Culture, Art and Empire in the Natural History* (Oxford, 2003). T. Murphy, *Pliny the Elder’s Natural History: The Empire in the Encyclopedia* (Oxford, 2004).

⁴⁰ Παιδεία, LSJ: s.v. παιδεία 3, “mental culture, learning, education”; Democr. 180, Arist. *Pol.* 1338a; Eratosth. F2 (= Strabo 1.2.3).

⁴¹ Eratosth. F3 (= Strabo 1.2.7).

⁴² Eratosth. F10 (= Strabo 1.2.22-4); For Bunbury, such an explicit rejection of Homer’s geography was evidence that he “entertained sounder and more judicious views” than his contemporaries”, Bunbury, *Ancient Geography*, 656.

reading. Eratosthenes' wry humour is demonstrated when he offers, "you will find the scene of the wanderings of Odysseus when you find the cobbler who sewed up the bag of the winds".⁴³ The sympotic humour is not explored in a traditional reading. Instead Eratosthenes is almost a scholastic caricature, with a "mind... both powerful and unbiased", in the words of Fraser, one resistant to "nonsense".⁴⁴

Book Two adopts an elevated view, emphasising mathematical concerns. Eratosthenes provides linear measurements and geometrical shapes to outline distances, positioning and measuring the οἰκουμένη on the globe. He refines the Peripatetic theory of climate zones, and describes complex shapes with metaphors and similes.⁴⁵ The οἰκουμένη is likened to a "σπόνδυλος" ("spindle-whorl"), positioned in the northern temperate zone, delineated by the arctic circle in the north and the apparently impenetrable "torrid" zone between the two tropics.⁴⁶ This inhabited world is "χλαμυδοειδής" (like a chlamys-cloak), another illuminating term.⁴⁷ The choice of such metaphors and similes has been of as much interest to ancient as to modern scholars, Roller echoing Cleitarchus in approving of engaging "domestic" metaphors and similes for a non-specialist audience.⁴⁸ For Zimmermann, Eratosthenes' chlamys-cloak simile is an ingenious explanation of a flat map wrapped around part of a spherical surface, something that has continued to cause headaches for cartographers into the modern era.⁴⁹

Significantly, Eratosthenes rejects geo-political demarcation in favour of geometric and topographical means of organising space. Neither means of measurement were entirely new: Roller considers Herodotus' juxtaposition of Egypt "opposite" Cilicia as something of a proto-meridian, and these

⁴³ Eratosth. F5 (= Strabo 1.2.15).

⁴⁴ Fraser, *Eratosthenes of Cyrene*, 3, 32.

⁴⁵ Arist. *Mete.* 2.5; Posidonius' κλίματα: BNJ 87 F 28 (=Strabo 2.2.1-2.38); Eratosthenes' zones: Eratosth. F30 (= Strabo 2.5.5-6); F31 = Strabo 2.5.13; F34 (= Strabo 2.5.7-9); Roller, *Eratosthenes' Geography*, 22-4, 147; Dueck, *Geography in the Classical World*, 82-3.

⁴⁶ σπόνδυλος: LSJ s.v. σπόνδυλος 3; Eratosth. F30 (= Strabo 2.5.6); a more accurate and accessible simile for the reader than Aristotle's "two cones" (δύο κώνους): Arist. *Mete.* 2.5. Potheary for alternate translations, such as "vertebra", (LSJ s.v. σπονδύλος 1): S. Potheary, "Roller's Eratosthenes: A Strabonian Slant", 4-8. Zones: Posidonius attributes climate zone theory to Parmenides (Strabo 2.2.2); Aristotle's discussion of 5 zones: *Mete.* 2.5.362; Eudoxus of Cnidus' "κλίματα" as part of zone theory: Strabo 2.1.2. Dicks attributes κλίματα to Eratosthenes' second century critic, Hipparchus: D.R. Dicks, "Strabo and the ΚΛΙΜΑΤΑ", *Classical Quarterly*, vol. 6, no. 3/4 (1956), 243-247. For Fraser's support of Dick's position, see: Fraser, *Ptol. Alex.* 1.531, 2.762 n.93.

⁴⁷ LSJ s.v. χλαμύς A1-2; Eratosth. F30 (= Strabo 2.5.5-6).

⁴⁸ "Many of those who have received an education and who are acquainted with the sciences not only turn to the above mentioned things, but they also use metaphors nearly as often as the sophists" Kleitarchos BNJ 137 T12 (= Phld. *Rhet.* 4.1 col. 21, 15-25 (vol. 1 p. 180 Sudhaus)); Roller, *Eratosthenes' Geography*, 147.

⁴⁹ K. Zimmermann, "Eratosthenes' chlamys-shaped world: a misunderstood metaphor", Ogden, D. (ed.), *The Hellenistic World: New Perspectives* (2002, London), 23-40. Mercator Map projection concerns are ongoing: "the Mercator projection is a poor choice for maps of the globe in its entirety or for large landmasses on digital displays. The higher latitudes suffer from undue distortion and convey a false sense of proximity to the user, while the polar latitudes are completely missing in the Web-based Mercator projection", R. Machiraju, "Fixing the Mercator Projection for the Internet Age", *Computer* (2014), vol. 47, no. 1, 9; Gaspar & Leitão highlight concerns with the Mercator projection, raised as early as the sixteenth century, with cartographical errors compounding cartographic choices to distort latitude: J. A. Gaspar & H. Leitão "Squaring the Circle: How Mercator Constructed His Projection in 1569", *Imago Mundi*, vol. 66, no. 1, 1-24.

abstractions drew on a long tradition from periegetic sailor's accounts.⁵⁰ Eratosthenes' prime meridian is "a straight line" from "south of Meroë... through Syene ... to Alexandria".⁵¹ This meridian is a product of third century data and far from exact: if we follow the same meridian to the north, it begins to distort more dramatically, linking with Rhodes, before veering north-east to Lysimachia, then Borysthenes, and onwards north to the arctic.⁵² Although these meridians could be measured with solar hours, using the γνώμων to calculate the shadow, the perpendicular parallels were dependent entirely on travellers' records.⁵³ The main parallel provides an illuminating insight into the Hellenistic view of the world. It is "a line drawn from west to east", running from the Pillars of Heracles, through Athens, dissecting the main meridian at Rhodes, before following the Cilician coast and the Taurus-Caucasus-Himalaya mountains, erroneously believed to be a single range, as far as India.⁵⁴ This main parallel exemplified Eratosthenes' tendency to correlate observed or speculative topography and periegetic data with mathematical delineation.⁵⁵ Traditional interpretations emphasise the limitations of third century data which informed the imperfect cartographic decisions, ideally straight lines effectively bent and skewed as they connect limited vectors. For Fraser, Diller, and Roller, these are pragmatic decisions, independent of political concerns.⁵⁶

Book Three organised the internal space of the οἰκουμένη. Once more, geo-political boundaries are rejected, much to the frustration of Strabo.⁵⁷ Instead quadrilateral spaces called "σφραγίδες" (seals) are adopted, using meridians and parallels, and topographical features, to order the landscape.⁵⁸ Eratosthenes' use of seals is sometimes understood as Euclidean, even Platonically inspired.⁵⁹ His descriptive digressions of these seals, however, adopt the methods of descriptive geographical

⁵⁰ Hdt. 2.3.4, Roller, *Eratosthenes' Geography*, 4-5.

⁵¹ Eratosth. F34 (= Strabo 2.5.7-9); Vitruvius 9.7.2; J.O. Thomson, *History of Ancient Geography* (New York, 1965), 138.

⁵² Eratosth. F35 (= Strabo 1.4.2); F51 (= Strabo 2.1.10).

⁵³ Μεσημβία LSJ s.v. μεσημβία A-B; Eratosth. F16 (= Strabo 1.3.11-15); F34 (= Strabo 2.5.7-9); "quae dicitur meridiana" Vit. *De arch.* 9.7.2; early γνώμων use: M.J.T. Lewis, *Surveying Instruments of Greece and Rome* (Cambridge, 2001), 40. Dicaearchus use of a dioptra and his geodesic measurement is controversial: Cleomedes suggests Lysimachia's distance to Syene was measured by a shadow-measuring instrument (Cleomedes *Cael.* 1.5.63), something Berger claims is a reference to Dicaearchus: H. Berger, *Geschichte der wissenschaftlichen Erdkunde der Griechen*, vol. III (Leipzig, 1893), 3.44. Contra: Collinder raises doubts concerning early (fourth and third century) BCE use: P. Collinder, "Dicaearchus and the 'Lysimachian' Measurement of the Earth." *Sudhoffs Archiv Für Geschichte Der Medizin Und Der Naturwissenschaften*, vol. 48, no. 1 (1964), 69-70. For other, later, use of dioptra see: Polyb. 10.46; Heron *Dioptra* 5. Dicaearchus triangulating mountains: Plin. *HN* 2.65.

⁵⁴ Eratosth. F47 (= Strabo 2.1.1-3); F48 (= Strabo 11.12.4-5); F71 (= Arr. *Anab.* 5.6.2-3).

⁵⁵ Eratosth. F63 (= Strabo, 2.1.22).

⁵⁶ Roller, *Ancient Geography* 121-131; Roller, *Eratosthenes' Geography*, 22-27; Fraser *Ptol. Alex.* 1.521; Diller, "Geographical Latitudes in Eratosthenes, Hipparchus and Posidonius." *Klio*, vol. 27 (1934), 262-6.

⁵⁷ "Still cruder is it, after he has said that he does not see what practical result there can be of the investigation of the boundaries," Eratosth. F33 (= Strabo 1.4.7-8).

⁵⁸ Eratosth. F66 (= Strabo 2.1.22); σφραγίδες: LSJ σφραγίζω 1. "to enclose with a seal" cf. 5. "to set an end or limit to". Eratosth. F49 (= Strabo 2.1.31), F66 (= Strabo 2.1.22); Roller, *Eratosthenes' Geography*, 26-28; D.A. Shcheglov, "Eratosthenes' Contribution to Ptolemy's Map of the World" *Imago Mundi*, vol. 69, no. 2 (2017), 163.

⁵⁹ W.W. Tarn, "Alexander, Cynics and Stoics", *American Journal of Philology*, vol. 60, no. 1 (1939), 52-4, 58; Wilamowitz-Moellendorff, *Antigonos Von Karystos*, 310.

traditions of hodology and periegesis, creating a text which blends geographical genres.⁶⁰ The unique features and anomalies of each land are examined with a traveller's gaze, an approach later adopted by Strabo.⁶¹ In this journey, we are encouraged to adopt his Peripatetic interest in causation, from the formation of the landscape, to the development of cultures.⁶² Of note, he emphatically rejects the mythological causal explanations associated with four significant Ptolemaic figures: Ammon-Zeus, Dionysus, Heracles, and Alexander.⁶³

d. Traditional Reading: Criticisms

Eratosthenes' most prominent unorthodox elements: his assaults on the Homeric geographical tradition in the introduction of Book One; his rejection of political demarcation in Book Two; and his hostility to ideologically significant religious traditions in Book Three, have been traditionally understood as informed by a robust scholar's scepticism. Pfeiffer understands Eratosthenes' work as an almost "fearless" defence of rationalism.⁶⁴ Fraser's image of Eratosthenes is equally that of the defiant sceptic who can "resist nonsense", rejecting legends of Alexander, Dionysus and Heracles, seemingly unconcerned with the personal ramifications of his ideologically unorthodox stance.⁶⁵ This traditional characterisation, the "powerful and unbiased mind", borders on caricature.⁶⁶ Kosmin criticises this notion of an "ivory tower convergence", with scholars fearlessly independent of the court, instead suggesting that geographical scholarship was inevitably informed by the concerns of powerful royal patrons.⁶⁷ Bianchetti emphasises the need for us to consider the strings attached to the research which was so "generously supported" by the Ptolemies.⁶⁸

⁶⁰ For Pretzler, Periplus and stadiasmos as digressions were informed by encyclopaedic concerns: M. Pretzler, *Pausanias: Travel Writing in Ancient Greece* (London, 2007), 53-4.

⁶¹ Strabo 9.1.9, 7.7.5; Clarke, *Between Geography and History*, 23-4, 202-5; K. Clarke, "In Search of the Author of Strabo's Geography", *Journal of Roman Studies*, vol. 87 (1997), 97-98.

⁶² αἰτία: Arist. *Ph.* 2.3; Arist. *Gen. an.* 1.1. nature as cause: Arist. *Part. an.* 1.1, 4.11; descriptive geography continues to develop with Polybius, Posidonius and Strabo: D. Dueck, *Geography in Classical Antiquity*, 42, 50; Polyb. 34.1.3-6 (= Strabo 10.3.5); Posidonius' remaining fragments, particularly those recorded by Athenaeus, are replete with natural and cultural digressions, see: *BNJ* Poseidonios 87, cultural digressions: F1 (= Ath. 4.58.153cd), F2 (= Ath. 4.78, 176B-C), F5 (= Ath. 4.38, 152F-153A); F16 (= Ath. 4.40, 154A-C); K. Dowden, "Poseidonios (87)", *Brill's New Jacoby*, Ian Worthington (ed.), (2016) http://dx.doi.org/simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a87. Accessed 8th June, 2019.

⁶³ Dionysus & Heracles: Eratosth. F21 (= Strabo 15.1.7); F23 (Arr. *Anab.* 5.3.1-4) for Alexander, see: F23 (Arr. *Anab.* 5.3.1-4); 24 (= Strabo 11.7.4); Ammon-Zeus: F15 (= Strabo 1.3.3-4).

⁶⁴ Pfeiffer, *HCS* 166-7.

⁶⁵ "resist nonsense": Fraser, *Eratosthenes of Cyrene*, 32, see also 28-9; A.B. Bosworth, *Alexander and the East: The Tragedy of Triumph*, (Oxford, 1996) 118; Eratosthenes' "radical doctrine": Pfeiffer, *HCS* 167.

⁶⁶ Fraser, *Eratosthenes of Cyrene*, 3.

⁶⁷ Kosmin, "Politics of Science", 85; K. Gutzwiller, *A Guide to Hellenistic Literature* (Malden MA, Oxford, Melbourne, 2007), 188-91.

⁶⁸ Bianchetti, "The Invention of Geography", 137-9.

Roller's more recent adaptation of the traditional reading presents Eratosthenes as much more moderate, but nonetheless detached. According to Roller, Eratosthenes' criticisms of Homer are misrepresentations by Strabo, the Cyrenian geographer arguing for an allegorical, rather than a literal reading of Homer.⁶⁹ Roller's Eratosthenes "knew to be cautious" of Megasthenes' and Deïmachus' accounts of Dionysus, Heracles and Alexander.⁷⁰ Some of these accounts are rejected as paradoxia, whilst others he thought were geographically erroneous. The polymath was apparently "quite offended" by the relocation of Mt. Paropamisus.⁷¹ This peak where Prometheus was released by Heracles, was moved by "the Macedonians" from the Pontus to India, simply "to please Alexander".⁷² For Roller, the objection is one of geographical fidelity, as it did "violence to the geography".⁷³ A traditional reading like Roller's is in danger of overlooking the sympotic language of Eratosthenes' criticisms, and in doing so, missing the important political concerns raised by such criticisms. Κολακεία (excessive flattery) is a clear concern for the polymath, and the choice of targets for his scepticism are striking: an overly credulous king and key Ptolemaic deities have their legends and reputations disputed.⁷⁴ The selection of such ideologically potent targets deserves explanation beyond the caricature of a politically aloof scholar defending geographical accuracy.

Part 2) Eratosthenes as Propagandist

a. Geography as Propaganda in Antiquity

Propagandistic readings place emphasis on the assimilating tendency of geographies, the "replacement of individual mental maps with a single map viewed from a single standpoint".¹ Pratt understands this process as driven by colonial ideology, the measurements and nomenclature of cartography and descriptive geography involving "systemization", moving from an ostensibly "chaotic original" to the creation of a controlled imperial space.² Gregory notes that the process of

⁶⁹ Roller, *Eratosthenes' Geography*, 115; for Roller's defence of Eratosthenes as a moderate misrepresented by Strabo, see: 111-24 re. Eratosth. F1-11.

⁷⁰ Eratosth. F21 (=Strabo 15.1.7); Megasthenes: *BNJ* 715, esp. F4 (= Diod. Sic. 2.35.1-42); Bosworth, *From Arrian to Alexander*, 40-5, Deïmachus: *BNJ* 716 F2a (= Strabo 15.1.12), F2c (= Strabo 2.1.17), F5 (=Strabo 2.1.9). Deïmachus as paradoxography: *BNJ* 716 F5 (= Strabo 2.1.9); J. Engels, "Daimachos (716)", I. Worthington (ed.) *Brill's New Jacoby*, 2016, http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a716. Accessed 3rd Jul. 2019. Roller, *Eratosthenes' Geography*, 138-9; Eratosth. F22 (= Strabo 2.1.9); Roller notes that despite such scepticism, Eratosthenes nonetheless had ready access to and made much use of, Megasthenes' *Indika* (Eratosth. F67-76).

⁷¹ Eratosth. F22 (=Strabo 2.1.9).

⁷² Eratosth. F23 (= Arr. *Anab.* 5.3.1-4); Bosworth, *From Arrian to Alexander*, 32, 41.

⁷³ Roller, *Eratosthenes' Geography*, 139.

⁷⁴ Κολακεία: *LSJ* s.v. Κολακεία "flattery, fawning"; cf. Democr. 268' for the much maligned κόλαξ; *LSJ* s.v. κόλαξ A: a "flatterer of fawner"; *Lys.* 28.4, Pl. *Phdr.* 240b.

¹ Clarke, *Between Geography and History*, 23.

² M.L. Pratt, *Imperial Eyes: Travel Writing and Transculturation* (London & New York, 1992), 34, 51-53; imperial nomenclature: 32-33, 54; mapping as a means of imperial control, 67-68; 72, 200-202; C. Levi-Strauss, J. & D. Weightman (trans.), *Tristes Tropiques* (Paris, 1955, London, 1992), 132-3.

measurement not only orders the landscape, but also creates “enclosures and partitions”, to differentiate and organise people and territory within a framework of “domestication”.³ This process legitimises the colonial project, filling in what Conrad’s Marlow called “the blank spaces on the earth”.⁴ The ideological potency of geography for the imperial imagination is substantial, Ryan characterising it as “the discipline of empire”, aimed at orienting readers to view colonised space as exotic, yet tamed, and united firmly under imperial control.⁵

Recent analyses of ancient geographical texts have adopted the tools of political geography, revealing geographical representation as a means of promoting imperial concerns. Caesar’s *The Gallic War* “compels” readers to celebrate his achievements through a singular focalisation.⁶ Demarcation is utilised to outline Gaul as a colonised and domesticated space, organised by region, law and language.⁷ It is given clear internal structures; fluvial boundaries are used as stabilising forms of demarcation.⁸ The relationship is paternal; the Gallic tribes, as a subject people, are in need of protection, but also intrinsically quarrelsome and prone to rebellion.⁹ This is contrasted with the Germanic tribes, an uncivilised “multitude” that breach the boundaries of the civilised world.¹⁰ Schadee emphasises the contrast between the two territories, and Riggsby notes the geographical reinforcement of ethnographic divisions. Germany’s absence of internal divisions creates a sense of fluidity beyond the civilised world.¹¹ The protagonist, Caesar, acts as stabiliser, moving beyond the colonised map of Gaul to counter disruptive forces over the Rhine and the British Channel.¹² With the perimeters of the map secured, he swiftly returns to the domesticated territory. The edges of the map

³ D. Gregory, “(Post)Colonialism and the Production of Nature”, B. Braun & E. Castree (eds.), *Social Nature Theory, Practice, and Politics* (Malden MA & Oxford, 2001) 85, 87, 97.

⁴ D. Sibley, *Geographies of Exclusion* (London & New York, 1995), 49-51; J. Wylie, *Landscape* (London & New York, 2007), 133; “domestication” as legitimising colonialism: S. J. Smith, “Black: White”, P. Cloke & R. Johnston (eds.), *Spaces of Geographical Thought* (London, 2005), 98-100, 116; J. Conrad, *Heart of Darkness* (London, 1899), 11.

⁵ J. Ryan, “Visualizing Imperial Geography: Halford Mackinder and the Colonial Office Visual Instruction Committee, 1902-11”, *Ecumene*, vol. 1, no. 2 (1994), 157, 159, 171; E.W. Said, *Orientalism* (New York & Toronto, 1978), 221.

⁶ Vell. Pat. 2.41.1; C. Pelling, “Seeing Through Caesar’s Eyes: Focalisation and interpretation”, J. Grethlein & A. Rengakos (eds.), *Trends in the Classics: Supplementary Volumes. Narratology and Interpretation: The Content of Narrative Form in Ancient Literature*, vol. 1 (Berlin & New York, 2009), 507.

⁷ For an alternative reading, Potter views Caesar’s self-representation as modest: D.S. Potter, *The Emperors of Rome: The Story of Imperial Rome from Julius Caesar to the Last Emperor* (London, 1988), 25. For Caesar’s intelligence reports, shifting allegiances, see: Caes. *BGall.* 2.1-3, 2.18-19, 5.22-23, 6.32, 7.54, 8.7, 38; for logistics, see: 2.20, 4.13, 17, 25; 5.1-2, 6.9, 7.56-7, 8.15; for law and language, see: 1.1, 29, 30-36.

⁸ Rivers as internal structure: Caes. *BGall.* 1.1-2, 6, 8, 12; mountains as boundaries: 1.1, 1.6, 1.10.

⁹ Gallic protection: Caes. *BGall.* 1.11; Gauls as rebellious: 3.10.3; quarrelsome nature: 6.11.2, 5; see also: Strabo 4.4.2, 6; Diod. Sic. 5.28.5-6; A. Riggsby, *Caesar in Gaul and Rome: War in Words* (Austin, 2006), 56-57, 177.

¹⁰ German multitude: Caes. *BGall.* 1.33.3; Germans as barbaric: 1.33.4; German landscape as barbaric: 6.8-10, 21-28.

¹¹ J.H. Schadee, “Caesar’s Construction of Northern Europe: Inquiry, Contact and corruption in *de Bello Gallico*”, *Classical Quarterly*, vol. 58, no. 1 (2008), 158-180, on domesticating Gaul: 161-162, 174, 177-9, juxtaposition with Germania: 167-169; Riggsby, *Caesar in Gaul and Rome*, 61; cf. Gaul: 63-4.

¹² Crossing the Rhine: Caes. *BGall.* 6.9-10; Britain: 4.20-21; Riggsby, *Caesar in Gaul and Rome*, 144, 193.

of Gaul are presented as a natural dividing line between the colonised space of domesticated Gauls and the Germanic and Britannic wilderness beyond the perimeter, the protagonist keeping the forces of disorder at bay.¹³

Careful use of focalisation can be seen in Strabo's *Geography*, departing from his thematic exploration of flux to promote Julio-Claudian propagandistic concerns.¹⁴ Despite Strabo's condemnation of his geographical predecessors for geographical *κολακεία*, Dueck and Potheary have nonetheless identified propagandistic elements within Strabo's "colossal work".¹⁵ His changing landscape is brought to an almost halting tranquillity in the present, the Roman imperial reach creating a sense of order, the Julio-Claudians credited with the stability. Strabo presents Augustus as the protagonist, "quelling revolts", with even the war-like Gauls now at peace.¹⁶ Dueck notes that Strabo tries to reconcile aggressive imperial militarism with Augustus' propaganda of Peace.¹⁷ Augustus, like the Deified Caesar, distributes justice throughout the empire, liberating Pontic cities, something of significance for the scholar from Amasia, the author's own family bloodied by the tumultuous transition to Roman rule.¹⁸ The assimilating focalisation is apparent.¹⁹ We are now brought into a settled present, history has "culminated in an absolute moment", to borrow Fukuyama's expression.²⁰ Augustus' legacy is an end of history, with the landscape, and its peoples, securely under imperial control.²¹

b. Science as Literature: Propaganda in the Ptolemaic Court

Imperial geographical focalisation can be identified in the prolific poetry of the Ptolemaic court, emphasising Ptolemaic domination of the landscape. In Theocritus' *Encomium for Ptolemy*, Ptolemy II

¹³ Cultural "backwardness": Riggsby, *Caesar in Gaul and Rome*, 63-4.

¹⁴ Strabo's flux, natural causation: water: 6.2.4, 7.3.6, 8.3.12, 8.6.21, 9.1.19, 11.1.4, 11.4.2, 11.7.4, 12.2.4, shifting coasts: 13.1.36; prior kings' powerlessness when confronting natural forces, see: 12.2.8; shifting sea bed: 1.3.3-4; Earthquakes: 16.2.44.

¹⁵ Strabo's criticism of previous geographical propaganda: 3.4.14, 11.6.4, 11.7.4; motivations for his "Colossal work" Strabo 1.12-23' Cf. Dueck considers "Roman glory" to be one of the authors key goals: D. Dueck *Strabo of Amasia*, 15, 160, 163-5; D. Dueck, *Geography in Classical antiquity*, 43-5.

¹⁶ Augustus quelling the Cantabrians & Iapodes,; Strabo 4.6.10, 7.5.4; Dalmatian cities, 7.5.5; Getae: 7.3.11; Atrageras: 11.14.6; Gauls: "At the present time they are all at peace, since they have been enslaved and are living in accordance with the commands of the Romans who captured them," Strabo 4.4.2; Stability through eliminating "all piracy": Strabo 10.4.9.

¹⁷ *Res Gestae* 16; D. Dueck, *Strabo of Amasia*, 98-9.

¹⁸ The Pontic city of Amisus liberated: "it was again set free by Caesar Augustus", Strabo 12.3.14; "Strabo the Amasian": Suda, *Strabon* Σ 1155; Cf. Josephus refers to Strabo as "Strabo the Cappadocian" Cf. Jos. *AJ* 13.284, 14.34, 111, 114. Author's family: Strabo 10.4.10, 11.2.18, 12.3.33; Dueck, *Strabo of Amasia*, 5-8.

¹⁹ Augustus as builder: *RG.* 19-21; Cf. Strabo 5.3.7-8; D. Dueck, *Strabo of Amasia*, 97, 104-5.

²⁰ F. Fukuyama, "The End of History?", *National Interest*, no. 16 (Summer 1989), 4, 18.

²¹ Strabo's portraying Augustus' and Tiberius' control landscape and peoples: Strabo 3.3.8, 4.6.9, 6.4.2, 7.1.3-4; Pax Romana, general: 10.4.9; Strabo's politically significant omissions: 6.4.2, 11.14.15; S. Potheary, "Strabo, the Tiberian Author: Past, Present and Silence in Strabo's Geography.", *Mnemosyne*, vol. 55, no. 4 (2002), 398-400, 416-424; Dueck, *Strabo of Amasia*, 111-114, 125.

is presented as a divine figure from divine lineage, with hyperbolic imperial reach, the very landscape and the forces of nature under his command.²² The poem personifies topographical features, most notably rivers, as supplicants to the king. “The entire land and sea and all the roaring rivers” acknowledge the king’s rule.²³ The Homeric allusions are explored, with a god-like figure successfully taming these notoriously independent fluvial forces.²⁴ Such themes are echoed in other Ptolemaic court poetry. In Posidippus’ *On Stones*, control of the landscape is expressed centrifugally, the rivers depositing distant gems, like subjects bearing gifts, at the feet of the king in Alexandria. “The storm swollen river carries swiftly to the sea” the honey-coloured stone which is destined for the graceful neck of Niconoe.²⁵ Bing’s analysis notes another Homeric allusion, the stone likened to the relentless Hector. Yet, unlike Hector, this stone does not stop at the plain. Rather, it is fashioned by Cronius for skin as lovely as the honey-coloured stone itself.²⁶ The ideological subtext is apparent, celebrating “the exploitation and mastery of the earth in an implicitly Ptolemaic context”.²⁷ Elsewhere, Posidippus’ *AB 11* evokes similar themes, the sea-shore offering a Persian shell for the artist to inscribe, and in *AB 37*, an Arionian dolphin, the sea, and a human supplicant all join in the offering of an exotic lyre to queen Arsinoë II.²⁸ Natural forces and τέχνη are working in harmony to serve the Ptolemaic regime.²⁹ Posidippus, like Theocritus, positions the audience to view the landscape through an assimilating imperial lens.

The Ptolemaic reach is not limited to the οἰκουμένη, with Conon’s apparent discovery of Berenice’s Lock extending this sense of Ptolemaic control to the heavens themselves.³⁰ In Callimachus’ account, the astronomer’s discovery of the lock, conveniently distinguished from the Ploughman and the Lion,

²² Theoc. *Id.* 17, esp. 115-17. Divinity of Ptolemaic lineage: Ptolemy I “equal in honor even to the blessed immortals” (Theoc. *Id.* 17.16-17); Alexander, “a god, wearing his colorful diadem” (Theoc. *Id.* 17.18-19); Heracles “both trace back their lineage as far as Heracles” (17.20-27); Berenice in Aphrodite’s temple (17.34-70). Ptolemy II’s patronage supported by the Muses: 17.115-17. For merging Pharaonic and Greek ideology in *Id.* 17: Ptolemy II (Horus), the son; Berenice (Isis), Ptolemy I (Osiris), see: M. Heerink, “Merging paradigms: translating pharaonic ideology in Theocritus’ *Idyll 17*”, R. Rollinger, M. Lang, B. Gufler, I. Madreiter (eds.) *Interkulturalität in der Alten Welt: Vorderasien, Hellas, Ägypten und die vielfältigen Ebenen des Kontakt* (Wiesbaden, 2010), 383-408; O. Murray, “Ptolemaic Royal Patronage”, McKechnie, P., Guillame, P. (eds.), *Ptolemy II Philadelphus and His World* (Leiden & Boston, 2008), 9-24.

²³ Ptolemy II’s domain: “The entire land and sea and all the roaring rivers are ruled by Ptolemy” (17.92); Theoc. *Id.* 17.92; R. Gmirkin, *Berosus and Genesis, Manetho and Exodus*, 162.

²⁴ Achilles defeats the Scamander/Xanthus: Hom. *Il.* 21.200-297; Cf. mortal Xerxes’ hubris: Hdt. 7.35.1; 7.21.1.

²⁵ Posidippus, *On Stones*, *AB7* (= *P. Mil. Vogl.* VIII 309, *AB7*).

²⁶ Hom. *Il.* 13.137-43; P. Bing, “The Politics and Poetry of Geography in the Milan Posidippus, Section One: On Stones (*AB 1-20*)”, K. Gutzwiller (ed.), *The New Posidippus: A Hellenistic Poetry Book* (Oxford, 2005), 125-6.

²⁷ P. Bing, “The Politics and Poetry of Geography in the Milan Posidippus, Section One: On Stones (*AB 1-20*)”, K. Gutzwiller (ed.), *The New Posidippus: A Hellenistic Poetry Book* (Oxford, 2005), 127.

²⁸ Posidippus, *AB 11* (*Il 17-22*), in *Posidippus P. Mil. Vogl.* VIII 309, trans. F. Nisetich, “*The Poems of Posidippus*”, ed. K. Gutzwiller, *The New Posidippus: A Hellenistic Poetry Book* (Oxford, 2005). For sea as presenting offerings see also *AB 19* (*III 28-41*), *AB 37* (*VI 18-25*).

²⁹ τέχνη *LSJ*: s.v. τέχνη 2-3. Analysis of distant places as imperial claims, see: P. Bing, “The Politics and Poetry”, 119-40; Strootman, *Birdcage of the Muses*, 143-5.

³⁰ Astronomy as propaganda: Catull. 66.; D. Clayman, *Berenice II and the Golden Age of Ptolemaic Egypt*, (Oxford, 2014) 104. Pfeiffer, *HCS* 156; Fraser, *Ptol. Alex.* 2.388 n.382, 385.

suggests that the Queen's actions shape the constellations.³¹ Clayman, Strootman, and Gutzwiller understand this astronomical discovery as being utilised by Conon as much as by Callimachus to win favour of the queen, emphasising her divinity.³² This contrasts sharply with Eratosthenes' *Catasterismi*. Eratosthenes' potentially subversive astrological poems notably exclude Berenice's Lock from their legends, instead associating the constellation with Ariadne.³³ In contrast, Conon's identification with the queen may be understood as scientific *κολακεία*, garnering support from powerful patrons. A propagandistic reading of scholarship in the Hellenistic courts tends to emphasise such flattery as an isolated motivation in an asymmetrical relationship; however, as we will see, such flattery was part of a more complex web of expectations from both scholar and patron.

c. Eratosthenes' Geographical Treatises as Propaganda

Proponents of a propagandistic reading of Eratosthenes' geographical works note the ideological nature of the data available to the chief Librarian. Bianchetti follows Fraser in presuming that Eratosthenes had access to royal bematists to measure distances.³⁴ For Bianchetti, the political strings of this patronage are inescapable. For Protera, the propagandistic element is structurally determined by the available data in Alexandria, arguing that the military and mercantile sources of geographic data invariably "trace the geo-political interests of the Ptolemies", effectively reinforcing Ptolemaic claims upon the sea, the "Egyptian sea" extending to Cyprus and Coele-Syria.³⁵ The "normative

³¹ Ploughman and Lion: E.C. Krupp, "Hair-Raising Tale", *Sky & Telescope*, vol. 95, no. 5, (1998), 80.

³² K. Gutzwiller, "Callimachus' Lock of Berenice: Fantasy, Romance, and Propaganda", *American Journal of Philology*, vol. 113, no. 3 (1992), 363, 77-82, 84-5; Strootman, *Birdcage of the Muses*, 115-16. For associations of Berenice with Isis, Demeter, Aphrodite and Agatha Tyche: D. Clayman, "Berenice and Her Lock", *Transactions of the American Philological Association*, vol. 141, no. 2 (2011), 239-40; Berrey, *Hellenistic Science at Court*, 1; for Isis cutting her locks in mourning, see: G. Nachtergaele, "La Chevelure d'Isis", *L'Antiquité Classique*, vol. 50 (1981), 589; Cf. Netz, *Ludic Proof*, 152; for associations with Hathor, see: L. Llewellyn-Jones & S. Winder, "A key to Berenike's lock? The Hathoric Model of Queenship in Early Ptolemaic Egypt", A. Erskine & L. Llewellyn-Jones (eds.), *Creating a Hellenistic World* (Swansea, 2012), 254-263.

³³ Other gods descended by Zeus are recorded as shaping the astrological landscape in Eratosthenes' *Catasterismi*: Perseus: "he was placed among the constellations because of his renown" (Cat. 22, *Perseus*); Andromeda (Cat. 17, *Andromeda*); Heracles: "after he had accomplished this perilous deed, Zeus judged this contest to be worthy of commemoration and set the image among the constellations" (Cat. 4, *Kneeler*); Hermes, (Cat. 24, *Lyre*). For Eratosthenes, the lock is "that of Ariadne", not of Berenice, placed there "with the common agreement of the gods": Eratosth. Cat. 5 (*Crown*).

³⁴ "The close relationship linking Eratosthenes to the political world of the Ptolemies can be inferred, in my opinion, by his references to the sovereigns who had generously supported his task of measuring the territory in Egypt.", Bianchetti, "the 'invention' of geography", 137-8. To make her case for indebtedness to the regime, Bianchetti refers to Martianus Capella's testimony that "Eratosthenes, upon being informed by official surveyors in the employ of King Ptolemy's to the number of stadia between Syene and Meroe, noted what portion of the earth's surface that distance represented" Mart. Cap. 6. 598.

³⁵ F. Prontera, "Timosthenes and Eratosthenes", K. Buraselis, M. Stefanou, D.J. Thompson (eds.), *The Ptolemies, the Sea and the Nile: Studies in Waterborne Power*, (Cambridge, 2013), 207-212, 214; Strabo 2.1.20; 15.1.11; Tarn *Hell. Civ.* 244.

geography” of empire builds a map which reinforces imperial claims, all roads leading to Alexandria.³⁶ However, as we have seen, Eratosthenes’ sources at the Library went well beyond the Ptolemaic data. Accounts from Seleucid sources in particular, could diverge markedly from Ptolemaic imperial concerns, something the propagandistic reading needs to more fully address.

The landmark propagandistic reading, Kosmin’s “The Politics of Science”, presents Eratosthenes’ geographical treatises as part of the politically charged environment of the Ptolemaic court. Gone is the detached Librarian of Fraser and Roller, instead, we are presented with a geographer who is re-drawing the map for his patrons, using omission, selective demarcation, loaded nomenclature and ideologically charged reference-point selection to reflect the ideological concerns of the Ptolemies.³⁷

The geodesic measurement which so awed Pliny, embodies the “massive pretensions of Hellenistic imperialism”, according to Strootman.³⁸ Kosmin argues that the selection of geodesic reference points of Syene and Alexandria were politically informed, placing the Ptolemaic empire at the heart of Eratosthenes’ mathematical equation.³⁹ Syene, on the Tropic of Cancer, serves a “delimiting role” as the source of the Nile’s flood, where Khnum created the world and Osiris was buried.⁴⁰ Such an argument seems initially compelling. Elephantine was certainly a significant religious centre during the Ptolemaic period, as Laskowska-Kustzal demonstrates.⁴¹ The creation of a new Elephantine Cartouche by Ptolemy III Euergetes, which possibly references the geodesic measurement, adds some weight to this, although Kosmin’s own conflation of the two distinct cities does not necessarily reflect Greek or indigenous Egyptian conceptions of Syene and Elephantine.⁴² A significant concern with this approach is Kosmin’s diminution of the scientific value of the geodesic marker. Syene may well be the “edge of

³⁶ S. Stephens, “Battle of books”, K. Gutzwiller (ed.), *The New Posidippus: A Hellenistic Poetry Book* (Oxford, 2005) 231–2. Posidippus 89 (= Pap. Mil. Vogl. VIII 309); P. McKechnie, “Our Academic Adviser is missing”, 133–6.

³⁷ Omission of political boundaries: Eratosth. F33 (= Strab 1.4.6–8). For Strabo’s demarcation, see also: Strabo 2.1.30; Kosmin, “The Politics of Science”, 93. For geodesic measurement: Kosmin, “The Politics of Science”, 84–85, 87. For qualified support of this view see: Bianchetti, “The Invention of Geography”, 138–9.

³⁸ Strootman, *Birdcage of the Muses*, 146.

³⁹ Kosmin, “The Politics of Science”, 86, 87–88, 90–93; cf. mathematical motivations: Thomson, *History of Ancient Geography*, 158–161.

⁴⁰ Kosmin’s “delimiting role” is based on Strabo, and contains difficulties: Kosmin, “The Politics of Science”, 87, Strabo 17.1.5. Contra: Shinnie and Spalinger argue for a fluid southern boundary: between *wawat* & 2nd cataract: P.L. Shinnie, “Trade Routes of the Ancient Sudan 3,000 BC – AD 350”, W.V. Davies (ed.), *Egypt and Africa: Nubia from Prehistory to Islam* (London, 1991), 49–53. 4th cataract during New Kingdom: A. Spalinger, *War in Ancient Egypt* (Malden MA, Oxford, Melbourne, 2005), 59–64, esp. 62. C. Naunton, “Libyans and Nubians”, A. B. Lloyd (ed.), *A Companion to Ancient Egypt*, vol. 1 (Oxford, 2010), 124–5; 3rd Intermediate more closely reflects Strabo’s, and Kosmin’s, assertion of Syene as a political, if not military, boundary before the Ptolemies: 124–5.

⁴¹ Elephantine as “a great Ptolemaic and Roman religious centre with a creative school of theology.” E. Laskowska-Kustzal, “The Contribution of Graeco-Roman Elephantine to the Theology of the First Cataract Region”, D. Raue, S.J. Seidlmayer, P. Speiser (eds.), *The First Cataract Region: One Region – Diverse Perspectives* (Berlin, 2013), 103, 104–110.

⁴² Laskowska-Kustzal, *Elephantine XV*, 151–2. Ptolemy III’s building projects at both these locations: W. Müller, “Hellenistic Aswan”, D. Raue, S.J. Seidlmayer, P. Speiser, (eds.), *The First Cataract of the Nile: One Region Diverse Perspectives* (Berlin, 2013), 122–33. Cf. two distinct locations: Hdt. 2.28

the world” in the Hellenistic imagination, however, it is also unique in its geodesic value as an accessible location, where the γνώμων “does not cast its shadow at noon” during the summer solstice.⁴³

Kosmin’s alternative, India, is not a reasonable choice as a geodesic marker for the geographer in Alexandria.⁴⁴ At best, any political value from Syene as forming one point in Kosmin’s “Ptolemaic given”, a unit to measure the world, would necessarily have been a secondary concern.

Similar difficulties arise with Kosmin’s assertion that Alexandria, Eratosthenes’ other geodesic marker, was also selected on ideological grounds. He is, perhaps, overly confidently assuming that Dicaearchus of Messana had previously used the Seleucid provincial capital of Lysimachia as a geodesic reference point, leaving data for Eratosthenes to follow. This is a point which Roller tentatively supports, but which Collinder’s analysis challenges.⁴⁵ Kosmin’s suggestion, that Eratosthenes moved this point from Lysimachia to Alexandria as an expression of Ptolemaic centrality, is certainly seductive. The Ptolemaic centre and the edge of the known world appear to be united in one imperially charged geodesic measurement.⁴⁶ However, a closer analysis reveals a more prosaic, and more likely, explanation. The use of Lysimachia is rendered unnecessary for the geographer, armed with his γνώμων, being conveniently located in Alexandria. In terms of its longitudinal position, Alexandria is much better suited as the second location for a geodesic measurement.⁴⁷ The opportunity for autopsy, something we know Eratosthenes, like many Hellenistic scholars, favoured, further highlights the suitability of Alexandria, a city which was famed for autopsy in every sense of the term.⁴⁸

The propagandistic reading of Eratosthenes’ demarcation explores the ramifications of the geographer’s radical omission of political and continental boundaries. Eratosthenes’ *Geographica*, according to Strabo, rejected the various means of dividing continents. “Some divide them by the rivers, declaring them to be islands”, however, “...Eratosthenes then says that he does not see how

⁴³ Hellenistic “Edge” of the world: Kosmin, “The Politics of Science”, 87-88; 5th C. conceptions of Syene as edge of οἰκουμένη: Hdt. 2.28; Elephantine as place of exile: Arr. *Anab.* 3.2.7. cf. unique mathematical value of Syene: Eratosth. F34 (= Strabo 2.5.7-9); Mart. Cap. 6.596-8; Thomson, *History of Ancient Geography*, 158-161; Roller, *Ancient Geography*, 122-3, 27-8.

⁴⁴ Plin. *HN* 2.183; Kosmin, “The Politics of Science”, 86-7.

⁴⁵ Kosmin, “The Politics of Science”, 87; Roller, *Ancient Geography*, 107; this supposition is based on Archimedes’ reference to a nameless source: Archim. *Sand reckoner* 1; Collinder considers Dicaearchus an “improbable” candidate: P. Collinder, “Dicaearchus and the ‘Lysimachian’ Measurement of the Earth”, *Sudhoffs Archiv Für Geschichte Der Medizin Und Der Naturwissenschaften*, vol. 48, no. 1 (1964), 63-78. Cf. B. Berger, *Geschichte der wissenschaftlichen Erdkunde der Griechen*, vol. I-IV (Leipzig, 1887-1893), 44.

⁴⁶ Kosmin, “The Politics of Science”, 86-88.

⁴⁷ Alexandria as a closer longitudinal match with Syene: Roller, *Ancient Geography*, 107-8, 126-7.

⁴⁸ Eratosthenes verifying data with γνώμων measurements: Eratosth. F128 (= Strabo 2.5.24); for Greek value of Autopsy, see Polyb. 12.3-4, 25-8; Thuc. 1.22.2. Autopsy was of substantial importance to Alexandrian scholars, and assumes its more modern meaning in Herophilus’ and Erasistratus’ investigations: Tert. *De. anim.* 10.4; H. von Staden, *Herophilus: The Art of Medicine in Early Alexandria*, 187-94; P. Londinensis, *Iatrica Menonia* 137.3-4 in von Staden, *Herophilus*, no. 50a at 125.

this investigation can end in any practical result”.⁴⁹ Bianchetti notes that fluvial demarcation was problematic for his Ptolemaic sponsors, in that dividing Libya from Asia with the Nile serving as the boundary would undermine Ptolemaic centrality. It would also lend the Seleucid “King of Asia” geopolitical legitimacy up to, and potentially including, the Nile itself, a representation particularly problematic in the decades marked with Syrian Wars.⁵⁰ To carve the empire down the middle was to deny it centrality. Bianchetti proposes that “the silence of Eratosthenes” – his omission of geopolitical demarcation – was indicative of “an inevitable decision in his role as Royal Librarian” to support Ptolemaic geopolitical concerns.⁵¹ The Librarian, this reading proposes, was designing the world to suit his paymaster.

Eratosthenes’ omission of continental boundaries confounds Strabo. We can almost hear Strabo’s frustration when he criticises Eratosthenes’ decision to omit political boundaries, arguing that “the wars about Thyrea and Oropus resulted through ignorance of the boundaries,” concluding that, contrary to Eratosthenes’ assertions, “the separation of countries by boundaries is a thing that results in something practical,” namely, peace, something prized by the Amasian scholar.⁵² But for Kosmin, omission of an Asian boundary “directly confronted contemporary Seleucid arguments for rightful possession of disputed regions”.⁵³ The Seleucid king has, at a stroke, been denied a kingdom. However, Kosmin has perhaps been overly selective in his examples. As we will see, Eratosthenes’ seals shatter Seleucid and Ptolemaic territorial claims with equal measure, severing Babylon territory with fluvial demarcation in the third seal, and, equally, carving up the Ptolemaic thalassocracy with geometric borders in the fourth. A survey of all the fragments of Book Three suggests indiscriminate geo-political destruction. Far from fulfilling Gregory’s theory of partition serving colonial needs, Eratosthenes’ seals appear to erase imperial claims.⁵⁴ If there were indeed ideological concerns in Eratosthenes’ map, they do not effectively serve the ideology of the Ptolemies.

The choice of language within Eratosthenes’ geographical works is seen as further evidence of propagandistic expression. For Kosmin, the use of σφραγίδες as a means of re-organising the

⁴⁹ Eratosth. F33 (= Strab 1.4.6-8).

⁵⁰ Title of “King of Asia”: Xen *Hell.* 3.5.13; Bessus fashioning himself: Arr. *Anab.* 3.25.3; Aristobulus *BNJ* 139 F51b (= Strabo 15.3.7); Kosmin notes that the title, originally a Greek term for the Archimaenid ruler, became more loosely applied after Alexander’s conquest: P.J. Kosmin, *The Land of the Elephant Kings: Space, Territory, and Ideology in the Seleucid Empire* (Cambridge MA, London, 2010), 125. “King Alexander... Lord of Asia”, *BNJ* 532 F2 38 (= *Lindian Chronicle* C); Syrian Wars: A. Chaniotis, *War in the Hellenistic World: A Social and Cultural History* (Malden, MA, Oxford, Carlton, 2005), 58-9, 166, 187-218; for Ptolemaic military policy, see: J.D. Grainger, *The Syrian Wars* (Leiden & Boston, 2010), 153-70, 195-218.

⁵¹ Bianchetti, “The Invention of Geography”, 138-9.

⁵² Eratosth. F33 (= Strab 1.4.6-8); Strabo’s war-torn background, see: Dueck, *Strabo of Amasia* 1-8, 14-5; Roller, *Ancient Geography*, 167-70.

⁵³ Kosmin, “The Politics of Science” 93.

⁵⁴ Gregory, “(Post)Colonialism and the Production of Nature”, 87.

οἰκουμένη is borrowed directly from the Ptolemaic lexicon for the demarcation of land.⁵⁵ The implication is that Eratosthenes' *Geographica* is reorganising the world within a Ptolemaic administrative framework, a profound act of imperialism. Other terms are mined for potentially propagandistic associations. For Bianchetti, as for Kosmin, the geographer's use of imagery emphasises the centrality and significance of Alexandria and Ptolemaic Egypt. The οἰκουμένη χλαμυδοειδής is not entirely a unique metaphor, Kosmin noting that it is also used to describe the map of Alexandria itself.⁵⁶ Eratosthenes is using the "axiomatic image of Alexandria" to describe the world.⁵⁷ Kosmin's analysis ambitiously extends the metaphor, noting that the main parallel and meridian of Eratosthenes' οἰκουμένη may echo the two main roads in Alexandria "which cut one another into two sections and at right angles".⁵⁸ Kosmin implies that Eratosthenes is adopting an assimilating focalisation, encouraging us to see the world as an extension of the Ptolemaic capital, the imperious gaze extending to the edges of the world. However, Zimmermann's and Préaux's analyses raise important challenges to Kosmin's etymological assumptions. Zimmerman follows Préaux in arguing that the association of Alexandria with the χλαμύς came after Eratosthenes. Préaux notes that such a metaphor was not seen in the early texts.⁵⁹ Etymological cause and effect are unclear, raising challenges for any propagandistic reading of Eratosthenes' geographical metaphors and similes.

A propagandistic reading does raise important concerns regarding the politicised environment in which *The Measurement of the Earth* and the *Geographica* were produced. However, it is clear that the characterisation of the work as a direct expression of Ptolemaic imperial ideology is in danger of oversimplification, compounded by glaring omissions, failing to account for a number of ideologically unorthodox elements in the geographer's work. Challenges to potent Ptolemaic figures such as Alexander, Dionysus and Heracles are overlooked. In addition, propagandistic interpretation of demarcation and geodesy are problematic. Alexandria is not placed at the centre of Eratosthenes' οἰκουμένη, nor even the centre of the fourth seal, instead positioned glaringly off-centre. The radical use of seals assaults Seleucid geo-political claims, but also those of the Ptolemies. If the polymath's geographical works are intended to function as propaganda, then they are spectacularly, perhaps wilfully, unsuccessful. Perhaps closer analysis of the literary context of the work, as court literature, may help us develop a more nuanced reading of the geographical treatises as an expression of complex concerns which, at times, challenge Ptolemaic imperial and religious ideology. Consideration

⁵⁵ Eratosth. F66 (= Strabo 2.1.22); Kosmin, "The Politics of Science", 88, 90; Strootman, *Birdcage of the Muses*, 145-6.

⁵⁶ οἰκουμένη χλαμυδοειδής: Eratosth. F53 (= Strabo 2.5.14); Diodorus Siculus alludes to a connection in his description of Alexandria: Diod. Sic. 17.52.3; Strabo 17.1.8-10; Plin. *HN* 5.62.

⁵⁷ Kosmin, "Politics of Science", 89-90.

⁵⁸ Strabo 17.1.8.

⁵⁹ Zimmerman argues that the association of Alexandria with the Chlamys was made after Eratosthenes, raising important challenges to Kosmin's argument: K. Zimmermann, "Eratosthenes' chlamys-shaped world", 34-35. Préaux notes the absence of the chlamys description for Alexandria in early sources: C. Préaux, "Alexandrie et la Chlamyde." *Chronique D'Egypte*, vol. 43, no. 85 (1968) 177-8; Arr. *Anab.* 3.2.

of the sympotic court culture, in which self-promotion and competition vied with flattery, and παρρησία, may help account for the ways in which an articulate scholar can successfully challenge Ptolemaic ideology with geographical literature.

II. Identifying Eratosthenes' Subversion

Part 3) Παρρησία at Court

a. Invitations to Friends: Ξενία and Φιλία in the Ptolemaic Court

Despite indigenous administrative continuities, the “Janus-faced” Ptolemaic court was keen to promote the Hellenistic traditions of court culture to the world.¹ Traditions of ξενία and φιλία, particularly in sympotic context, were utilised and developed by the Ptolemies, aristocratic traditions used in new ways to consolidate court power. The tradition of ξενία, exemplified in Homeric literary traditions, had been maintained and idealised by Aristotelians.² For Herman and Gellner, such familiarity with the foreigner is an indication of the élite “horizontally stratified minority”, promoting closer bonds with fellow élites from distant lands than with their socially inferior compatriots.³ These traditional networks provided a useful means to accommodate the movement of scholars, allowing the royal patrons to represent themselves as “lovers” of learning and honour through the accommodation of élite ξένοι.⁴

We see Ptolemaic ties of ξενία and kinship with Cyrene. Ξενία seems to have been appealed to by oligarchs who called on Ptolemy Lagus for assistance in the στάσις with the democrats in the late 320s.⁵ Responding to ties of ξενία, the satrap Ptolemy was only too willing to expand his influence

¹ “Janus-faced”: M. Goyette, “Ptolemy II Philadelphus and the Dionysiac Model of Political Authority”, *Journal of Ancient Egyptian Interconnections*, vol. 2, no. 1 (2010), 2; N. Lewis, *Greeks in Ptolemaic Egypt* (Oxford, 1986) 4-7, 14. Egyptian continuity: A.B. Lloyd’s analysis of Senenshepsu inscription: A.B. Lloyd, “The Egyptian Élite in the early period: some hieroglyphic evidence”, D. Ogden (ed.), *The Hellenistic World: New Perspectives* (London, 2002), 117 – 136, esp. 122-4, 130-1; Lloyd follows Petrie’s translation: W.M.F. Petrie, *Koptos* (London, 1896), 19-21 with pl. 20, right, col. 1, 3 & 4; J.G. Manning, *The Last Pharaohs: Egypt Under the Ptolemies, 305-30 BC*, (Princeton, 2010), 5, 40, 45-7, 92.

² Ξενία: *LSJ* s.v ξενία 1: “hospitality shown to a guest, entertainment”; Aristotle’s positive account: “the firmest of friendship would seem to be that with a foreigner”, as opposed to a fellow citizen, *Arist. Mag. Mor.* 2.1211a; *Hom. Il.* 6.215-226; see also Ξενία and hospitality in Pindar: *Pind. Pyth.* 4.30, *Isthm.* 2.39, *Ol.* 1.14, 3.40, *Nem.* 1.20-1.

³ “Stratified minority”: E. Gellner, *Nations and Nationalism* (Oxford, 1983), 9-10, *Lysias, Against Andocides*, 6.48. Ξενία as élite: G. Herman, *Ritualised Friendship*, 34, see also, 10-13, 35-40, 110, 132-3; Stroottman, *Birdcage of the Muses*, 63-6. Ξενία as archaic élite tradition adapted: M. Vickers “Attic Symposia after the Persian Wars”, O. Murray (ed.), *Symptica: A symposium on the Symposium* (Oxford 1990), 110-11, 117.

⁴ “καθόλου γὰρ οὐτ’ ἐν τοῖς βασιλικαῖς ὑπῆρχε ρίσκοφυλακίαις τοιαύτη κατασκευὴ τῇ πολυτελείᾳ καὶ τεχνουργίᾳ, οὐτ’ ἐν τινὶ ἄλλῳ. πρόνοιαν γὰρ οὐ μικρὰν ἐποιεῖτο ὁ βασιλεὺς, φιλοδοξῶν εἰς τὰ καλῶς ἔχοντα.” (*Aristeas* 80-1), in *Aristeas to Philocrates: (Letter of Aristeas)*, trans. & ed. M. Hadras (Eugene OR, 1951), 91-228.

⁵ Cyrene “exiles” under Ptolemy Soter: *SEG* 9.1; *Parian Marble BNJ* 239 B 10 – 11, A. Laronde, *Cyrène et la Libye Hellénistique. Libykai Historiai* (Paris 1987), 87-9, especially 87-9.: Fraser, *Ptol. Alex.* 1.63, 2.132 n.101, 2.146, n191; Worthington notes that the Cyrenian oligarchs naturally turned to the Ptolemies for help: I. Worthington,

through military intervention.⁶ Following the death of Magas, Berenice II's marriage to Ptolemy III Euergetes reasserted these ties.⁷ Callimachus, as a skilled and aristocratic poet, seems to have carefully cultivated ties with Cyrene and Alexandria through his connections to both courts.⁸ Following Ptolemy's marriage to Berenice, Fraser suggests that something of a Cyrenian clique had developed in the scholarly circles of Alexandria, built on the élite connections which transcended local geography.⁹ Such connections were carefully managed, the *συνίστημι* (recommendation) fundamental to navigating such networks.¹⁰ However, the degree to which Eratosthenes benefitted from such carefully constructed networks is contested. Roller follows Fraser in assuming that it was Eratosthenes' Cyrenian connections that landed him the position of Librarian and tutor, Callimachus and Berenice having "tilled the court towards Kyrene".¹¹ However, Blomquist makes a strong argument against such a reading, citing onomastic evidence that Eratosthenes and his father were unconnected to the Cyrenian court.¹² Eratosthenes' own self-promotion, as we will see in *The Letter to King Ptolemy*, may have been that of a newly established and well-connected librarian, secure in his Cyrenian connections. But it may equally have been the letter of one not secure through ties of *ξενία*, and instead dependent on his own fame in Athens and continuing achievements to attain and keep the coveted court title of *φίλος*.

The early Hellenistic period saw the increasing institutionalisation of *φίλοι* in the Ptolemaic court, a sympotic concept fundamental to establishing the cultural context for Eratosthenes' literary production. Court *φιλία*, developing primarily from Macedonian and Greek traditions, moved from the less formal *ἐταῖροι* (companions) of the Macedonian court, to increasingly specific roles to establish

Ptolemy I, 92-3; Ptolemy took over Egypt "without difficulty": Diod. Sic. 18.14.1; *στάσις*: LSJ: s.v. *στάσις* 2-3, cf. Democr. 245, Thuc. 2.65.

⁶ "Recognizing the opportunity that had suddenly come his way, Ptolemy lost no time." I. Worthington, *Ptolemy I*, 92.

⁷ Elite connections: Berenice's marriage to Ptolemy III as a way to resolve disputes between relatives, "the affections of all, therefore, being set on the son of Ptolemy... Berenice... in choosing a husband, following the judgement of her father" Just. *Epit.* 26.3; Clayman, "Berenice and Her Lock." *Transactions of the American Philological Association*, vol. 141, no. 2 (2011), 230-33; Clayman, *Berenice II*, 104.

⁸ Clayman refers to the "unique and secure place" Callimachus crafted with such powerful connections to Berenice and the Cyrenian court: "He presented himself not only as a Cyrenian, but as a member of the city's aristocracy with ties that reached back to its founder and first king", Clayman, *Berenice II*, 14-15, 21-6; for Callimachus' Hymn to Apollo as expressing Cyrenian links, see: "my city" *Hy.* 2.65, and "my king" 2.26-7, 66-71, 93-6.

⁹ "By the middle of the century they [Cyrenian scholars] formed one leading intellectual group in the city", Fraser, *Eratosthenes of Cyrene*, 6; Fraser, *Ptol. Alex.* 1.777.

¹⁰ *Συνίστημι*: LSJ s.v. *συνίστημι* 4 a-b; *συνίστημι* of Autocrator to Timotheus by Isocrates: "And you yourself will soon make it clear if you reciprocate my regard; for you will be considerate of Autocrator, and send me a letter renewing our former friendship and hospitality" Isoc. 7.13.

¹¹ Berenice's influence: Roller, *Eratosthenes' Geography*, 11-12. The appointment as a Ptolemaic gesture to Cyrene: Fraser, *Eratosthenes of Cyrene*, 10-12. Cf. Without an invitation, Menecrates of Syracuse was notorious for his boastful letters of self-promotion to monarchs: Ath. 7.289a.

¹² Blomquist makes a compelling case for Eratosthenes as an upwardly mobile scholar, noting his name, and that of his father, Aglaos, were unusual and therefore not aristocratic. Cf Callimachus: Blomquist, "Alexandrian Science: The Case of Eratosthenes" 58-9; "son of Aglaos": *BNJ* 241 T1 (Suda s.v. Ἐρατοσθένης)

the status of particular φίλοι among οἱ περὶ τὴν αὐλήν (the people of the court).¹³ Fraser and Strootman note that many of the administrative titles reflect the sympotic tradition underlying positions at court.¹⁴ For example, the powerful chief administrator was given the domestic title of διοικητής (the ‘householder’), speaking to the personal immediacy of the position in proximity to the royal person. Other titles, such as βασιλικοί παῖδες (“king’s boy”, or “page”) and συγγενής (“kinsman”) equally emphasise familial, social and personal proximity to the king or queen.¹⁵ The φίλος τοῦ βασιλέως (“friend of the king”) may be invited from a geographical distance, finding himself joining a complex hierarchy of sympotic court friendship. The intimate nature of the nomenclature reveals an environment where the subtleties of personal relationships account for much. As we will see, the φίλος τοῦ βασιλέως assumes a position within the king’s household, with the many expectations and privileges that this implies. For the φίλοι, the more intimate the position, the greater the status. The proximity could be uncertain or contested, as seen in the examples of jostling and vying for position among the most elevated “chief friends”, and skilful verbal and literary expression could be used to elevate oneself or reduce one’s competitors.¹⁶

b. Performing at the Party: Sympotic Traditions in the Ptolemaic court

The title of φίλος τοῦ βασιλέως came with the expectation, and opportunity, of attending the king’s συμπόσιον.¹⁷ A successful συμπόσιον, an occasion of ritualised drinking “as equals”, required a range of finely balanced elements.¹⁸ Slater describes a successful sympotic atmosphere as navigating

¹³ 4th C. Macedonian antecedents of *συμπόσια* involved the king in the company of ἑταῖροι, including important scholars: Strootman, *Birdcage of the Muses*, 31-3; G. Herman, *Ritualised Friendship*, 154-5; Cf. Wallace who emphasises the Achaemenid influences which informed Alexander, and were promptly emulated by his successors: S. Wallace, “Court, kingship and royal style in the early Hellenistic period”, A. Erskine, L. Lloyd-Jones, S. Wallace (eds.), *The Hellenistic Court: Monarchic Power and Élite Society from Alexander to Cleopatra*, (Swansea, 2017), 7, 11-15, 18-19. For a succinct summary of court positions, see: Strootman, *Birdcage of the Muses*, 42-44; οἱ περὶ τὴν αὐλήν: Polyb. 5.26.13, 36.1; J. Morgan, “At home with Royalty: re-viewing the Hellenistic Palace”, A. Erskine, L. Lloyd-Jones, S. Wallace (eds.), *The Hellenistic Court: Monarchic Power and Élite Society from Alexander to Cleopatra*, (Swansea, 2017), 34. For φίλοι: LSJ s.v. φίλος 1d: a title at the Ptolemaic court, OGI99.3 or simply οἱ φ. τοῦ βασιλέως OGI100.1. For ἑταῖροι: LSJ: s.v. ἑταῖρος 1.7-8. For περὶ τὴν αὐλήν: LSJ s.v. αὐλή 4.

¹⁴ Fraser notes further intimate titles: *Ptol. Alex.* 1.101-103: also οἱ περὶ τὴν αὐλήν νεανίσκοι (“pages”); ἀρχεδέατρος (“personal bodyguard”, “chief steward”); ἀρχιθύωρος (“chief doorkeeper”); ἀρχικύνητος (chief huntsman); ὁ πρὸς ταῖς ἡνίας (master of stables); and vitally important the φίλος (‘friend’) of the king. Fraser’s eg.: Sostratus of Cnidus for Philopator.

¹⁵ Kinsman, political function: 2. *Macc.* 11.31; Arr. *Anab.* 7.11.1; Strootman, *Birdcage of the Muses*, 55.

¹⁶ 1. *Macc.* 11.25: Jonathan was “exalted him in the presence of all his Friends”; 11.27: “He [Ptolemy] confirmed him in the high priesthood and in as many other honours as he had formerly had, and caused him to be reckoned among his chief friends”; see also: Jos. *AJ* 12.53; L. Mooren, *The Aulic Titulature in Ptolemaic Egypt* (Brussels, 1975), 2; cf. 3 *Macc.* 2, Philopator persecuting Jews in Egypt, P. McKechnie, “Ptolemy Philadelphus: A New Moses”, P. McKechnie & P. Guillaume (eds.), *Ptolemy II Philadelphus and his World*, 234.

¹⁷ *Συμπόσιον*: LSJ σ.ω. συμπόσιον A 1-2.

¹⁸ O. Murray, “Symptotic History”, O. Murray, *Symptotica: A symposium on the Symposium* (Oxford 1990), 4; “peace loves a symposium”, Pind. *Nem.* 9.48. See also: Pind. *Ol.* 7.5, *Isthm.* 6.; élite sympotic “equals”: O.

between excessive seriousness and too much frivolity, the former leading to gloom, the latter leading to drunkenness and violence.¹⁹ Within a gift-giving tradition, the φίλοι were expected to bring gifts for “communal enjoyment”, to entertain, as much as be entertained, in a shared experience.²⁰ Distinct from the δεῖπνον, the συμπόσιον follows the meal. In archaic ceramic depictions, it is presented in the form of poetic recitals associated with Dionysus.²¹ By Plato’s time, this had developed into a range of entertainments, his idealised philosophy on love having enough levity to be effectively presented as didactic entertainment in his *Symposium*.²²

For the φίλος of the Ptolemaic court, a scholar’s knowledge needed to fulfil a performative function as part of this sympotic culture. Guests at the king’s most intimate συμπόσια were expected to be masters in the arts of witty conversation, Polybius noting that one needed to be both eloquent and educated at Ptolemaic court.²³ In competition with dances and other performances, recitation of written prose or deft sparring in debate were expected from scholars in a highly competitive atmosphere.²⁴ Athenaeus’ anecdote of Hegesianax of Alexandria Troas in Antiochus III’s court speaks to this contribution of παιδεία as entertainment. Hegesianax’ gravitas is placed in almost comical juxtaposition with the levity of the king. Encouraged to join King Antiochus III in a dance, the grammarian refuses, responding with, “do you want to watch me dance poorly, or would you like to listen to me do a good job of reciting some of my own works?”.²⁵ The scholar is in a position to refuse the king, who has asked him to transgress his role as scholar. Hegesianax’ performative function is to contribute to the παιδεία, not the lighter elements of the συμπόσιον. For his refusal, and his following recitation, he became one of the king’s most intimate “friends”. This pithy anecdote provides an

Murray, “The Symposion as Social organisation”, R. Hägg (ed.), *Greek Renaissance of the Eighth Century B.C.: Tradition and Innovation* (Stockholm, 1983), 195-9; Berrey, *Science at Court*, 110.

¹⁹ W.J. Slater, “Symptotic Ethics in the Odyssey”, O. Murray (ed.) *Sympotica: A Symposium on the Symposium*, (Oxford, 1990), 213; Plutarch *quest Conv.* 1.1, 2.1; “Convivial unpleasantness”: Xen. *Sym.* 6.

²⁰ For Macedonian cultural continuity see: Strootman, *Birdcage of the Muses*, 25-6; G. Herman, *Ritualised Friendship*, 154-5; cf. for Hellenistic innovation, see: S. Wallace, “Court, kingship and royal style in the early Hellenistic period”, A. Erskine, L. Lloyd-Jones, S. Wallace (eds.), *The Hellenistic Court: Monarchic Power and Élite Society from Alexander to Cleopatra* (Swansea, 2017), 6-15, 31.

²¹ P. Schmitt-Panell, “Sacrificial Mean and the *Symposion*: Two Models of Civic Institutions in the Archaic City?”, O. Murray (ed.), *Sympotica: A symposium on the Symposium* (Oxford 1990), 20; “Appendix: Banquet Scenes on Archaic Vases” O. Murray (ed.), *Sympotica: A symposium on the Symposium* (Oxford 1990), 27-30.

²² S. Goldhill, *The Invention of Prose*, 83-90.

²³ Polybius describes Aristonicus as an ideal Ptolemaic φίλος, selfless and eloquent: “He was also capable in conversation and he was liberal-minded, which is rare, and in addition to this he was naturally disposed to be beneficent.” (Polyb. 22.22.1-5).

²⁴ Berrey, *Hellenistic Science at Court*, 110-13.

²⁵ Hegesianax of Alexandria Troas: *BNJ* 45 T 3 (= Ath 4.155a-b); A. Erskine, “From Alexander to Augustus”. J.J. Clauss & M. Cuypers (eds), *A Companion to Hellenistic Literature* (Malden MA, Oxford & Chichester, 2010), 23. For *παρρησία* as entertainment: A. Lukinovich, “The Play of Reflections between Literary Form and the Sympotic Theme in the *Deipnosophistae* of Athenaeus”, O. Murray (ed.) *Sympotica: A symposium on the Symposium* (Oxford, 1990), 263. Cf. Strootman suggests *παρρησία* was more an ideal than a reality: Strootman, *Birdcage of the Muses*, 137-8; Berrey, *Hellenistic Science at Court*, 115-16.

illuminating example of παρρησία, the frank speech which was a social expectation for the most intimate, and elevated, scholars among οἱ περὶ τὴν αὐλήν.

c. How to Win Friends and Influence People: The Delicate Art of Flattery

The title of φίλος τοῦ βασιλέως carried with it a series of expectations. The “fictive equality” of the relationship between the king and his most elevated φίλοι required paradoxical requirements seemingly at odds with one another.²⁶ Berrey notes that a φίλος was to “to share the king’s fortunes and sorrows”, placing the king’s concerns above his own.²⁷ Flattery was an inevitable element of this support, but this needed to be executed with subtlety. Being identified as a κόλαξ, a toady engaging in κολακεία, was frowned upon. Isocrates advice was to “distinguish between those who artfully flatter and those who loyally serve you”, κολακεία being characterised as self-serving deception of the monarch.²⁸ Idealised ambivalence towards “crooked” κολακεία is present in Lucian’s depiction of Alexander.²⁹ He is anxious regarding the deceptive nature of flatterers who “think, each of them, to elicit favour from us”.³⁰ In contrast, παρρησία was theoretically venerated as a means by which the true φίλος τοῦ βασιλέως could be differentiated from the flatterers. This was a tradition which allowed for complex exchanges between royal patrons and élite scholars.³¹

Effective παρρησία tended to be interwoven with praise. In Theocritus’ works we see an eloquent blend of παρρησία with skilful flattery, revealing the concerns of a φίλος under royal patronage.³² Ptolemy II Philadelphus is characterised as “...shrewd, cultured, a noted lover, extremely pleasant, a man who knows who his friends are, and knows his enemies even better; he’s generous to many and doesn’t refuse a request, just as a king should”.³³ Philadelphus’ achievements are framed primarily as a cultivator of the arts, and his patronage is presented in sympotic terms, as generous gift-giving to his friends. These self-aware elements are playful, flattery of his royal audience feasibly entwined with a self-aware humour linked to the poet’s own concerns regarding patronage. Similar elements of levity

²⁶ Strootman, *Birdcage of the Muses*, 63.

²⁷ Berrey, *Hellenistic Science at Court*, 103.

²⁸ Isoc. 2.28; D. Konstan, “Reciprocity and Friendship”, C. Gill, N. Postlethwaite, R. Seaford (eds.), *Reciprocity in Ancient Greece* (Oxford, 1998), 295-6.

²⁹ For “crooked” speech in the Greek tradition, see: D. Ogden, *The Crooked Kings of Ancient Greece* (London, 1997), 1-2, 21-3, 40-3, 133-141. See also Plutarch’s assertion that crooked speech, by the δῆμος, could corrupt good laws: Plut. *Lyc.* 6.

³⁰ Onesikritos *BNJ* 134 T7 (= Lucian *Hist. conscr.* 40).

³¹ Παρρησία: For Theoginis such straightness of speech took on religious significance. Thgn. 758-61.

³² For Alexandrian literature blending flattery (κολακεία) and irony, see: Theoc. *Id.* 14.58-9, 61-5; “Theocritus can both ironize the praise and flatter Ptolemy by displaying confidence in his appreciation of wit and irony”, Burton, *Theocritus’s Urban Mimes: Mobility, Gender, Patronage* (Berkeley, Los Angeles & London, 1995), 129. See also: 126-132, 147-9; cf. “sycophantic” A.S.F. Gow, *Theocritus, edited with a translation and commentary* (Cambridge, 1950), 2.346 n.130.

³³ Theoc. *Id.* 14.61-4.

blended with flattery have been possibly identified by Netz in Conon's scientific nomenclature, a "courtly joke" woven into the celebration of Berenice.³⁴ The ironic playfulness of sympotic literature allows for a certain ideological latitude in court literature, entertainment and humour permitting deviation from an absolute and credulous veneration of the monarch, at least for the most intimate of his sympotic φίλοι.³⁵

d. How to Win Friends and Influence People? Παρρησία in the Ptolemaic Court

A propagandistic interpretation of court literature allows little room to move beyond flattery, echoing the concerns of ancient sophists and philosophers. For Demosthenes, "friendship" with a monarch could only ever be that of a hired labourer and his paymaster, a sentiment echoed by Diodorus Siculus and Xenophon.³⁶ However, as we have seen, the nature of court friendship is shaped by complex court etiquette, built on the traditions of private friendship.³⁷ As host, the king was eager to present himself as a lover of honour and knowledge and, crucially, truth.³⁸ These cultural expectations upon the king resulted in an idealised elevation of παρρησία as an aspect of the advice he received from φίλοι.

The scholar was particularly well-positioned among the friends of the king to present such frankness.³⁹ As Slater and Murray have noted, the role of παιδεία was integral to sympotic culture and a king was expected to "welcome" παρρησία as part of a "moralizing tradition".⁴⁰ This is seen in Plutarch's depiction of Diogenes, the philosopher telling Alexander to "stand a little out of my sun."⁴¹ Strootman suggests that such παρρησία developed into a "ritualised frankness of speech" in the Alexandrian court, to emphasise the magnanimity and wisdom of the king.⁴² Theocritus' subtle jibe against

³⁴ Netz, *Ludic Proof*, 150-2.

³⁵ Strootman, "Literature and Kings", 35.

³⁶ Dem. *De cor.* 18.51; see also traitors supporting Phillip labelled as friends, Diod. Sic. 16.54.4; mercenary "friendship": Xen. *Anab.* 7.2.25; L.G. Mitchell, *Greeks bearing gifts: The Public and Private Relations in the Greek World, 435-323 BC* (Cambridge, 1997), 183-186.

³⁷ "In spite of the possible de facto inequalities, the terminology and ethos remained those of friendship, and friendship, as the common proverb had it, meant equality." G. Herman, *Ritualised Friendship*, 37.

³⁸ The king as a lover of truth: "Επαινέσας δὲ ὁ βασιλεὺς τοῦτον ἕτερον ἐπηρώτα Πῶς ἂν τὴν ἀλήθειαν διατηροῖ;" (Aristeas 206); lover of learning and glory: 80: "καθόλου γὰρ οὐτ' ἐν τοῖς βασιλικοῖς ὑπῆρχε ῥισκοφυλακίοις τοιαύτη κατασκευὴ τῇ πολυτελείᾳ καὶ τεχνουργίᾳ, οὐτ' ἐν τινὶ ἄλλῳ. πρόνοιαν γὰρ οὐ μικρὰν ἐποιεῖτο ὁ βασιλεὺς, φιλοδοξῶν εἰς τὰ καλῶς ἔχοντα."; Berrey, *Hellenistic Science at Court*, 94; G. Weber, *Dichtung und höfische Gesellschaft: Die Rezeption von Zeitgeschichte am Hof der ersten drei Ptolemäer* (Stuttgart, 1993) 84.n2.

³⁹ Strootman, "Literature and the Kings", 37-40; Berrey, *Hellenistic Science at Court*, 118, 161.

⁴⁰ "a moralizing tradition of... philosophical parrhēsia", O. Murray, *The Symposium: Drinking Greek Style* (Oxford, 2018), 180; W.J. Slater, "Sympotic Ethics in the Odyssey", O. Murray (ed.) *Symptica: A Symposium on the Symposium* (Oxford, 1990), 213 – 220; Plut. *Alex.* 52-55. Arr. *Anab.* 4.10.14. Hellenistic kings welcoming παρρησία: Murray, *The Symposium*, 315; Strabo 1.4.9; Plut. *Alex.* 14.2-5.

⁴¹ Plut. *Alex.* 14.2-5; A.B. Bosworth, *Arrian, Alexander, and the Pursuit of Glory* (Malden MA, Oxford, Carlton, 2007), 429; W.W. Tarn, "Alexander, Cynics and Stoics.", *American Journal of Philology*, vol. 60, no. 1 (1939), 41-70.

⁴² Strootman, *Birdcage of the Muses*, 137-8; Strootman, "Literature and the Kings", 35.

Ptolemy II as a “a noted lover” can be understood within such a framework, the poet mocking Ptolemy’s amorousness. Burton suggests that such παρρησία provides the king with an opportunity to respond with equanimity. The poet “can flatter Ptolemy by showing confidence in his sophistication and tolerance.”⁴³

Παρρησία can be used by a scholar for self-promotion, placing himself in opposition to the archetypal κόλαξ, who undermines the king by telling him what he wishes to hear. For Papademetriou, this is a driving motivation, and “by evoking his παρρησία, [the φίλος] seeks to be considered reliable”.⁴⁴ For the φίλος who is also a scholar, such παρρησία reinforces his role as “the moral authority of truthfulness”, potentially enhancing his reputation beyond the court.⁴⁵ The ideal Hellenistic philosopher is lionised for his fearless pursuit of the truth in the face of authority. We get a sense of this self-promotion in the less-than-tactful παρρησία of Menecrates of Syracuse’s letters to Philip II of Macedon, in which he reminds his royal reader that this “king of medicine” is a peer on par with his potential patron.⁴⁶ Notably, this appeal to a sympotic sense of equality among élites is humoured by the royal recipient of the letter. In the élite world of Hellenistic scholarship, examples of παρρησία are often celebrated, serving the interests of the ambitious scholar as much as the monarch.

e. Regulation of Παρρησία at Court

Although prevalent as a Hellenistic motif, successful expression of παρρησία was potentially fraught with hazards, not least of which being the performative competition of fellow scholars.⁴⁷ The immediacy of polemical discourse in the face-to-face culture of the Hellenistic courts demanded of scholars a rhetorical agility, managing exchanges in what was now a more public, albeit controlled, sympotic culture.⁴⁸ The quick-witted Stilpo seems to have been well-suited to such an environment; exceeding his scholastic competitors in “inventiveness and sophistry”, he was eagerly sought by Ptolemy I for his court.⁴⁹ Stilpo maintained an élite scholar’s snobbery against the wider populace, and

⁴³ For “sympotic values” of the Ptolemaic regime, see: Theoc. *Id.* 14.12-55, 62; J.B. Burton, *Theocritus’s Urban Mimes*, 126-8.

⁴⁴ K. Papademetriou, “The Performative Meaning of the Word παρρησία in Ancient Greek and in the Greek Bible”, P.-B. Smit & E. van Urk (eds.), *Parrhesia: Ancient and Modern Perspectives on Freedom of Speech* (Leiden, Boston, 2018), 27.

⁴⁵ Berrey, *Hellenistic Science at Court*, 94, 99, 104-6; Gilbert Murray commended Herodotus, Thucydides and Polybius for honesty: G. Murray, *A History of Ancient Greek Literature* (New York, 1897), Herodotus’ “truthfulness”, 152; Thucydides’ balance: 185; Polybius “think[s] more of the truth than his own hindered glory”, 393.

⁴⁶ Ath. 7.289a: “ταῦτα, νῆ τὴν Ἀθηνᾶν, οὐδ’ ἂν Μενεκράτης ἂν ὁ Συρακόσιος ἐξωγκώσατο ὁ Ζεὺς ἐπικαλούμενος, ὃς ἐφρόνει μέγα ὡς μόνος αἴτιος τοῦ ζῆν τοῖς ἀνθρώποις γινόμενος διὰ τῆς αὐτοῦ ἰατρικῆς.”

⁴⁷ Strootman *Birdcage of the Muses*, 59-61; Strootman, “Literature and the Kings” 35.

⁴⁸ Berrey, *Hellenistic Science at Court*, 110.

⁴⁹ Stilpo as urbane πολιτικώτατος: Diog. Laert. 2.11.114; cf. “polished wit, urbane sarcasm”. Longinus *Subl.* 34.2; Stilpo’s inventiveness: Diog. Laert. 2.11.113-14; sought by Ptolemy I: Diog. Laert. 2.11.114, 116.

an awareness that taboo subjects were not for the public, but should be discussed in more exclusive social spaces.⁵⁰ His philosophical discourse is remembered for its entertaining quality; the king sought him out for his ethical discourse, but his παιδία frequently including the comic humiliation of his rivals among the king's φίλοι.⁵¹ We see in his exchange with Diogenes Cronus the brutality of such performative competitions. Diodorus Cronus was no dusty scholar; he “vulgarised” and popularised dialectics, according to Leith, and Sedley emphasises his “sophistical leanings, his flamboyancy, and his love of showmanship”.⁵² Herophilus famously chided him for his specious sophistry when he presented with a broken arm.⁵³ This appears to be a scholar well-equipped to entertain. Nevertheless, Diodorus Cronus is presented as ultimately humiliated in a sympotic exchange with Stilpo, who apparently outmanoeuvred him in the presence of Ptolemy I. When presented with Stilpo’s quick wit, Diodorus Cronus was unable to respond “on the spot”, leading him to be “reproached by the king”, and gaining an unflattering nickname.⁵⁴ He left the banquet in humiliation and, despite producing a carefully crafted written rebuttal in the days that followed, “he ended his days in despondency”.⁵⁵ Despite his status as φίλος, his inability to respond in an entertaining and, above all, immediate, fashion, led to him being ironically slandered as “wise” like Momus.⁵⁶ As a player in the sympotic culture of the court, a philosopher needed to present wisdom in an entertaining fashion to maintain credibility.

Tactless παρρησία could be disastrous for the unwary scholar. Athenaeus notes that jests which may be indulged by one monarch, may not be tolerated by another. Alexander Balas apparently indulged an Epicurean who seems to have promptly been executed by his successor.⁵⁷ In the court of Alexander the Great, Callisthenes’ incautious engagement in παρρησία, ostensibly encouraged by the great king himself, led to his swift demise.⁵⁸ Similarly fatal consequences could occur for scholars at the

⁵⁰ Stilpo’s snobbery: Diog. Laert. 2.11.119; on discourse in public spaces: “Don’t put such a question in the street, simpleton, but when we are alone!” (Diog. Laert. 2.11.117).

⁵¹ Stilpo’s humorous humiliation of philosophical adversaries: “And once when Crates held out a fig to him when putting a question, he took the fig and ate it. Upon which the other exclaimed, “O Heracles, I have lost the fig,” and Stilpo remarked, “Not only that but your question as well, for which the fig was payment in advance.” (Diog. Laert. 2.11.117, 118).

⁵² D. Leith, “Causing Doubts: Diodorus Cronus and Herophilus of Chalcedon on Causality”, *Classical Quarterly*, vol. 64, no. 2 (2014), 594; D. Sedley, ‘Diodorus Cronus and Hellenistic philosophy’, *Proceedings of the Cambridge Philological Society*, vol. 23 (1977), 78.

⁵³ “ἦτοι ἐν ᾧ ἦν τόπω ὥμος ὦν ἐκπέπτωκεν, ἢ ἐν ᾧ οὐκ ἦν· οὔτε δὲ ἐν ᾧ ἦν οὔτε ἐν ᾧ οὐκ ἦν· οὐκ ἄρα ἐκπέπτωκεν” (Sext. Emp. Pyr. 2.245); D. Leith, “Causing Doubts”, 594.

⁵⁴ Diog. Laert. 2.10.111-12.

⁵⁵ Diog. Laert. 2.10.111-12; Gray associates this demise with philosophical, rather than socio-cultural concerns: P. Gray, “The Liar Paradox and the Letter to Titus”, *Catholic Biblical Quarterly*, vol. 69, no. 2 (April, 2007) 306-7.

⁵⁶ Diog. Laert. 2.10.111: αὐτὸς ὁ Μῶμος ἔγραφεν ἐν τοίχοις, “ὁ Κρόνος ἐστὶ σοφός.”. Diogenes Laertius supports his sympotic humiliation, suggesting that he is an ass, his name better spelt without the κ or ρ (i.e. “ὄνος”): Diog. Laert. 2.10.112.

⁵⁷ Ath. 5.211.a-e.

⁵⁸ Plut. Alex 53.1-54.4: “great ability as a speaker, but lacking common sense” (Καλλισθένης λόγῳ μὴν ἦν δυνατὸς καὶ μέγας, νοῦν δὲ οὐκ εἶχεν); Arr. 14.11.1-14.1.3; Bosworth suggests that Ptolemy Lagus and

Ptolemaic court. Zoilus of Macedonia, having mocked Homer before the king, was apparently executed, whilst Sotades' notorious poem mocking Ptolemy II Philadelphus' incestuous marriage is, for Athenaeus, a cautionary tale of reckless παρρησία.⁵⁹ The sympotic tradition of παρρησία then, was evidently no *carte blanche* for scholarly criticism of the royal patrons.

Part 4) Praise, Subversion and Self-Promotion: Identifying Subversion in Eratosthenes' Non-Geographical Texts

a. Eratosthenes' *Letter to King Ptolemy*

Eratosthenes' *Letter to King Ptolemy*, preserved in a commentary of Archimedes' *On the Sphere and Cylinder*, reveals the careful interaction between flattery, self-promotion and potentially subversive παρρησία in a very public text.¹ The letter originally seems to have accompanied an instrument, now lost, for doubling the cube, and reveals much about this very significant form of literature. The letter, now generally seen as authentic, is nonetheless difficult to date.² This leads to significantly different interpretations of its function: for Taub, the letter was "an elaborate gift presented in a seemingly simple package" for his current patron.³ Whereas for Berrey, this epistolary communication precedes patronage and is a good example of the of the embryonic scientific court treatise: unsolicited communication sent by the scholar to the king, offering the solution to a problem as ritualised development of court friendship. Irrespective of the dating, the letter is a skilful combination of a number of modes, elegantly combining flattery, self-promotion, and παρρησία in a text designed not only for the royal recipient, but for the gaze of Greek and Egyptian subjects, a copy of it apparently fixed to the base of the instrument for public display.⁴

Aristobolus provide the more damning elements: Bosworth, *From Arrian to Alexander*, 64; V. Liotsakis, *Alexander the Great in Arrian's Anabasis* (Berlin, Boston, 2019), 18-20.

⁵⁹ Zoilus of Macedonia: Vitruvius. *De arch.* vii praef 9-9. Sotades: Ath. 14.620-1. The Shipley translation into English best evokes the offensive nature of the line: "you're sticking your prick in an unholy hole", G. Shipley, *The Greek World After Alexander 323 – 30 BC*, 185.

¹ Eratosthenes, "Letter to King Ptolemy" in "Eutocius Commentary to the Sphere and the Cylinder II", *The Works of Archimedes: Two Books on the Sphere and the Cylinder*, R. Netz (trans & ed), vol. 1 (Cambridge, 2004), 294-8; Gutzwiller, *Guide to Hellenistic Literature*, 158; K. Geus, *Eratosthenes Von Kyrene: Studien zur hellenistischen Kultur und Wissenschaftsgeschichte* (Munich, 2002), 195–205; Cf. Leventhal presents the letter as a dissection of imperial concerns: M. Leventhal, "Eratosthenes' Letter to Ptolemy: The Literary Mechanics of Empire", *American Journal of Philology*, vol. 138, no. 1 (2017), 43-84.

² Knorr's arguments for authenticity, contra von Willamowitz, Moellendorff, are accepted by Berrey, Taub and most current scholars. W. R. Knorr, *Textual Studies in Ancient and Medieval Geometry* (Boston, 1989), 131-146; cf. U. von Willamowitz-Moellendorff, "Ein Weihgeschenk des Eratosthenes", *Nachrichten der k. Gesellschaft der Wissenschaften zu Göttingen* (Berlin, 1894) 15-35.

³ L. Taub, *Science Writing in Greco-Roman Antiquity* (Cambridge, 2017), 19, 52. See also 55-71 for Taub's insightful analysis of Eratosthenes' letter as a document which crosses genres, incorporating a range of subtexts.

⁴ Berrey notes the Greek and indigenous Egyptian elements to the letter and stele: Berrey, *Hellenistic Science at Court*, 167-8; Taub notes that Eratosthenes' letter to king Ptolemy accommodates a broad audience: L. Taub,

Letter-writing provided a unique avenue for scholars to promote their patron and themselves to a potentially heterogeneous audience. Ceccarelli notes that the medium itself allows a personal and exclusive tone of *φιλία*, in contrast with the impersonal and inclusive tone of decrees of the *πόλις*.⁵ Although still constrained by formula, Ptolemy IV's own letters provide a good example of the relative versatility of epistolary literature: his letter to Magnesia presents decisions in first person with a range of verbs, tenses and moods.⁶ Despite the intimate tone, such letters were governed by a formula: opening with ritualised greeting and preamble, before moving to motivation, decision (in the case of a king), or treatise (in the case of a scholar), and farewell.⁷ The medium itself, with its monodirectional voice, illustrates the elevated status of the author.⁸ The public letters of elite scholars, such as Biton, Andreas, Archimedes, and Eratosthenes, all utilise this elevated and exclusive tone as a means of self-promotion to a broad audience, with varying degrees of sophistication.⁹

Eratosthenes' *Letter to King Ptolemy* begins with praise establishing the intimacy of *φίλοι*. The polymath introduces himself with ritualised greeting—"Βασιλεῖ Πτολεμαίῳ Ἐρατοσθένης χαίρειν"—thematizing royal power in a self-aware literary style.¹⁰ The lexicon of elite, intimate letter-writing is

"Eratosthenes sends greetings to King Ptolemy", 290; for a range of modes, see Taub, *Science Writing in Greco-Roman Antiquity*, 65, 67-70; W.R. Knorr, *Textual Studies in Ancient and Medieval Geometry* (Boston, 1989), 64, 67-70. 131, 142, 147.

⁵ Letter writing: P. Ceccarelli, "Letters and Decrees: Diplomatic protocols in the Hellenistic Period", P. Ceccarelli, L. Doering, T. Fögen, I. Gildenhard (eds.), *Letters and Communities: Studies in the Socio-Political Dimensions of Ancient Epistolography* (Oxford, 2018), 162. Cf. the decrees of the *πόλις* as communication: "The main characteristic of decrees is their impersonality." P. Ceccarelli, *Ancient Greek Letter Writing: A Cultural History (600 BC- 150 BC)* (Oxford, 2013), 299; "the entire city, not a specific individual, stands behind the decree.", P. Ceccarelli, "Letters and Decrees", 170; S. Goldhill, *The Invention of Prose* (Oxford, 2002,) 112. For decree's inclusive use of middle voice: P. Ceccarelli, *Ancient Greek Letter Writing* 299-300.

⁶ P. Ceccarelli, "Letters and Decrees" 173.

⁷ Letter to Magnesia: (Ptolemy IV (*I. Magnesia* 23 = RC 33 = Rigsby (1996) no. 71)) at K. Rigsby, *Territorial Inviolability in the Hellenistic World* (Berkeley, London, 1996), no. 71 at 117. "the king... simultaneously advertizes his power to enforce obedience in matters of interstate diplomacy—an ingenious way of combining the role of benefactor and power-broker", P. Ceccarelli, "Letters and Decrees: Diplomatic protocols in the Hellenistic Period", P. Ceccarelli, L. Doering, T. Fögen, I. Gildenhard (eds.), *Letters and Communities: Studies in the Socio-Political Dimensions of Ancient Epistolography* (Oxford, 2018), 154-6; deliberate vagueness or omission as a technique: 157-61. Ceccarelli notes slight variances in formula, Ptolemy IV's response to Magnesia not containing a motivation, but greater preamble, 160.

⁸ The king's letter reveals the elevated status of letter writing: The preamble is a marker of status, & the epistolary expressions of *φιλία* in Ptolemy's letter to Magnesia emphasises royal power, and is distinctly "monodirectional", received by the monarch but never directly reciprocated to the polis. P. Ceccarelli, "Letters and Decrees" 156, 173; L. Taub, "Eratosthenes sends greetings to King Ptolemy", 289-90.

⁹ Berrey portrays Biton and Andreas as relatively unsophisticated in their epistolary communications when compared to Archimedes and Eratosthenes, who shift from Greetings to treatise, before returning to an epistolary style, Berrey, *Hellenistic Science at Court*, 128-133; Cf. Langslow's "polar distinction" between "between letters serving as dedications, or prefaces, separate from the principal work that follows, and those standing as treatises in their own right.", D.R. Langslow, "The Epistula in Ancient Scientific and Technical Literature, with Special Reference to Medicine", R. Morello and A. D. Morrison (eds.), *Ancient Letters: Classical and Late Antiquity Epistolography* (Oxford, 2007), 215-20.

¹⁰ Eutocius, *In Archimedis de Sphaera et Cylindro Libros II* 88.1-5. I am following Leventhal in using the standard Greek of the 1881 Heiberg translation: *Archimedis opera omnia*. Ed. J.L. Heiberg, Vol. 3 (Leipzig, 1881), 102-14. The English translation is from "Eutocius Commentary to the Sphere and the Cylinder II", R. Netz (trans. & ed.), *The Works of Archimedes: Two Books on the Sphere and the Cylinder*, vol. 1 (Cambridge 2004), 294-8. "a self-

assumed to a king with whom he was apparently familiar as a “dear friend” in this open letter.¹¹ The preamble shifts tone, beginning with the problem of Minos. For Leventhal, the purpose of mythology in the preamble is to engage, likening it to Archimedes’ *Sand reckoner*. However, the subject matter is illuminating, revealing motivations beyond engagement. It challenges prior scholarship, in the familiar agonistic tradition of literary belatedness, and also a prior king. It is possible παρηγορία directed at Eratosthenes’ Ptolemaic patron carefully cloaked in mythology.¹² The focus on the folly of a legendary king adopts imperial imperative, highlighting Minos’ misplaced certainty:

“They say that one of the old tragic authors introduced Minos, building
a tomb to Glaucos, and, hearing that it is to be a hundred cubits
long in each direction, saying:

You have mentioned a small precinct of the tomb royal;
Let it be double, and, not losing its beauty,
Quickly double each side of the tomb.¹³

The stylistic tragic elements give the audience a sense of timelessness and religious significance for the mathematical problem.¹⁴ Eratosthenes continues, presenting Minos as falling into ill-advised error, he “seems... to have been mistaken”.¹⁵ The “baneful” Cretan king, despite his apparent power, has failed to seek expert scholarly advice.¹⁶ As a direct consequence, he failed in his divine endeavour. Eratosthenes echoes the caution of Isocrates’ advice concerning a king’s counsel: Give friendship only “to those with whose help you will best govern”.¹⁷ Eratosthenes carefully challenges the position of

aware literary style... [with] praise of royal power”, Berrey, *Hellenistic Science at Court*, 130.; M. Leventhal, “Eratosthenes’ Letter to Ptolemy”, 47-48; cf. Taub views the greeting as unremarkable: L. Taub, “Eratosthenes sends greetings to King Ptolemy”: Reading the contents of a “mathematical” letter”, *Mathematics Celestial and Terrestrial*, *Acta Historica Leopoldina*, vol. 54 (2008), 288.

¹¹ “Letter to Ptolemy” as self-promotion: L. Taub, “Science after Aristotle: Hellenistic and Roman Science”, A. Jones & L. Taub (eds.), *Cambridge History of Science: Volume 1 Ancient Science*, 270. Personal address: “the personal framing is foregrounded; the mathematical contents are backgrounded.” Netz *Ludic Proof: Greek Mathematics and the Alexandrian Aesthetic* (Cambridge, 2009), 106; Open letter: L. Taub. “Eratosthenes Sends Greetings to King Ptolemy”: Reading the Contents of a ‘Mathematical’ Letter.”, *Acta Historica Leopoldina*, vol. 54 (2008), 298.

¹² Archimedes, *Sand reckoner* 242.6 H: “οἰόνται τινές, βασιλεῦ Γέλων, τοῦ ψάμμου τὸν ἀριθμὸν ἄπειρον εἶμεν τῷ πλήθει”; Leventhal saw this as an attempt to “sell” the problem to the king with an engaging hook, Leventhal, “Eratosthenes’ Letter to Ptolemy”, 49-50; Berrey, *Hellenistic Science at Court*, 133-9; Netz, *Ludic Proof*, 163-4.

¹³ *Letter to King Ptolemy* (= Eutocius *In Archimedis de Sphaera et Cylindro Libros II*, 88.5–11).

¹⁴ L. Taub, “Eratosthenes sends greetings to King Ptolemy”, 295.

¹⁵ “ἔδοκει δὲ διημαρτηκέναι· τῶν γὰρ πλευρῶν διπλασιασθεισῶν τὸ μὲν ἐπίπεδον γίνεται τετραπλάσιον, τὸ δὲ στερεὸν ὀκταπλάσιον.” Eutocius *In Archimedis de Sphaera et Cylindro Libros II*, 88.11-13.

¹⁶ “Μίνωος ὀλοόφρονος”, Hom. *Od* 11.322; cf. For a moderated view, see: Plut. *Thes.* 15-16, esp. “...the tragic poets prevailed, and from platform and stage showered obloquy down upon him, as a man of cruelty and violence. And yet they say that Minos was a king and lawgiver” (Plut. *Thes.* 16.7).

¹⁷ Isocrates: 2.27.

kingship through proxy. Degradation of a legendary king distances us from any sense that kingship is necessarily divine, even with the Ptolemies' own legendary pedigree.¹⁸

The choice of Minos, with a legendary imperial sea power linked to his sons, may be drawing a parallel Ptolemy III and IV, imperial and filial continuity emphasised in the letter's farewell.¹⁹ Eratosthenes' pupil, the future Ptolemy IV, is lauded in the letter as the recipient of the gifts of the "Muses" passed on from his father, but this preamble leaves open the possibility for a cautionary, or even ironic interpretation, Pfeiffer noting that Eratosthenes was skilled in ironic literary arts.²⁰ Patronage of the Muses—and the Museum—is elevated, with the perils of neglecting patronage, or the advice of the Museum's scholars, apparent. Eratosthenes' παρρησία leans heavily on the Hellenistic tradition that philosophers had an important role in good governance, a belief which was held, Murray wryly notes, "not least among philosophers".²¹

Eratosthenes' self-promotion is evident, using the preamble to summarise the history of the problem in polemical terms, dismissing cumbersome solutions provided by Eudoxus, and Plato's Academy.²² However, the unflattering representation of these eminent scholars may further challenge the royal audience; the difficulties of Eudoxus' and Platonic solutions remain obscure, amplifying the king's indebtedness to Eratosthenes' solution. Taub argues that the letter "pays tribute to Ptolemy's good judgment in patronising Eratosthenes' intellectual versatility", the solution presented in the first person as a gift, which steers King Ptolemy away from the folly of prior kings.²³ The Ptolemaic empire is the beneficiary; administratively, in calculating "both liquids and dry measures"; and militarily, "to enlarge catapults and stone-throwing machines".²⁴ The benefits are expressed in pragmatic terms for multiple audiences.²⁵ Saliently, the letter concludes with what Pfeiffer calls a "perfect epigram".²⁶ In this epigram, the almost alchemical power he has handed to the king is reiterated: "any solid to change to another/ in nature: it's yours".²⁷ The king's gift is, effectively, extended administrative and

¹⁸ OGIS 54: "βασιλεύς μέγας Πτολεμαῖος... ἀπόγονος τὰ μὲν ἀπὸ πατρός Ἡερακλέους τοῦ Διός, τὰ δὲ ἀπὸ μητρὸς Διονύσου τοῦ Διός", Fraser, *Ptol. Alex.* n. 106, 2.344. Pharaonic divine representation: G. Hölbl, *Ptolemaic Empire*, 160-5; Manning, *The Last Pharaohs*, 42, 57, 80-2; also see Fraser, *Ptol. Alex.* 1.250.

¹⁹ Thucydides describes Minos' naval power: "He made himself master of a very great part of what is now called the Hellenic Sea, and became lord of the Cyclades islands and first colonizer of most of them, driving out the Carians and establishing his own sons in them as governors." (Thuc 1.4). See also: Hdt 3.122; Hom. *Il.* 13.450.

²⁰ Pfeiffer notes Eratosthenes "ironical style" and laments the fragmentary nature of Eratosthenes works for the witticisms lost for posterity; Pfeiffer, *HCS* 168; irony in *Geographica*, see: Eratosth. F5 (= Strabo 1.2.15).

²¹ O. Murray, "Philosophy and monarchy in the Hellenistic world", T. Rajak, S. Pearce, J. Aitken & J. Dines (eds), *Jewish Perspectives on Hellenistic Rulers* (Berkeley, 2007), 16-17.

²² *Letter to King Ptolemy* (= Eutocius *In Archimedis de Sphaera et Cylindro Libros II*), 90.8-11.

²³ L. Taub, *Science Writing in Greco-Roman Antiquity*, 69-70. See also 60-1, 64.

²⁴ *Letter to King Ptolemy* (= Eutocius *In Archimedis de Sphaera et Cylindro Libros II*), 96.14-17.

²⁵ "a communication dedicated to a royal patron can also operate for different audiences: encountering the letter serves to make the reader feel like 'king for a day'" L. Taub, "Eratosthenes sends greetings to King Ptolemy", 290; a letter for an "élite lay audience", Berrey, *Hellenistic Science at Court*, 133.

²⁶ *Letter to King Ptolemy* (= Eutocius, *Archimedis de Sphaera et Cylindro Libros II*), 96.10-27; Pfeiffer, *HCS* 155-6, 68.

²⁷ *Letter to King Ptolemy* (= Eutocius, *Archimedis de Sphaera et Cylindro Libros II*) 96.10-27.

imperial power to measure and control the landscape. The epigram's finesse is revealed in the final lines, which have moved from warnings to carefully crafted blessings in what Pfeiffer believes "reveal[s] his devotion to the royal family".²⁸ For Kosmin and Berrey, these lines draw a parallel between the doubling of the cube and the continuity of the Ptolemaic dynasty, potentially appealing to both indigenous Egyptian and Greek traditions of kingship.²⁹ The son, Ptolemy IV, will inherit the gifts of the Muses—poetic and mathematical—as well as the throne.

However, the reader is left with a disturbing sense that royal wisdom is limited, good kingship dependent upon specialist counsel of the most eminent scholars. Veiled criticism has been presented with eloquent *παρηγορία*. Criticisms are levelled not at Ptolemy's autocracy, nor his son, but at Minos, and his sons. The decisions made by Minos are superficially reasonable, but flawed, highlighting the limits of royal wisdom. Ptolemy III is celebrated, pointedly, for passing on "all that is dear to the Muses" to his son.³⁰ Given the effect of the preamble upon the audience, such an ideal succession is tentative, even uncertain, and dependent on the continuing guidance of Eratosthenes as *φίλος*, tutor, and chief Librarian in the temple of the Muses.

b. Subversive use of Myth: Eratosthenes' *Catasterismi*

If the *Letter to King Ptolemy* emphasises the limits of royal wisdom and its dependence upon good counsel, Pàmias' analysis of Eratosthenes' astrological poems – the *Catasterismi* – reveal the limits of religious ideology, even as they are ostensibly affirmed. Pàmias' analysis of the eleventh *Catasterism* identifies characteristically indirect criticisms of the Ptolemaic regime's military and imperial claims by Eratosthenes, illustrated through the diminished agency of Dionysus. Eratosthenes' creation myth for Cancer draws us to the "two bright stars" on its shell—the asses—and elevates their role in the Gigantomachy. The war-like aspect of Dionysus usually adopted in the Gigantomachy, seen in Euripides' *Cyclops*, is proportionately diminished.³¹ In contrast, Eratosthenes emphasises his comic aspects.³² Dionysus is depicted as something of an ironic hero: his victory over the fleeing Giants an accidental product of the braying of donkeys.

²⁸ Pfeiffer, *HCS*, 155.

²⁹ "Indeed, it is tempting to read the poem's otherwise unmotivated closing distichs, in which Eratosthenes praises the filial similarity and vertical inheritance between Ptolemy III and Ptolemy IV as a translation of this mathematical doubling to the dynastic sphere." Kosmin, "The Politics of Science", 86.

³⁰ *Letter to King Ptolemy* (= Eutocius In *Archimedis de Sphaera et Cylindro Libros II*), 96.22-7.

³¹ Eratosth. *Cat.* 11; J. Pàmias, "Dionysus and Donkeys on the Streets of Alexandria: Eratosthenes' Criticism of Ptolemaic Ideology", *Harvard Studies in Classical Philology*, vol. 102 (2004), 197-8; Fraser, *Ptol. Alex.* 1.202-3. Dionysus portrayed as active participant in Gigantomachy: Eur. *Cycl.* 5-9.

³² Eratosthenes appears to be drawing on comedic representations of Dionysus: Ar. *Frogs* 41-48, 196-204, 285-311, 479 – 502.

Such comic representations need to be considered within the religious climate of the Ptolemaic court. The deity's imperial and martial aspects appear to have been increasingly emphasised throughout the third century BCE. We see evidence for this in Ptolemy II Philadelphus' pompe, which is infused with Dionysiac religious symbolism, adopting imperial and sympotic imagery.³³ The king is seated at the head of a Dionysian συμπόσιον, surrounded by militant Dionysian symbolism.³⁴ Columns of the royal tent appear as *thyrsoi*, and roofed with "boughs of myrtle [and] laurel".³⁵ A mythical militant court is established for the king, who is flanked by "the most beautiful military cloaks", and sculptures of kings, and "mythical compositions".³⁶ These are sheltered by a silver and golden phalanx of shields, forming an elevated perimeter around depictions of tragic and comic figures associated with συμπόσια, each with golden cup in hand.³⁷ The συμπόσιον motif is extended with 100 golden couches and silver basins. Ptolemy II is seated in his tent in sympotic, Bacchic splendour.

The pompe is guided through Alexandria's stadium. The traditionally disruptive Dionysian elements seem to have inspired revelry in the crowd, which needs to be restrained.³⁸ The procession is overflowing with carefully selected symbolism, the communal exercise carefully constructed for ideological ends.³⁹ Led by Nike and satyrs wearing golden ivy, Dionysus is presented, first in familiar sympotic terms, with flautists, drummers, poets, and with wine from vats "sewn from leopard skins" trailing out "along the whole route".⁴⁰ The emphasis turns decidedly more militant with the arrival of the "Return of Dionysus from the Indies" figure atop an elephant, equipped with a "thyrsus lance", echoing Euripides' depiction of the god "shaking and brandishing his bacchic wand".⁴¹ Keyser notes that this figure exemplifies the "triumphal" aspect of the deity returning from conquest.⁴² This recreation of the triumph of the East is replete with Dionysian animals, featuring asses, leopards and panthers, and

³³ Pompe of Ptolemy II Philadelphus: *BNJ* 627 F2 (=Ath. 196d-206b). Keyser's extensive analysis of the procession in *BNJ* notes the use of "triumphal" aspects of Dionysus returning from the east, replete with Dionysiac beasts, followed by Alexander and Ptolemy, 57,000 foot-soldiers and 23,200 cavalry, and Indian captives to emphasise marshal values: P.T. Keyser, "Kallixeinos of Rhodes (627)", I. Worthington (ed.), *Brill's New Jacoby* (2016), http://dx.doi.org/10.1163/1873-5363_bnj_a627. Accessed 25th April 2019. *BNJ* 627 F2 notes: 31, 32, 33, 35.

³⁴ Ath. 5.25, 196c (= *BNJ* 627 F2).

³⁵ Thyrsoi: Ath. 5.25, 196c (= *BNJ* 627 F2); Myrtle and Laurel: *BNJ* 627 F2 (= Ath. 5.25, 196d).

³⁶ Military cloaks: Ath. 5.26, 196e-f (= *BNJ* 627 F2); Statues: *BNJ* 627 F2 (= Ath. 5.26, 196f).

³⁷ *BNJ* 627 F 2 (= Ath. 5.26, 196f-197a).

³⁸ "At the head of the Dionysiac procession, the Silenes went forth, restraining the crowd", *BNJ* 627 F2 (=Ath. 5.26, 196e). For Dionysian processions as temporarily challenging everyday conventions, see: J. Kindt, *Rethinking Greek Religion*, 68-9.

³⁹ Processions as propaganda: Kindt observes, with reference to Peisistratus, that powerful individuals could use processions "as a means of achieving their own ends": J. Kindt, *Rethinking Greek Religion*, 69; cf. Ch. 3-4; Hdt. 1.60.5: "the townsfolk, persuaded that the woman was indeed the goddess, worshipped this human creature and welcomed Pisistratus." For Peisistratus as "restrained" in his propagandistic representations, see: W.R. Connor, "Tribes, Festivals and Processions; Civic Ceremonial Manipulation in Archaic Greece", *Journal of Hellenic Studies*, 40-50, esp. 44-5.

⁴⁰ Ath. 5.26.197e, 199a-b.

⁴¹ Thyrsus lance/ Bacchic wand: Ath. 5.26.200d; Eur. *Bacch.* 308-9. Cf. 2 *Macc.* 10.7.

⁴² P.T. Keyser, "Kallixeinos of Rhodes (627)", I. Worthington (ed.), *Brill's New Jacoby*, (2016), http://dx.doi.org/10.1163/1873-5363_bnj_a627, accessed 25th April 2019, *BNJ* 627 F2 notes: 31,

notorious Indian dogs of war, associated with Alexander as much as Dionysus.⁴³ Following these trophies of war, statues of Alexander and Ptolemy are paraded as divine figures, linking the dynasty to the exploits of both Dionysus and the divine Alexander.⁴⁴ Corinth, Ionia and other ostensibly liberated regions follow, making the Ptolemies' imperial claims apparent.⁴⁵ Following a procession of the Olympic gods, Alexander makes a reappearance with Nike and Athena, reiterating the Ptolemies ties to the martial gods associated with imperial claims upon the conquered landscape.⁴⁶ For good measure, 57,000 foot-soldiers and 23,200 cavalry troops are paraded. The Dionysus invoked is the war-like god portrayed in Euripides' *Cyclops*, Silenus fighting side-by-side with Dionysus, later recalling, "when in the battle with the Earthborn Giants I took my stand protecting your right flank with my shield".⁴⁷ Similarly, in *The Bacchae*, Teiresias characterises Dionysus in a war-like vein, as sharing an aspect with Ares. It is Dionysus, he warns, who can strike a "mad fear" into the hearts of soldiers.⁴⁸ In the pompe, the symbolism of imperialism is given religious potency by the processional context.⁴⁹ As we shall see, this warlike Dionysus is not recognisable in Eratosthenes' eleventh *Catasterism*.

For the Ptolemies, Dionysus' imperial and war-like aspects were an intrinsic part of his cult, tying the dynasty's imperial claims, via Alexander, to those of the Dionysus of the East. Within such a context, Eratosthenes' ironic depiction of the god in the *Catasterismi* is notable for its resistance to imperial and associated religious concerns. Rather than depicting the god fighting alongside Silenus and Hephaestus, and a phalanx of satyrs, Eratosthenes encourages us to focus on the asses, the brightest stars in the constellation. Pàmias' analysis convincingly argues that it is the asses that play the role of

⁴³ Dionysian Animals: Ath. 5.26.200f, 201c; *BNJ* 627 F2 notes: 32; Captive women: Ath. 2.26.200f-201a; Indian dogs of war In Alexander's army: "Alexander received one hundred and fifty dogs from Sopeithes; and that, to prove them, two were let loose to attack a lion" (Strabo 15.1.31). Also see: in Xerxes' army: Hdt. 1.192.4, 3.32.1; 7.187.1.

⁴⁴ Associations between Alexander and the Ptolemies was cultivated from the beginning of the dynasty: City and state cult under Ptolemy I: A. Erskine, "Life After Death: Alexandria and the Body of Alexander", *Greece & Rome*, vol. 49, no. 2, (October, 2012), 172-3, 175-7; "Entombing him in this and honouring him with sacrifices such as are paid to demigods and with magnificent games, he [Ptolemy] won fair requital not only from men but also from the gods", Diod. Sic. 18.28.4; I. Worthington, *Ptolemy I: King and Pharaoh of Egypt* (New York, 2016), 93-5, 209-10; Use of Alexander as founder of Dynastic cult: for Fraser, ties between Alexander and the dynastic cult were "the natural consequence of the creation of the fictitious relationship with Alexander, and the fact that his capital was Alexander's own foundation" Fraser, *Ptol. Alex.* 1.215, G. Hölbl, *A History of the Ptolemaic Empire* (New York, 2001), 94-5; E.E. Rice, *The Grand Procession of Ptolemy Philadelphus* (Oxford, 1983), 102.

⁴⁵ R.A. Hazzard, *Imagination of a Monarchy: Studies in Ptolemaic Propaganda* (Toronto, Buffalo, London, 2000), 69-70.; Cf. Ptolemy adapted propagandistic symbolism for his audiences. See "regional ideology" in Echo Colonnade: J. Kindt, *Rethinking Greek Religion*, 150-1.

⁴⁶ Hellenistic representations of Athena and Nike is evident in the numismatic evidence: Demetrius Poliocetes Salamis-on-Cyprus silver coinage after 307 BCE: A. Chaniotis, *War in the Hellenistic World: A Social and Cultural History* (Malden, Oxford, & Carlton, 2005), 2-3; Ptolemaic use of Athena Promachos: C. M. Havelock, "The Archaistic Athena Promachos in Early Hellenistic Coinages." *American Journal of Archaeology*, vol. 84, no. 1 (1980), 41-50.

⁴⁷ Dionysus portrayed as active participant in Gigantomachy: Eur. *Cycl.* 5-9.

⁴⁸ Eur. *Bacch.* 302.

⁴⁹ Eur. *Bacch.* 303-5.; "...practically every aspect of a procession is considered symbolic", J. Kindt, *Rethinking Greek Religion*, 67; for religious symbolism as both shaping, and, being shaped by, culture, see: C. Geertz, *The Interpretation of Cultures: Selected Essays* (New York, 1973), 89-123, esp. 93-5.

protagonists in Eratosthenes' account, being "overcome by panic and bray[ing] very loudly one and all... so the enemy took flight".⁵⁰ Pàmias demonstrates that what may appear ostensibly as playful adaptation of Dionysus' comic aspect, effectively distances the reader from the martial aspect of the god. For Pàmias, Eratosthenes' subversive poem is a parody of Philadelphus' pompe.⁵¹ The use of irony and comedy creates an ambiguous position for the reader, traditional motifs gaining new, subversive meanings in the Ptolemaic ideological context.⁵² As with the *Letter to King Ptolemy*, adaptation of traditional motifs and adopting traditional myths provides the distance needed to safely subvert Ptolemaic ideological concerns.⁵³ It is, perhaps, the substantial expansion of the god's cult under Eratosthenes' king and former pupil, Ptolemy IV Philopator, that provides a more immediate and convincing cause for Eratosthenes' ironic mockery of the war-like deity.⁵⁴ The probable pupil of Eratosthenes, Ptolemy IV was renowned for his religious developments, from elaborating temples of Isis and Hathor to his more Hellenistic innovations.⁵⁵ The Hellenistic religious developments include manifold Dionysian innovations, such as renaming entire demes in the god's honour, integrating the god into the very administrative geography of the capital.⁵⁶ Other Dionysian innovations were potentially more of a personal affront to Eratosthenes. According to Eratosthenes' *Arsinoë*, Ptolemy IV, this "New Dionysus", was developing expansive banquets, possibly undermining the Cyrenian's own more exclusive sympotic sensibilities.⁵⁷

The mockery of Dionysus shown in Eratosthenes' *Catasterismi* does not seem to have been limited to his militaristic aspect. In *Catasterism* 24, Eratosthenes' origin story for the Lyre constellation, we see a celebration of the Muses and Apollo and a diminution of Dionysus' association with the arts. The Lyre, Eratosthenes said, was acquired from Hermes by Apollo, who passed it on to Orpheus who "gave it

⁵⁰ Eratosth. *Cat.* 11; J. Pàmias, "Dionysus and Donkeys" 197-8; Fraser, *Ptol. Alex.* 1.202-3.

⁵¹ "It is probably not far-fetched to see in this passage a veiled reference to the Grand Procession of the Ptolemies" J. Pàmias, "Dionysus and Donkeys", 196.

⁵² For a discussion of literary subtlety and irony required for subversion, see Hinds's work on Ovid and Lucan: S. Hinds, "Generalising about Ovid", *Ramus*, vol. 16, no. 1-2, (1987) 25-27; Ov. *Met.* 15.750 – 8; Luc. *B.C.* 145-58; R. Rutherford, "The Use and Abuse of Irony" in D. Obbink, & R. Rutherford (eds.), *Culture in pieces: Essays on ancient texts in honour of Peter Parsons* (Oxford, 2011), 84, 98-99. Subversion and irony in the Ptolemaic court: Theoc. *Id.* 15; Burton, *Theocritus' Urban Mimes*, 16, 51, 62, 108, 125, 134; E.-R. Schwinge, *Künstlichkeit von Kunst. Zur Geschichtlichkeit der alexandrinischen Poesie* (Munich, 1986), 72; Strootman, *Birdcage of the Muses*, 9-10.

⁵³ Eratosth. *Cat.* 11; J. Pàmias, "Dionysus and Donkeys", 196, 198; Fraser, *Ptol. Alex.* Vol. 2, 951 n.25.

⁵⁴ Expanded Dionysus cult under Ptolemy IV: *BNJ* 241 F16 (=Ath. *Deipnosophists* 7.2 p. 276ac); Fraser, *Ptol. Alex.* 1.197, 203-4; J. Pàmias, "Dionysus and Donkeys", 197.

⁵⁵ Isis developments: Serapis and Isis coinage under Ptolemy IV is a numismatic departure in ideological and aesthetic terms, "associating the king and queen with the explicitly associate the Ptolemaic king and queen with two of the most popular deities in the Eastern Mediterranean": T. Landvatter, "The Serapis and Isis Coinage of Ptolemy IV." *American Journal of Numismatics*, vol. 24 (2012), 61-2, 87; Hathor: Ael. *NA* 10.27.

⁵⁶ Fraser, *Ptol. Alex.* 1.202-3; Pfeiffer, *HCS* 151. For Satyrus of Alexandria's *On the Demes of Alexandria*: *BNJ* 631 F1 (=Theoph. *Ad Autol.*).

⁵⁷ Fraser, *Ptol. Alex.* 1.176, 204; 2.347 n.117.; traditional architecture lends itself not only to relatively exclusive sympotic spaces, but these can be further divided: B. Bergquist, "Sympotic Space", O. Murray (ed.), *Sympotica: A Symposium on the Symposium* (Oxford, 1990), 53-5.

nine strings to accord with the number of Muses. Ceasing to honor Dionysos, he regarded Helios, whom he also called Apollo, as the greatest of gods”.⁵⁸ According to Hyginus, Eratosthenes portrayed the protagonist, Orpheus as travelling to the underworld, where he “sang in praise to the whole race of gods, with the sole exception of Dionysos, for he overlooked him”.⁵⁹ The god here is denied his traditional association with the Muses—the goddesses at the heart of the Museum.⁶⁰ He is dismissed by Orpheus, a figure with the power to “shape” the gods’ representations through his muse-granted powers.⁶¹ Eratosthenes, adapting a tradition also seen in Aeschylus’ lost drama, *Bassarai*, presents Dionysus as an antagonist or, worse still, an irrelevancy.⁶²

This is in sharp relief to the Ptolemaic development of these chthonic aspects of the god, increasingly associated with the Underworld.⁶³ Fraser argues that such chthonic developments by the Ptolemies were ideological: the cult of Dionysus in Alexandria and the Dionysian aspects of the Memphian elaboration of Osor-Hapi, and possibly the cultivation of the cult of Serapis, all speak to the cultivation of the chthonic aspects of Dionysus.⁶⁴ It is within such a religious atmosphere that Eratosthenes, head of the Library at the Museum—the temple of the Muses—produces sympotic poetry which distances the audience from Ptolemy IV’s most beloved god. Poetry, acting as entertainment at the συμπόσιον, provides an ideal avenue for the polymath wishing to adopt παρηγορία to undermine the regime indirectly.⁶⁵ Myth conspires with poetic performance and a sympotic sense of levity to create a space in which Eratosthenes can challenge the significance and power of Dionysus as both a chthonic and a martial figure. The audience is subtly encouraged to question the status of the god and, through extension, the regime’s religious ideology.

⁵⁸ Eratosth. *Cat.* 24.

⁵⁹ Hyginus *Astronomy* 2.7 in *Eratosthenes and Hyginus Constellation Myths*, trans. R. Hard. (Oxford, 2015), 23-6.

⁶⁰ Diod. Sic. 4.7.

⁶¹ J. Kindt, *Rethinking Greek Religion*, 144.

⁶² Cf. Orphic & Bacchic links: Hdt. 2.81.2; Eur. *Hipp.* 951-4; The Orphic *Theogony* emphasises links between Orphism and the ultimate “reign of Dionysus”, J. Kindt, *Rethinking Greek Religion*, 22-2; 484-6; Parker notes that the chthonic myth of Orpheus rejecting Dionysus is unusual and “complicated”, R. Parker, “Early Orphism”, A. Powell (ed.), *The Greek World* (London, 1995), 484, 494; O. Kern, *Orphicorum Fragmenta* (Berlin, 1922), T213 at 233.

⁶³ Pàmias, “Donkeys for Dionysus”, 197.

⁶⁴ Greek aspects of Dionysus: Fraser, *Ptol. Alex.* 1.197, 1.202: under Philopator: 1.204; Dionysian aspects of Osor-Hapi: 1.206-7; Serapis: Fraser argues that through Osiris, Dionysus is associated with the Apis Bull and Serapis: 1.206; Serapis as “Greek” to Egyptians and “Egyptian” to Greeks: S. Pfeiffer, “The God Serapis, his Cult and the Beginnings of the Ruler Cult in Ptolemaic Egypt”, P. McKechnie, P. Guilleme, P. (eds.), *Ptolemy II Philadelphus and His World* (Leiden & Boston, 2008), 392.

⁶⁵ Poetry as sympotic entertainment, see: W. Rösler, “*Mnemosyne* in the *Symposion*”, O. Murray, (ed.) *Symptotica: A Symposium on the Symposium* (Oxford, 1990), 230-1; P. Schmitt-Pantel, “Sacrificial Mean and the Symposium: Two Models of Civic Institutions in the Archaic City?”, O. Murray (ed.), *Symptotica: A symposium on the Symposium* (Oxford, 1990), 20-22.

c. Royal Biography as Criticism: *Arsinoë*

Eratosthenes' lost biography *Arsinoë* may provide insight into the polymath's motivations for such hostility, criticising the religiously enthusiastic Ptolemy IV for transgressing elite sympotic customs.⁶⁶ In Eratosthenes' account, the king's religious innovations seem to have expanded the συμπόσια and, as a consequence, degraded them.⁶⁷ The fragment begins with remarkable intimacy, Eratosthenes in the company of queen Arsinoë III. The scene is interrupted by strangers, invited to a new festival by Ptolemy, "The Lagynophoria", presumably part of the Dionysian innovations developing under the king's stewardship.⁶⁸ Arsinoë asks an unknown worshipper what the preparations are in aid of. He responds by explaining the novelty of the festival: the food and wine are brought by the participants themselves. This undermines vital aspects of the gift-giving expectations of a συμπόσιον, in which, according to Eratosthenes, "the person who invited them to the entertainment [also] provides the food".⁶⁹ The queen scoffs at these "sordid parties" comprising of an "utterly random mob".⁷⁰ Eratosthenes' critical account suggests elite anxieties, with a broadening of access resulting in a consequent dilution of the value placed on proximity to the king. The more regulated sympotic environment is being eroded by Ptolemy's innovations, undermining the elite status of this most intimate of φίλοι, a position seemingly hard-earned by the polymath. This criticism of Ptolemy IV is echoed by Plutarch, followed by Bevan and Fraser, perhaps conflating elite anxieties associating the ὄχλος and Dionysian celebrations with debauchery and excess.⁷¹ Tyranny and the mob conspire in this fragment to undermine the highly regulated sympotic environment.

Eratosthenes' letters, poems and biography reveal a scholar adept at carefully subverting orthodoxy. The Cyrenian polymath is not clumsily attacking the regime with overt blows. Rather, he emphasises the more general nature of flawed kingship in his *Letter to King Ptolemy*, dependent on scholarly counsel for success. In the *Catasterismi*, old myths are re-used and adapted in ways which subvert Dionysus' militant and chthonic aspects, vital for Ptolemaic religious identity and authority. His critical

⁶⁶ BNJ 241 F16 (= Ath. 7.2 276ac); Eratosthenes' *Arsinoë* is cited as an important example by Fraser of the freedom to criticise, Fraser *Ptol. Alex.* 1.203-4; Cf. Geus identifies the fragment as retrospectively concerning Arsinoë II, not Arsinoë III. K. Geus, *Eratosthenes von Kyrene: Studien zur hellenistischen Kultur- und Wirtschaftsgeschichte* (Munich, 2002), 264-67.

⁶⁷ συμπόσια and access to the king: Berrey defines two kinds: smaller συμπόσια emulate traditional aristocratic private συμπόσια. The second is larger, designed as public spectacle. Berrey, *Hellenistic Science at Court*, 110.

⁶⁸ Dionysian ecstatic religious developments: Fraser, *Ptol. Alex.* 1.202-7; Associations of lawlessness with ὄχλος (mob) under Ptolemy IV: Polyb. 15.25-7; Fraser, *Ptol. Alex.* 1.80.

⁶⁹ BNJ 241 F16 (= Ath. 7.2.276a-c).

⁷⁰ "ἀνάγκη γὰρ τὴν σύνοδον γίνεσθαι παμμυγοῦς ὄχλου": BNJ 241 F 16 (= Athen 7.2 p. 276a-c); cf. hostility towards Akletoi and other hangers on: B. Fehr, "Entertainers at the *Symposion*: The *Akletoi* in the Archaic period", O. Murray (ed.), *Symptica: A symposium on the Symposion* (Oxford 1990), 185-89.

⁷¹ Ptolemy IV's reputation for carousing and excess can be seen in Ptolemaeus of Megalopolis, who said in his *History of Philopator* that the king caroused with "laughter-makers" Ath. 6.48 246 c (= FGrH 161 F2); Fraser and Bevan echo these concerns: Fraser, *Ptol. Alex.* 1.203-4; see n.113, 2.345; Bevan, *House of Ptolemy*, 233-4. "The king would not give him a hearing, but was absorbed with women and Dionysiac routs and revels." Plut. *Cleom.* 34.

biography Arsinoë even reveals potential motivations for subversive elements in his works. Blending παρρησία with flattery and self-promotion, Eratosthenes seems to have used the tools of sympotic court culture to undermine aspects of Ptolemaic ideology.

Part 5) Eratosthenes' *Geographica*: Cultural Digressions in Descriptive Geography

a. Descriptive Geography in Antiquity: Wandering Away from the Imperial Project

It is within such a court culture that Eratosthenes received patronage for his *Geographica*. This hybrid work of mathematical and descriptive geography may have used a range of approaches to distance the reader from Ptolemaic ideological concerns. Ideologically unorthodox elements within his descriptive geography may potentially be expressions of παρρησία, using techniques specific to that genre to question, challenge, or subvert Ptolemaic ideology.¹ Geographical descriptions of distant lands, far from creating a sense of control, can highlight imperial limitations, as seen in ancient and modern geographical works.² Bagnold's geographical descriptions of Libya in the 1940s frustrated the imperialist gaze, depicting a landscape haunted by natural forces. In his descriptions, dunes methodically overwhelm human agency in "a grotesque imitation of life", subverting claims upon the landscape.³

From its origins in the periegetic and hodological traditions of travellers' records, digressions form an essential element of descriptive geography, the reader descending from an elevated perspective of control, to one embedded within the landscape.⁴ For Pausanias, digressions were a means of "religious gazing".⁵ Whitmarsh suggests Pausanias' digressions distance us from "rationalist

¹ Clarke, *Between Geography and History*, 22; Sibley, *Geographies of Exclusion*, 184-5; N. Thrift, & S. Whatmore, "Introduction", N. Thrift, & S. Whatmore (eds.), *Cultural Geography: Critical Concepts in the Social Sciences* (London & New York, 2004), 6-8, 14; Ryan's study of British imperial geographical projects in which subversive readings may be possible: J. Ryan, "Visualizing Imperial Geography: Halford Mackinder and the Colonial Office Visual Instruction Committee, 1902-11", *Ecumene*, vol. 1, no. 2 (1994), 159; cf. Jamie Belich notes that nineteenth century maps exaggerated colonial space through the pink shading of uncolonised areas: J. Belich, *The New Zealand Wars and the Victorian Interpretation of Racial Conflict* (Auckland, 1986), 29, 355, 449-450, 464-470.

² Early nineteenth century romantic accounts of the Americas positioned the coloniser as diminished and disoriented when confronted with the enormity of the sublime: A. von Humboldt, *Personal Narrative of a Journey to the Equinoctial Regions of the New Continent*, trans. J. Wilson (London, 1818, 1995), 83.

³ R.A. Bagnold, *The Physics of Blown Sand and Desert Dunes* (London, 1941), xxi.; the landscape "threatened to overwhelm" the surveyor: Gregory, "(Post)Colonialism and the Production of Nature", 102-3.

⁴ Dueck, *Geography in Classical Antiquity*, 26-41.

⁵ "these are places inhabited and distinct rather than absorbed into a streamlined narrative" A. Erskine, "Approaching the Hellenistic World", A. Erskine (ed), *A Companion to the Hellenistic World* (Malden, Oxford, Melbourne, 2003) 8; religious gaze: "a mythical and divine landscape of past glory through a focus on material objects", J. Kindt, *Rethinking Greek Religion*, 39-40; "mystic viewing": J. Elsner, *Art and the Roman viewer: the transformation of art from the Pagan world to Christianity* (Cambridge, 1995), 88-124.

strictures”, emphasising what Elsner calls the “myth-historical essence” of the terrain.⁶ In Pausanias’ Marathon digression, we are invited into the spiritual realm, hills haunted with spectres. However, we are assured, “the spirits are not wroth with such as in ignorance chance to be spectators”.⁷ Heracles is presented to us through glimpses, a man of “rustic appearance” seen felling Persians.⁸ After a deeper digression further tying Heracles to the landscape, we are guided to the marsh where the Persians, in their panic, were annihilated. Fittingly, Pausanias carefully guides us to the Hill and Cave of Pan, positioning us to view the Athenian victory through a religious lens.⁹ In Delphi, a journey that guides us through the material votive offerings is introduced with myth, and interrupted with additional mythical digressions.¹⁰ The offerings evoke a shift in temporal awareness; prizes for the Pythian games take us back to the first champion, and Orpheus’ triumphs, and Hesiod’s dismissal, in a single passage.¹¹ For Pausanias, myth and history are woven into a single geographical and temporal fabric, “a deliberate contrast” to the Herodotean tradition.¹² These digressions turn a periegesis into a “pilgrimage”, removing us from any sense that territory can be controlled by human agency. Instead we are left with the firm understanding that “history is influenced by fate and the gods.”¹³

Strabo’s digressions in his *Geography* move the readers away from his opening claim to produce a work of “utility” for “statesmen and commanders”.¹⁴ Clarke’s analysis explores the powerful effect of digressions and relative positioning in diverting the reader from these explicit aims.¹⁵ Spatially, Strabo incorporates periegetic techniques and foreshadowing. The reader is embedded in the text on ships as we sail past islands, and on roads, with mountains looming on one side and the sea gleaming on the other.¹⁶ What Janni characterises as the “non-specialist” view of the periegetic tradition has a

⁶ T. Whitmarsh, “Prose Fiction”, 403; J. Elsner, “Structuring ‘Greece’: Pausanias’s Periegesis as a Literary Construct”, S. Alcock, J.F. Cherry, J. Elsner (eds.), *Pausanias: Travel and Memory in Roman Greece* (New York, 2001), 6.

⁷ “At Marathon every night you can hear horses neighing and men fighting. No one who has expressly set himself to behold this vision has ever got any good from it, but the spirits are not wroth with such as in ignorance chance to be spectators”, Paus. 1.32.4.

⁸ Paus. 1.32.5.

⁹ Paus. 1.32.7.

¹⁰ Topography: Paus. 10.1.1-3; Delphi mythic origin: 10.5.5-10.7.1; Mythical Pythian Games origins: 10.7.4-8; Delphi offerings: 10.9.2-10.11.6, 10.3.1-10.16.8; mythical Sibyl digression *in medio*: 10.12.1-10.12.11; Oracles: 10.1.3-10; Omen fulfilled: 10.2.6.

¹¹ Paus. 10.7.2, 3.

¹² J. Elsner, “Structuring ‘Greece’”, 8-12.

¹³ For pilgrimage, see: Pretzler, *Pausanias: Travel Writing*, 19-20, 42-3; I. Rutherford, “Tourism and the Sacred: Pausanias and the Tradition of Greek Pilgrimage”, S.E. Alcock, J.F. Cherry, J. Elsner (eds.), *Pausanias: Travel and Memory in Ancient Greece* (Oxford, 2001), 40-52, esp. re. periegesis: 45-7.

¹⁴ Strabo 1.1.1; Roseman argues that Strabo’s notion of “utility” is hostile to excessive Peripatetic causation, positioning him in opposition to Poseidonius, and, it may be added, Eratosthenes’ more temporally expansive digressions. C.H. Roseman, “Reflections of philosophy: Strabo and geographical sources”, D. Dueck, H. Lindsay, S. Potheary, (eds.), *Strabo’s Cultural Geography: The Making of a Kolossourgia* (Cambridge, 2005), 28-30.

¹⁵ Clarke argues that Strabo’s geography was valued as a literary text, not a universal map for commanding officers, as asserted in its introduction: Strabo 1.1.16, 19; Clarke, *Between Geography and History*, 202-3.

¹⁶ Periegetic emplotment in sea voyage: “On the voyage from Nisaea to Attica one comes to five small islands. Then to Salamis...”, Strabo 9.1.9; “The voyage, if one begins at the country of the Chaones and sails towards the

deceptively powerful effect on the reader, each digression inviting us to adopt different spatial and temporal lenses.¹⁷ Clarke examines how we are asked as readers to change temporal lenses as we enter different places, each with “a unique historical rhythm”.¹⁸ When the reader visits the Amazons, the warrior-women’s “peculiarity” is expressed in the blurring of past and present, myth and history.¹⁹ India is presented with its own unique sense of time, legends of the past and more concrete historical events bleed into the present.²⁰ In a text that explores thematic concerns of flux, India is remarkable for its timelessness. Universal chronology is rejected by Strabo, who instead encourages the reader to view each land with a different, local perspective, geographical distance used as a literary device.²¹ This diverts us from any sense of a unified, privileged focalisation. In fact, the reconstruction in the reader’s imagination can only be a heterogeneous patchwork, the myriad lenses creating a diverse world of different places, and times.²²

rising sun and towards the Ambracian and Corinthian Gulfs, keeping the Ausonian Sea on the right and Epeirus on the left...” Strabo 7.7.5. Hodological emplotment: “...the Egnatian Road runs, which begins at Epidamnus and Apollonia. Near the Road to Candavia are not only the lakes which are in the neighbourhood of Lychnidus, on the shores of which are salt-fish establishments ...”, Strabo 7.7.5; Clarke, *Between Geography and History*, 23-4, 202-5. For Dueck’s distinction of descriptive and mathematical geography, see: D. Dueck, *Geography in Classical Antiquity* (Cambridge, 2012), 3-7, 29-37, 40, 44. K. Clarke, “In Search of the Author of Strabo’s Geography”, *Journal of Roman Studies*, vol. 87 (1997), 97-98.

¹⁷ For Janni’s theory of a hodological and Peripatetic conception of the world in antiquity, in sharp distinction to a specialised birds-eye view, see chapter two of: P. Janni, *La mappa e il periplo: Cartografia antica e spazio odologico* (Rome, 1984); supported by: Dueck, *Geography in Classical Antiquity*, 26-41; M. Pretzler, “Comparing Strabo with Pausanias: Greece in context vs. Greece in depth”, D. Dueck, H. Lindsay, S. Pothecary, (eds.), *Strabo’s Cultural Geography: The Making of a Kolossourgia* (Cambridge, 2005), 159; Z.M. Tan, “Subversive Geography in Tacitus’ ‘Germania’”, *Journal of Roman Studies*, vol. 104 (2014), 192-3; G. Irby, “Mapping the World: Greek Initiatives from Homer to Eratosthenes”, R. Talbert, (ed.), *Ancient Perspectives: Maps and Their Place in Mesopotamia, Egypt, Greece and Rome* (Chicago & London, 2012), 90-1; For the Peutinger Map as an example, see: R.J.A. Talbert, “*Urbs Roma to Urbis Romanus*: Roman Mapping on the Grand Scale”, R.J.A. Talbert, (ed.), *Ancient Perspectives: Maps and their Place in Mesopotamia, Egypt, Greece and Rome* (Chicago, 2012), 183-4; M. Thiering, “implicit Knowledge structures”, R.J.A. Talbert, (ed.), *Ancient Perspectives: Maps and their Place in Mesopotamia, Egypt, Greece and Rome* (Chicago, 2012), 271-2. This sharp dichotomy is convincingly challenged by Poiss, citing Homeric examples: T. Poiss, “Looking for the Bird’s Eye View in Ancient Greek Sources”, K. Geus & M. Thiering (eds.), *Features of Common sense Geography: Implicit knowledge structures in ancient geographical texts* (Zurich & Berlin, 2014) 79, see also 71-7, 83-5. Hom. *Il.* 8.555-565, 13.1-20. See also: Ap Rhod. *Argon.* 2.541-8, 3.158-66.

¹⁸ Clarke, *Between Geography and History*, 305.

¹⁹ Amazons: Strabo 11.5.3; Clarke, *Between Geography and History*, 250.

²⁰ Clarke argues that Strabo’s broad overview create a sense of timelessness: Strabo 15.1.1-10. Clarke, *Between Geography and History*, 305. Cf. Z. Safrai’s assertion that Strabo’s anachronism is a product of “hazy” and “tenuous” data: Z. Safrai, “Temporal layers within Strabo’s description of Coele Syria, Phoenicia and Judaea”, D. Dueck, H. Lindsay, S. Pothecary (eds.), *Strabo’s Cultural Geography: The Making of a Kolossourgia* (Cambridge, 2005), 252, 255, 256-8.

²¹ Clarke, *Between Geography and History*, 304-305. For distance and its effect on the reader, see: K. Geus & K. Guckelsberger, “Measurement Data in Strabo’s Geography”, D. Dueck (ed.), *The Routledge Companion to Strabo* (Abingdon & New York, 2017), 166-7, 169, 173.

²² Clarke, *Between Geography and History*, 304-305; D. Dueck, *Strabo of Amasia*, 40-43. Strabo’s geography written “for the needs of the state”: Strabo 2.5.13. For authorial intent, see also: Strabo 2.5.5-6, 2.5.14. Clarke notes that “If Strabo set out to write this kind of geographical manual, then he failed.”: Clarke, *Between Geography and History*, 202.

b. The Cultivated Barbarian: Cultural Digressions in *the Geographica*

i. Fragment 95: The Arabian Digression

Book Three of Eratosthenes' *Geographica* reveals an ideologically complex landscape which uses digressions to distance the reader from an imperialist reading.²³ Having gazed from an elevated view at the torrid and arctic zones, and the chlamys-cloak shaped οικόουμένη in Book Two, we now descend into each seal, establishing its geographical and ethnographical features. Eratosthenes' digression of Arabia is the most extensive and unbroken of the surviving fragments, providing a good opportunity to establish Eratosthenes' voice and ideological concerns from within Strabo's text.²⁴

Eratosthenes' Arabian digression draws the reader into a space both difficult to access and tantalisingly near. The geographer groups Arabia with Egypt in the fourth seal, yet split by the Erythraean Sea. Rather than emphasising Alexandrine and Ptolemaic centrality and supremacy, Eratosthenes' digression draws our focus away from Egypt, riding over rocky Arabia and south into the land of plenty. The digression follows Strabo's own brief, and moderately ambivalent, introduction of Arabia, which "has foul air, is misty, and is subject both to rains and to scorching heat".²⁵ Strabo emphasises the hostile landscape, the vines being pushed away by shifting marshes.²⁶ Arrian also depicts it as a place resistant to conquest.²⁷ The tonal shift as Strabo introduces Eratosthenes' account is apparent, the Cyrenian geographer using dramatic narratology to take us on a journey from hostile northern lands into a land of fecundity and tranquillity.

Eratosthenes' narration uses contrast to powerful effect. Periegetic emplotment is adopted as we are led into the Arabian landscape across the desert terrain. Having followed clearer tracks from "the City of Heroes" to the Nabateans, we then venture across twelve thousand stadia of "barren" sands.²⁸ Only "tent-dwellers and camel-herds" live here.²⁹ To remind us of the heat, Eratosthenes speaks of water being accessed "by digging, as is the case in Gedrosia", an allusion to the death-march of Alexander's

²³ Imperial geography's process of "systemization", moving from an ostensibly "chaotic original" to the creation of a controlled imperial space: M.L. Pratt, *Imperial Eyes*, 34, 51-53, Imperial nomenclature: 32-33, 54; Mapping as a means of imperial control, 67-68; 72, 200-202; Levi-Strauss, *Tristes Tropiques*, 132-3.

²⁴ Re. Eratosth. F95 (= Strabo 16.4.2-4): despite Strabo's usual adoption of the third person, the fragment is unusual in its clear definitions, opening at 16.2 of Strabo's Geography, the use of φησι unambiguously tied to Eratosthenes, and the concluding punctuation "τὰ μὲν δὴ τοῦ Ἐρατοσθένους περὶ τῆς Ἀραβίας τοιαῦτα" some seventy-five lines later. Strabo's does make one interpolation at 6.2.4 with "ἔστι δ' ἡ Αἰλᾶνα πόλις ἐν θατέρῳ μυχῷ τοῦ Ἀραβίου κόλπου, τῷ κατὰ Γάζαν τῷ Αἰλανίτῃ καλουμένῳ, καθάπερ εἰρήκαμεν". Here Strabo makes reference to his prior analysis of Gaza at 16.2.30. This does not substantially alter the meaning of the overall passage.

²⁵ Strabo 16.4.1; cf. Diod. Sic. 2.54.1-4.

²⁶ Strabo 16.4.1.

²⁷ Except for "the indefatigable energy of Alexander", Arr. *Ind.* 43.9-13.

²⁸ Eratosth. F95 (= Strabo 16.4.2).

²⁹ Eratosth. F95 (= Strabo 16.4.2); Diod. Sic. 2.54; Shipley, *The Greek World*, 278-9.

army.³⁰ Finally, we enter Arabia Eudaimon, a flourishing land. Its terrain is “watered by summer rains and are sowed twice, like India”.³¹ Eratosthenes echoes Cleitarchus’ celebration of India, emphasising the richness of the soil and the blessed climate.³² Evoking a tradition of Arabia Eudaimon as a land of opulence, Eratosthenes provides examples which engage the senses: we almost salivate in this land “rich in honey”, with an “abundance of domesticated animals” ripe for banquet.³³ The land is bountiful with exotic spices.³⁴ We are lured into the landscape.

Eratosthenes uses a periegetic approach to mark out the territories of four kingdoms: the Minaeans of Carna, by the Erythraean Sea; then the Sabaeans, with their metropolis of Mariaba; the Cattabanians who straddle the straits, almost touching the Ptolemaic empire from Tamina; and, furthest east, the Chatramotitae at Sabata. The nearby Cattabanians rule from their “royal seat”, the language of kingship used, highlighting alternative authorities independent of the Ptolemies.³⁵ The autonomy of these kingdoms near to home emphasise Ptolemaic imperial limitations, in contrast to imperial representations.³⁶ The Ptolemaic claims to the Arabian side of the Erythraean Sea are distant history for Eratosthenes, with only pharaoh Sesostrius having “crossed into Arabia, and thence invaded the whole of Asia”.³⁷ We pause to view the “pillar of Sesostrius the Aegyptian, which tells in hieroglyphics of his passage across the gulf”, the temporal distance from successful imperial conquest highlighted by the aged relic.³⁸ Like Pausanias, we are encouraged to use monuments to gaze into the past. However, for Eratosthenes, this deep temporal gaze is used to contrast, emphasising the imperial limitations of the present. This contrast sits uneasily beside the contemporaneous propaganda exemplified in Ptolemy IV’s triumphal Raphia decree. In this stela, the Pharaoh is supported by Ammon in dominating the far-reaching lands of Asia.³⁹ Eratosthenes’ highlighting of the autonomy of Arabia would seem to

³⁰ Eratosth. F95 (= Strabo 16.4.2); cf. “they have dug wells at convenient intervals and have kept the knowledge of them hidden from the peoples of all other nations, and so they retreat in a body into this region out of danger”. Diod. Sic. 2.48.

³¹ Eratosth. F95 (= Strabo 16.4.2). Cf. “This is the reason, they say, why a famine has never visited India” Diod. Sic. 2.36.4.

³² Eratosth. F95 (= Strabo 16.4.2). Cf. parallels with Cleitarchus’ Arabian isle: “Kleitarchos says that King Alexander was informed of an island that was so rich that the inhabitants gave a talent of gold for a horse, and of another upon which a sacred mountain shaded with a grove was found, the trees of which emitted smells of wondrous sweetness.” Kleitarchos *BNJ* 137 F29 (= Plin. *HN* 6.198); Continuing significance of Arabia Eudaimon, see: Plin *HN* 5.12; *Peripl. M. Rubr.* 1, 6-7, 16-17, 20-29, esp. 26; for its connections with the east, see: 36, 49, esp. 57; for India as a civilised country of good governance, see: Eratosth. F155 (= Strabo 1.4.9).

³³ Eratosth. F95 (= Strabo 16.4.2); cf. “...because both of the multitude of fruits which grow therein and of its other good things, it has been called Arabia Felix”, Diod. Sic. 2.48.

³⁴ Cf. Diod. Sic. 2.49; Theophr. *Hist. Pl.* 9.4.2-3.

³⁵ “τὸ δὲ βασιλείον αὐτῶν Τάμνα καλεῖται” Eratosth. F95 (= Strabo 16.4.2).

³⁶ Based on Diodorus’ account, Roller suggests Arison’s voyage claimed the Erythraean Sea for the Ptolemies, Roller, *Ancient Geography*, 112-13; Diod. Sic. 3.42.1.

³⁷ Eratosth. F95 (= Strabo 16.4.4); cf. *Pithom Stele*’s imperial claims to Arabia: *Pithom Stele* line 11; R. Gmirkin, *Berosus and Genesis, Manetho and Exodus: Hellenistic Histories and the date of the Pentateuch*, (New York, 2006), 162.

³⁸ Eratosth. F95 (= Strabo 16.4.4); Cf. Hdt. 2.102-11.

³⁹ Ptolemy IV’s Raphia decree depicts an imperial and triumphant “living image of Amun”, venturing into Asia. He was led by all the gods of Egypt, where he plunders cities before returning to honour temples with gifts: R. S.

challenge such far-reaching claims.⁴⁰ It potentially acts as an unflattering juxtaposition of ancient glories with the less credible imperial pretensions of Ptolemy IV.

As if to amplify these limitations, our gaze is drawn over the Erythraean Sea in the direction of Berenice and Ptolemais Theron, on the other side of the narrow strait. Although we are tantalisingly close to Egyptian ports, this is a land that Egyptian merchant vessels struggle to reach. We follow hapless Egyptian merchants making their way through “narrow passages”.⁴¹ Despite the initially reassuring use of emplotment by Eratosthenes, the geography conspires against us: “six islands... follow[ing] one another in close succession, fill up the channel”.⁴² If these are successfully navigated, the merchants are greeted with the “sinuosities of the bays”, the landscape apparently unchartable.⁴³ In contrast with Theophrastus’ account of a coast brimming with unguarded frankincense and myrrh, Eratosthenes presents a hopeless coast for the Egyptian seafarer.⁴⁴ Sharing the view of Egyptian merchants, we are frustrated, a coast without ports for another 5,000 stadia, and “no one has arrived beyond that country”.⁴⁵ Unlike Diodorus’ Siculus’ depictions of an Erythraean Sea evidently controlled by the Ptolemies, Eratosthenes’ sea-voyage is one of inhibited Egyptian movement, reminiscent of the reader’s journey through unchartable swamps and forests in Tacitus’ *Germania*.⁴⁶ The Cyrenian geographer has turned periegesis on its head, presenting a land which is near, yet inaccessible.

Eratosthenes soon brings us into the Arabian cities, where “implicit juxtaposition” is utilised to elevate the Arabian urban landscape, favourably compared to the Ptolemaic kingdom.⁴⁷ Our gaze is immersed at street level, where we marvel at the similarities to the civilised cities of Egypt, “in respect to the manner in which the [buildings’] timbers are joined together”.⁴⁸ All the cities are “ruled by monarchs and are prosperous, being beautifully adorned with both temples and royal palaces”.⁴⁹ The notion that Alexandria is the cultural and geographic centre are implicitly challenged. Egypt’s south-eastern neighbours are living in wealth and peace and autonomy, trading readily with India, instead of coming

Simpson, *Ptolemaic sacerdotal decrees*, (Oxford, 1996), 242-257 (= CM 31088, Cairo, Egyptian Museum CG 31088; Demotic / Greek / Hieroglyphic; stone (basalt), stele, L01 - Memphis, Mit Rahina, Kom el-Qala’a; BC03).

⁴⁰ “Adulis Inscription of Ptolemaios III”, trans. S. Burstein, *The Hellenistic Age from the Battle of Ipsos to the Death of Kleopatra VII* (Cambridge, 1985), no. 99, lines 7-20 at 125-6.

⁴¹ Eratosth. F95 (= Strabo 16.4.4); Roller, *Eratosthenes’ Geography*, 195-7.

⁴² Eratosth. F95 (= Strabo 16.4.4).

⁴³ Eratosth. F95 (= Strabo 16.4.4); Cf. Theophr. *Hist. Pl.* 9.4.4.

⁴⁴ “these sailors greedily took, they said, and put on board their ships some of the frankincense and myrrh, since there was no one about, and sailed away.” Theophr. *Hist. Pl.* 9.4.5-6.

⁴⁵ Eratosth. F95 (= Strabo 16.4.4).

⁴⁶ Compare with Ptolemy III’s “thorough investigation” of the region: Diod. Sic. 3.18.3-4. Cf. Strabo’s sea voyage: 9.1.9; Clarke, *Between Geography and History*, 23-4, 202-5. Tan shows how Tacitus’ Germany resists orientation and movement: Tac. *Ger.* 2.2, 5.1-3, difficulties with reaching/locating groves: 7.3, 9.2, 10.2, 39.1; Tan, “Subversive Geography”, 188-91.

⁴⁷ U. Wolf-Knuts, “Contrasts as a Narrative Technique in Emigrant Accounts”, *Folklore*, vol. 114, no. 1 (2003), 96-7.

⁴⁸ Eratosth. F95 (= Strabo 16.4.3); cf. Diod. Sic. 2.49.5.

⁴⁹ Eratosth. F95 (= Strabo 16.4.3).

to military blows with the Seleucids.⁵⁰ Forced into a juxtaposition through the sharing of the fourth seal, the similarities and differences between Egypt and its near-neighbour function as potent geographical παρρησία.

The digression builds to a more personal challenge, the next juxtaposition highlighting the inadequacies of Ptolemaic succession. The reader is encouraged to ask how these “prosperous” cities replete with “beautifully adorned” palaces are governed.⁵¹ The answer provides an alternative to hereditary succession:

“...no son of a king succeeds to the throne of his father, but the son of some notable man who is born first after the appointment of the king; for at the same time that someone is appointed to the throne, they register the pregnant wives of their notable men and place guards over them; and by law the wife’s son who is born first is adopted and reared in a royal manner as future successor to the throne.”⁵²

The language here detracts from the importance of hereditary succession, with generalised language adopted. “Someone is appointed”, suggesting the insignificance of divine lineage. Instead, παιδεία is emphasised: an élite’s son is “reared in a royal manner”, reinforcing the themes of the *Letter to King Ptolemy*. Any sense that kingship is reserved for the divine descendants of Dionysus and Heracles is challenged by the flourishing land over the Erythraean Sea. This juxtaposition reveals some concerns of Eratosthenes, possibly informed by the Aristotelean tradition, which challenges Ptolemaic dynastic ideology.⁵³ For Aristotle, absolute kingship is contrary to nature and law.⁵⁴ The *Politics* likens absolute monarchy to a “wild animal” and hereditary succession is described as, with few exceptions, “disastrous”.⁵⁵ Similar sentiments were maintained by Polybius, an ardent critic of Philopator’s court, warning of princes who “gave way to their appetites”.⁵⁶ If, like Bevan and Hölbl, we take Polybius’s account of Ptolemy IV’s court as representative of élite attitudes, then the court at Alexandria,

⁵⁰ Strabo echoes these themes in a less flattering depiction: “the Arabians are not very good warriors even on land, rather being hucksters and merchants, to say nothing of fighting at sea” (Strabo 16.4.23); Cf. Diodorus’ Arabs being “difficult to overcome in war”, Diod. Sic. 2.48.4. Seleucid conflict: for Raphia as near-disaster, see: S. Burstein, “Elephants for Ptolemy II: Ptolemaic Policy in Nubia in the Third Century BC”, P. McKechnie & P. Guillaume (eds.), *Ptolemy II Philadelphus and his World*, (Leiden & Boston, 2008), 146; for an analysis of Ptolemaic policy during the Syrian wars, see: J.D. Grainger, *The Syrian Wars* (Leiden & Boston, 2010).

⁵¹ Eratosth. F95 (= Strabo 16.4.3).

⁵² Eratosth. F95 (= Strabo 16.4.3).

⁵³ Eratosthenes’ Peripatetic concerns: Pfeiffer, *HCS* 166-7; P. McKechnie, “Our Academic Adviser is missing”, 140; Suda s.v. *Eratosthenes* (=BNJ 241 T1); cf. Fraser, *Ptol. Alex.*, 1.178.

⁵⁴ Arist. *Pol.* 3.1287a.

⁵⁵ Arist. *Pol.* 3. 1287a-b; with the exception of the king with superlative virtue, 1288a, 1283b-13-27; J. Miller, “Aristotle’s Paradox of Monarchy and the Biographical Tradition”, *History of Political Thought*, vol. 19, no. 4, 1998, 501-3.

⁵⁶ Polyb. 7.6.7; Arist. *Pol.* 3.1286b; Walbank summarising the process, “the king’s offspring, who inherit the throne, are corrupted by their privileged position and resort to outrageous behaviour... The kingship has now become a tyranny and this is overthrown and replaced by an aristocracy”, F. W. Walbank, *Polybius, Rome and the Hellenistic World: Reflections and Essays* (Cambridge, 2002), 222.

notorious for intrigue, under the machinations of the “unprincipled” Sosibius, Agathocles, and Agathoclea, compares unfavourably with the élite lottery in Arabia.⁵⁷ The élite of Arabia, in Eratosthenes’ account, are presented as essentially alike in regal capability. It is παιδία, rather than parentage, that determines good kingship and good governance. Juxtaposition is used here as a powerful, and remarkably personal, criticism of the sovereign.⁵⁸

ii. Fragment 155: Barbarians and Greeks

Eratosthenes’ Arabian digression is a potent example of his elevation of the barbarian as a means of emphasising the inadequacies of the Ptolemaic court. Such views conclude powerfully at the end of Book Three, with Eratosthenes’ famous levelling manifesto, “withholding praise from those who divide the whole multitude of mankind into two groups, namely, Greeks and Barbarians”.⁵⁹ Strabo presents this fragment immediately following his criticism of Eratosthenes’ omissions of geo-political and ethnic boundaries, suggesting a link between the polymath’s apparently positive attitude towards certain barbarian societies and his unorthodox geographical decisions.⁶⁰ For Fraser, this is a philosophically rational appeal, but he is undecided as to whether it is informed by Eratosthenes’ Stoic or Platonic concerns.⁶¹ For Roller, such ecumenical views are apolitical, a pragmatic response to the broader Hellenistic knowledge of the world after Alexander.⁶² Tarn’s interest is invested heavily in Alexander’s apparent appeal to ὁμόνοια in the Opis Decree, suggesting that the Cyrenian polymath’s main concern is reinforcing Alexander’s attitudes, in a departure from Aristotle.⁶³ However, having identified areas

⁵⁷ Imperial decline under Ptolemy IV: Polyb. 5.34, 42, 87; 14.12.3-5; Hölbl emphasises the costs of ostensibly tactical victories, such as the Battle of Raphia, which, following Polybius, he blames on Ptolemy IV’s character: Hölbl, *History of the Ptolemaic Empire*, 132; for an active imperial policy, albeit with defensive qualifications, see: W. Huss, *Untersuchungen zur Aussenpolitik Ptolemaios’ IV* (Munich, 1976), 269-70. Equally, Préaux criticises traditional readings overly dependent on Polybius’ conflation of court intrigue and foreign policy: C. Préaux, “Polybe et Ptolémée Philopator”, *Chronique d’Egypte*, vol. 40 (1965), 364-75. For the influence of Sosibius, see: Polyb. 5.34.1, 36.1, 15.25.1-2; for Agathocles, see: Polyb. 15.26-36, “he obtained high promotion owing to Philopator’s feebleness as a king”, 15.34. This view followed by Bevan, *House of Ptolemy*, 220, 222, 224-8, 248-51; and Hölbl: “one of the most intelligent and unprincipled figures”, G. Hölbl, *History of the Ptolemaic Empire*, 127-8 P. Green, *Hellenistic History and Culture*, (Berkeley, Los Angeles, London, 1993), 186-8; Fraser’s more moderate view of Sosibius as capable minister: Fraser, *Ptol. Alex.* 1.371.

⁵⁸ Wolf-Knut demonstration of negative implicit juxtaposition, needing contextual knowledge to measure value: U. Wolf-Knuts, “Contrasts as a Narrative Technique in Emigrant Accounts”, *Folklore*, vol. 114, no. 1 (2003), 95-8, 100-1, 103.

⁵⁹ Eratosth. F155 (= Strabo 1.4.9).

⁶⁰ Roller follows Tarn in attributing the entire fragment to Eratosthenes, rather than Strabo, including the final lines (from ὥστερ δι’ ἄλλο τι to the end), as it is favourable to Alexander: W.W. Tarn, *Alexander the Great*, 2.438.

⁶¹ For disputed interpretations of Eratosthenes’ philosophical leanings, see n.12-14 at page 9.

⁶² Roller, *Eratosthenes’ Geography*, 220-1; A.B. Bosworth, “Alexander and the Iranians.”, *Journal of Hellenic Studies*, vol. 101 (1981), 1.

⁶³ W.W. Tarn, *Alexander the Great*, 2.438-443, 446-8; N.G.L. Hammond, *Sources for Alexander the Great* (Cambridge, 1993), 287-291; D.B. Nagle, “The Cultural Context of Alexander’s Speech at Opis”, *Transactions of the American Philological Association*, vol. 126, (1996), 151-155; Plut. *De Alex. Fort.* 1.329-330; Arr. 7.8-11; cf. Arist. *Pol.* 1.2.1252b, 1.6.1255a; Bosworth, *From Arrian to Alexander*, 101-12.

of Eratosthenes' work that subvert Ptolemaic ideological claims to cultural supremacy, a re-examination of this famous concluding statement may reveal more than apolitical philosophical concerns.

The divisions between Greek and barbarian had always been something of a moveable feast.⁶⁴ Homeric linguistic concerns had shifted to cultural and even ethical divisions by the fifth century, a dichotomy of tyranny and ἐλευθερία.⁶⁵ Aeschylus presented this sharply in *The Persians*. The ἐλευθερία vindicated in the overthrow of Persian tyranny leads to παρρησία, something distinctly Greek.⁶⁶ Eratosthenes' challenge to this clear dichotomy, building on Stoic and Cynic precedents, asserts that "not only are many of the Greeks bad, but many of the Barbarians are refined".⁶⁷ His example appeals to sympotic concerns, recalling Alexander's advisers who encourage the king to treat Greeks as "friends" (ὡς φίλοις) and the barbarians as "enemies" (ὡς πολεμίοις).⁶⁸ Eratosthenes notes approvingly that, in this case, Alexander wisely "disregard[ed] his advisers" and "welcomed as many as he could of the men of fair repute and did them favours".⁶⁹ Here, Eratosthenes leans on his recurring thematic concern, seen in his *Letter to King Ptolemy* and his Arabian digression: a king depends on

⁶⁴ Greek identity: Pl. *Laws* 3.693a; "contradictory" elements, F.W. Walbank, "The Problem of Greek Nationality", *Phoenix*, vol. 5, no. 2 (1951), 47, 58-60. Skinner challenges Jacoby's assumptions regarding a tangible Greek identity: J. E. Skinner, *The Invention of Greek Ethnography: From Homer to Herodotus* (Oxford, 2012), 18., 3-58. Cf. F. Jacoby, "Über die Entwicklung der griechischen Historiographie und den Plan einer neuen Sammlung der griechischen Historikerfragmente." *Klio*, vol. 9 (1909), 80-123. E. Hall, *Inventing the Barbarian: Greek Self-Definition through Tragedy* (Oxford, 1989), 131, 121-30; politics: "barbarian tyranny became a rhetorical topos in the repertoire of the tragic poets" 154, 155-9. For Greekness as a cultural, rather than racial or purely linguistic construction, see J. Hall, "The role of language in Greek ethnicities", *Cambridge Classical Journal: Proceedings of the Cambridge Philological Society*, vol. 41 (1996), 84-5; T. H. Eriksen, *Ethnicity and nationalism: anthropological perspectives* (New York, 1993), 11.

⁶⁵ Greeks opposed to barbarians: Hom. *Od.* 9.259-290, 9.298-306; cf. Thuc 1.3.3-4; I. J. Winter, "Homer's Phoenicians: History, Ethnography, or Literary Trope?", J. P. Carter and S. P. Morris (eds.), *The Ages of Homer: A Tribute to Emily Townsend Vermeule* (Austin 1995), 257; Skinner, *Invention of Greek Ethnography*, 60-2, 66-8, 84-6, 108-9, racial stereotyping as fluid, 117-121. Fifth Century construction: Aesch. *Pers.* 181-94, 369-71; Hall, *Inventing the Barbarian*, 101, 201-10; cf. contra: J.E. Skinner, *The Invention of Greek Ethnography*, 58. See also: 15-19, 231-8. K. Vlassopoulos, *Greeks and Barbarians*, 181-99. ἐλευθερία LSJ: s.v. ἐλευθερία 1; Hdt. 1.62,95.

⁶⁶ After the defeat at Salamis, the chorus optimistically predicts, "nor do men any longer keep their tongue under guard; for the people have been let loose to speak with freedom", Aesch. *Pers.* 591-3; Hall, *Inventing the Barbarian*, 97-8.

⁶⁷ Eratosth. F155 (= Strabo 1.4.9). Cynic precedents: Diog. Laert. 6.61; Stoic precedents: Plut. *De. Alex. fort.* 1.6.349a-d; J.B. Bury, *The Hellenistic Age: Aspects of Hellenistic Civilization* (New York, 1923), 26.

⁶⁸ Eratosth. F155 (= Strabo 1.4.9).

⁶⁹ Eratosth. F155 (= Strabo 1.4.9); for Alexander's Opis declaration, see: Arr. *Anab.* 7.8.1-11. 9, esp. 7.11.3, 9; Curt. 10.2.23; as declaration of universal "brotherhood", see: W.W. Tarn, *Alexander the Great* (Cambridge, 1948), 1.147-8. 2.399-404; Tarn, *Hell. Civ.* 84; Tarn, *Cambridge Ancient History*, 437. Contra: U. Wilken, *Alexander the Great*, trans. G.C. Richards (1967, Toronto), 221-2; L.V. Cummings, *Alexander the Great*, (New York, 1940), 433-4; D.B. Nagle, "The Cultural Context of Alexander's Speech at Opis", *Transactions of the American Philological Association*, vol. 126 (1996), 151, 165-6, 169-70.

good advice from his φίλοι. Unlike Strabo's analysis, it seems that the barbarian is not the antithesis of the civilised. Rather, civilisation is tentative and depending on sound παιδεία.⁷⁰

However, Eratosthenes' declaration is not limited to a consideration of Alexander's counsel, good or ill. Eratosthenes is remarkably vague about the "bad" Greeks, when effective propaganda would, quite naturally, nominate the Antigonids or Seleucids as illustrative examples. Instead, we are left to speculate and the Ptolemies are not explicitly excluded from this category. In contrast, no such speculation is needed for the "refined" barbarians, with clear examples given. They are "Indians and Arians... Romans and Carthaginians, who carry on their governments so admirably".⁷¹ These barbarian peoples are "law-abiding and [have] political instinct, and the qualities associated with education and powers of speech, whereas in other people the opposite characteristics prevail!".⁷² The debauched hereditary monarchy, depicted so unflatteringly in Eratosthenes' *Arsinoë*, is not ruled out as the comparative Greek candidate. A closer analysis of these "refined" barbarians may reveal implicit criticisms in comparative terms.

a) India: Dwarfing Ptolemaic Egypt

Eratosthenes' India is both a cultural and geographical giant. The Cyrenian polymath had access to a number of sources for India. As well as Dionysios, Ptolemy II Philadelphus' envoy to India, Eratosthenes draws more heavily on Megasthenes, which we may recall, Strabo and Pliny considered unreliable.⁷³ Using this data, Eratosthenes' depicts a land of abundance and fecundity, blessed by geography. There are "two summers a year, and two harvests, between which there is a winter of Etesian winds, and at our winter solstice there are soft breezes there, and the ocean is navigable."⁷⁴ Eratosthenes follows Megasthenes in portraying a vast land, some 16,000 stadia from end to end.⁷⁵ He contends that the abundant soil is the result of fluvial formation: the great plain of India, like the Nile

⁷⁰ Strabo's mixed use of "barbarian" as cultural, linguistic and as cultural antithesis: E. Almagor, "Who is a barbarian? The barbarians in the ethnological and cultural taxonomies of Strabo" D. Dueck, H. Lindsay, S. Potheary (eds.), *Strabo's Cultural Geography: The Making of a Kolossourgia* (Cambridge, 2005), 43-5; cf. Barbarian as cultural antithesis: Persians: Strabo 1.1.17, 9.4.16, 15.3.23; Carthaginians: 6.1.2, 6.1.10, 6.3.2, 6.3.3.

⁷¹ "καθάπερ Ἰνδοὺς καὶ Ἀριανούς, ἔτι δὲ Ῥωμαίους καὶ Καρχηδονίους, οὕτω θαυμαστῶς πολιτευομένους" Eratosth. F155 (= Strabo 1.4.9).

⁷² "ὥσπερ δι' ἄλλο τι τῶν οὕτω διελόντων, τοὺς μὲν ἐν ψόγῃ τοὺς δ' ἐν ἐπαίνῳ τιθεμένων, ἢ διότι τοῖς μὲν ἐπικρατεῖ τὸ νόμιμον καὶ τὸ πολιτικόν καὶ τὸ παιδείας καὶ λόγων οἰκεῖον, τοῖς δὲ τάναντία." Eratosth. F155 (= Strabo 1.4.9).

⁷³ Megasthenes and Dionysios as unreliable: "But there is no place for accuracy, since their accounts are contradictory and unbelievable" Megasthenes *BNJ* 715 T8, (= Plin. *HN*. 6.58); Dionysios sent to India by Ptolemy II Philadelphus, *On India*, *BNJ* 717 T1a (= Plin *HN* 6.58); T1b (= Solin. 52.3); D.W. Roller, "Dionysios, On India (717)", Biographical Essay, I. Worthington (ed.), *Brill's New Jacoby* (2016), http://dx.doi.org/10.1163/1873-5363_bnj_a717. Accessed 15th July 2019.

⁷⁴ Megasthenes *BNJ* 715 T8 (= Plin. *HN* 6.58).

⁷⁵ "Eratosthenes and Megasthenes regard the region of India as the greatest part", Eratosth. F71 (= Arr. *Anab.* 5.6.2-3); Eratosth. F72 (= Arr. *Ind.* 3.1-5).

Delta, “deposited by the rivers”, a land of rich soil protruding into the eastern Ocean.⁷⁶ In cultural terms, this is a land governed by law and παιδεία, dominated by élite philosophers. Eratosthenes seems to draw on the traditions of *The Alexander Romance*; in which gymnosophists are defiant to Alexander, “...your occupation is to make war, ours is to study philosophy.”⁷⁷ Such idealised characterisation echoes Ashoka’s missionary propaganda preserved in his edicts.⁷⁸ This is the land where Plato’s ideal materialises: “kings and rulers take to the pursuit of philosophy seriously and adequately, and there is a conjunction of these two things, political power and philosophic intelligence.”⁷⁹ Eratosthenes’ “cultivated” example of India is a promotion of the philosophically educated élite which compares favourably to the debauched religious excess seen in Eratosthenes’ *Arfinoë*. The comparison may be an implicit denigration of Ptolemy IV’s rule.

b) Carthage and Rome

The political system of the Carthaginians had much to recommend it for élites with Peripatetic leanings. In Isocrates’ and Aristotle’s accounts we see Carthage as a place of oligarchic stability. Élite scholars’ depictions of the “humane” Carthaginians tended to be positive.⁸⁰ Rather than monarchical concentration of power, Isocrates describes Carthaginians under mixed government as among “the best governed peoples of the world”.⁸¹ For Aristotle, the superior Carthaginian system is the stable middle path between monarchy and democracy, with their threats of tyranny and mob-rule, respectively.⁸² Significantly, the Carthaginian oligarchy is internally meritocratic, with the wisest and most talented of the élite class ascending to the position of magistrate, something which would certainly appeal to the upwardly mobile Eratosthenes.⁸³ We can potentially identify similar concerns in his elevation of the Roman republic. Famously outlined by Polybius, the Romans had “the best government” with its mixed constitution.⁸⁴ Not unlike the Arabian digression, Eratosthenes is again

⁷⁶ Eratosth. F71 (= Arr. *Anab.* 5.6.2-3).

⁷⁷ Daimachus *BNJ* 716 (= Ath. 14.67.652); Ps-Callisthenes, *Al. Rom.* 3.5.

⁷⁸ “And it (conquest by Dhamma) has been won here, on the borders, even six hundred yojanas away, where the Greek king Antiochos rules, beyond there where the four kings named Ptolemy, Antigonos, Magas and Alexander rule”, *Major Rock Edict no. 13*, trans. Ven. S. Dhammika, *The Edicts of King Ashoka* (Kandy & Berkeley, 1993), <https://www.cs.colostate.edu/~malaiya/ashoka.html>. Accessed 21st August 2019.

⁷⁹ Plat *Resp.* 473c-d: “Unless,” said I, “either philosophers become kings in our states or those whom we now call our kings and rulers take to the pursuit of philosophy seriously and adequately, and there is a conjunction of these two things, political power and philosophic intelligence, while the motley horde of the natures who at present pursue either apart from the other are compulsorily excluded, there can be no cessation of troubles, dear Glaucon, for our states, nor, I fancy, for the human race either.”

⁸⁰ “humane conduct”, Cic. *Rep.* 2.40.

⁸¹ Isoc. 3.24.

⁸² Arist. *Pol.* 2.1272b.

⁸³ Arist. *Pol.* 2.1272b; for Eratosthenes’ mobility see: *BNJ* 241 T1 (= *Suda* s.v. Ἐρατοσθένης).

⁸⁴ Polyb. 6.3: “Now, it is undoubtedly the case that most of those who profess to give us authoritative instruction on this subject distinguish three kinds of constitutions, which they designate kingship, aristocracy, democracy. But in my opinion the question might fairly be put to them, whether they name these as being the only ones, or

emphasising political systems which are flourishing with an élite oligarchy in control. They are between absolute monarchy on the one hand, and the rule of the restive mob on the other, both a recurring concern for the élite of Alexandria under Ptolemy IV.⁸⁵ Nor are the two threats mutually exclusive. As we have seen, Eratosthenes' *Arsinoë* associates excessive royal power, in which the king can replace tradition with "wanton" drinking festivals, with the growing power of the ὄχλος.⁸⁶ In contrast to the elevated civilisations of the barbarians, the divine kings and queens of the Ptolemaic regime, who can tame rivers, create constellations, and "trace back their lineage as far as Heracles" are presented as comparatively unstable.⁸⁷ For Eratosthenes, the concentration of power in the royal family is not seen so much as an asset fit for panegyric, but as a potential liability.

c. Challenging Our Gods: Digressions Contra Ptolemaic Religious Ideology

A significant aspect of Ptolemaic ideological power was predicated on proximity to the divine. Ptolemy III claimed lineage from Heracles and Dionysus through the divine Alexander.⁸⁸ As we have seen, Ptolemy IV was famed for his expansive religious developments, from temple developments for Hathor and Isis, to the expansion of the Dionysian cults, to the apotheosis of Homer. Eratosthenes' digressions challenge these very myths. Instead, we are encouraged to adopt a deep temporal lens, focussing on powerful natural forces as the agents of change in the *Geographica*.⁸⁹ Eratosthenes is certainly not the first élite scholar to present such scepticism; Platonists had long criticised the didactic value of myths.⁹⁰ Peripatetics identified natural efficient, formal, and material causes, creating an

as the best. In either case I think they are wrong. For it is plain that we must regard as the best constitution that which partakes of all these three."; see also 6.10.6-11, 6.11-18, 6.51.1-2, 6.57.5-9; D.W. Baronowski, *Polybius and Roman Imperialism* (London & New York, 2011), 6-9, 138-141.

⁸⁵ BNJ 241 F16 (= Ath. 7. 2.276ac): "ἀνάγκη γὰρ τὴν σύνοδον γίνεσθαι παμμιγοῦς ὄχλου"; for élite attitudes to "the mob" see: Polyb. 6.4.6, 15.21, 38.15; for Polybius' élite concerns with "mob rule", see D.W. Baronowski, *Polybius and Roman Imperialism* (London & New York, 2011) 138-9, 140-1; Hellenistic mob characterised as "irrational" F. W. Walbank, *Polybius, Rome and the Hellenistic World: Reflections and Essays* (Cambridge, 2002), 213 - 216, 221-3, 8-9; see also Ps.-Xen. *Ath. Pol.* 3.10-12; cf. Arist. *Pol.* 6.1317a-1323a. For Alexandrian mob, see also: Strabo 17.12. "[Strabo] He had in mind largely the mob rule and insurrections which form a continuous part of the history of Alexandria", Fraser, *Ptol. Alex.* 1.794.

⁸⁶ Philopator's "wanton" rule: Plut. Cleom. 32-4; Eratosthenes BNJ 241 F16 (= Ath. 7.2 276ac); "followed ease and pleasure", Bevan, *House of Ptolemy*, 220; cf. Pfeiffer, *HCS*, 171.

⁸⁷ Theoc. *Id.* 17.20-27; Conon: Catull. 66.

⁸⁸ Anagnostou-Laoutides emphasises Alexander's claims as a descendant of Heracles as serving both dynastic and personal concerns: E. Anagnostou-Laoutides, *In the Garden of the Gods, Models of Kingship From the Sumerians to the Seleucids* (London & New York, 2017), 162; cf. Edmunds primarily emphasises Alexander's personal association with Heracleian legends through ἀρετή: "without this belief, Alexander's ambition to surpass the deeds of Achilles, Heracles and Dionysus must be fundamentally meaningless", L. Edmunds, "The Religiosity of Alexander the Great," *Greek, Roman and Byzantine Studies*, vol. 12, no.3 (1971), 363-91, esp. 368-9, cf. "pious envy" 370, 374; E. M. Anson, 'Alexander and Siwah', *The Ancient World*, 34 (2003): 124.

⁸⁹ αἰτία LSJ: s.v. αἰτία 1.

⁹⁰ Plato contra Homer: "But the fact is that a man mustn't be respected above truth; so, as I say, I must speak out.", Pl. *Resp.* 10.595c; 10.606e-607b; for ambivalence of poetic myth, see also: Pl. *Resp.* 2.378b-383c; Pl. *Ion* 534b-d, 537a-542b; Pl. *Euthyph.* 5e-6b; Brownson saw Plato's hostility to Homer as rationalist, although, also as a defence of the gods' reputation: C.L. Brownson, "Reasons for Plato's Hostility to the Poets." *Transactions and*

aetiological distance from mythological causation.⁹¹ However, what is notable in Eratosthenes' digressions are his religious targets. Fraser's Eratosthenes dismisses mythological causation "on rational grounds".⁹² However, a close analysis reveals a remarkably precise approach by the geographer. Dionysus' and Heracles' associations with Alexander are dismantled, whilst other traditional Greek gods remain untouched by Eratosthenes' scepticism. Equally, oracular scepticism is reserved for the ideologically significant oracle of Ammon-Zeus at Siwa, which associates the Ptolemies with Pharaonic traditions and the cult of Alexander. This is dismantled with Peripatetic causation, whilst for Delphi, Dodona, and other oracles, the polymath is notably silent. The newly deified Homer finds himself a frequent target of Eratosthenes' ironic marks. Far from a sceptical broadside against mythology, a much more surgical approach is revealed: the particular deities under fire are none other than the darlings of the Ptolemaic court.

i. Dionysus: Κολακεία undermines Alexander

The significance of Dionysus for the Ptolemaic regime is evident throughout the third century, and was perhaps best exemplified, as we have seen, by the imperialist symbolism of the "Return of Dionysus from the Indies" figure in Ptolemy II Philadelphus' pompe.⁹³ The myths of this triumphant Dionysus were ancient but had gained new meaning in the legends of Alexander.⁹⁴ Arrian recalls the Dionysian and Heracleian origin tales associated with Alexander's campaign, acknowledging their potential resistance to rational analysis, cautioning us that "one must not be a precise critic of ancient legends that concern the divine".⁹⁵ The divine component, he argues, makes the incredible credible, providing a causal explanation "when one adds the divine element to the story."⁹⁶ In his accounts, Eratosthenes is the extreme sceptic, from which Arrian carefully distances himself.⁹⁷

Proceedings of the American Philological Association, vol. 28 (1897), 5-13, 27-9, 31-2, 41. cf. Yamagata's revives the argument that Plato was fond of Homer derived primarily from the frequency of its use rather than its treatment. N. Yamagata, "Use of Homeric references in Plato and Xenophon", *Classical Quarterly*, vol. 62, no. 1 (2012), 131-6, 37-8, 44.

⁹¹ αἰτίαι: Arist. *Ph.* 2.3; Arist. *Gen. an.* 1.1. active and passive principles in causation, see: *Ph.* 8.4; Humans and other animals as products of nature: Arist. *Part. an.* 1.1, 4.11; investigation into causes: "we ought not to hesitate or to be abashed, but boldly to enter upon researches": 1.5. Observation: Arist. *Mete.* 2.9. For natural forces shaping landscape, see: wind: 2.2, earth: 2.7-8; sea: 2.1-5; M. Matthen & R. J. Hankinson, "Aristotle's Universe: Its Form and Matter." *Synthese*, vol. 96, no. 3 (1993), 19, 25, 31-3. For αἰτίαι as technique in Aristotle, see: Goldhill, *The Invention of Prose*, 98-104, 115-6.

⁹² Fraser, *Eratosthenes of Cyrene*, 24-26.

⁹³ *BNJ* 627 F1 (= Ath. 5.29.200d).

⁹⁴ Dionysus' conquest of India, see also: Dionysos Scytobrachion, *BNJ* 32 F 13 (= Scholia on Apollonios Rhodios, *Argonautika* 2.904); Aristodemos *BNJ* 383 F 1 (= Scholia (L+) on Apollonios of Rhodes, *Argonautika* 2.904-910a); Eur. *Bacch.* 1; Hom. *Il.* 6.132.

⁹⁵ Arr. *Anab.* 5.1.2.

⁹⁶ Arr. *Anab.* 5.1.2.

⁹⁷ Bosworth, *From Arrian to Alexander*, 67; Cf. Paus. 10. 29. 4-5.

Eratosthenes' scepticism overshadows our two main sources, Arrian and Strabo.⁹⁸ Both were evidently working from the same part of the *Geographica's* third book, a passage which denounces Dionysian and Heracleian myths as fabrications.⁹⁹ Arrian outlines the Dionysian legends which drew Eratosthenes' ire: Mount Nysa, always an uncertain locale, is identified and located in India.¹⁰⁰ The city Nysa was "a foundation of Dionysus", although Arrian is politely curious as to how a Theban or, perhaps, Lydian, deity conquered such a place whilst the territory in between remained unmarked by conquest.¹⁰¹ The miraculous proof of Dionysus' past is found in the canopy, which is "full of ivy and laurel".¹⁰² The enthusiastic Macedonians "raised the Dionysiac cry, and were transported with Bacchic frenzy".¹⁰³ Eratosthenes' attitudes to these miraculous events is one of derision—Strabo notes that the polymath considered such stories "untrustworthy", whilst Arrian positions him as "incredulous"—in contrast to Cleitarchus' and Megasthenes' accounts.¹⁰⁴ Eratosthenes' criticisms were infused with sympotic concerns, targeting the culture of *κολακεία* in which Alexander had surrounded himself. Divine influence, Eratosthenes says, was magnified by those wishing "to please Alexander".¹⁰⁵ An ambitious *κόλαξ* would either distort "some local legend" or even "make it up themselves" to ingratiate themselves with Alexander.¹⁰⁶ Furthermore, we get the sense of the king blinded by "glory", eager to swallow these myths.¹⁰⁷ The criticism for the king is implied, with the contempt towards the "flatterers of Alexander" ("*κολακευόντων Ἀλέξανδρον*") made explicit.¹⁰⁸ The parallels between Alexander and Ptolemy IV would be apparent for an Alexandrine readership. The "New Dionysus", Ptolemy IV, was developing his own links to Dionysus and, it is implied, was possibly vulnerable to the same excesses as Alexander, blinded by courtiers' *κολακεία*.¹⁰⁹

⁹⁸ Bosworth, *From Arrian to Alexander*, 63, 67.

⁹⁹ "The direct source is certainly Eratosthenes", Bosworth, *Alexander and the East*, 143 n. 28, see also 122, n. 111; Bosworth, *HCA* 2.213-19;

¹⁰⁰ Dionysus at My Nysa: Hom. *Il.* 6.129

¹⁰¹ Arr. *Anab.* 5.1.1-2,6; Strabo 15.1.8; Cf. Eur. *Bacch.* 1; Hom. *Il.* 6.132; Arrian's approach as "conventional and taken from conventional sources", Bosworth, *Arrian to Alexander*, 67; Bosworth, *Alexander and the East*, 121-3.

¹⁰² Arr. *Anab.* 5.1.6, 5.2.6; See also: Kleitarchos *BNJ* 137 F17 (Scholia on Apollonius Rhodius, *Argonautika* 2.904). Cf. Eratosth. F21 (= Strabo 15.1.7).

¹⁰³ Arr. *Anab.* 5.2.6-7; Bosworth, *Alexander and the East*, 123; Bosworth, *From Arrian to Alexander*, 70-1.

¹⁰⁴ Eratosth. F21 (= Strabo 15.1.7); F23 (= Arr. *Anab.* 5.3.1-4); According to the Scholia on Apollonius Rhodius, Cleitarchus' *Histories on Alexander* presented the myth of Dionysus Returning from the East in martial terms, as having "defeated the Indians": Kleitarchos *BNJ* 137 F17 (= Scholia on Apollonius Rhodius, *Argonautika* 2.904); Dionysios Scytobrachion *BNJ* 32 F13 (Scholia on Apollonios Rhodios, *Argonautika* 2.904); Megasthenes *BNJ* 715 F4 (= Diod. Sic. 2.35.1); cf. Bosworth, *Alexander and the East*, 122-4; Arrian's contradistinction of Megasthenes & Cleitarchus with Eratosthenes: Bosworth, *From Arrian to Alexander*, 40-5, 72, cf. 70-71.

¹⁰⁵ Eratosth. F23 (= Arr. *Anab.* 5.3.1).

¹⁰⁶ Eratosth. F23 (= Arr. *Anab.* 5.3.1-4); Strabo 15.1.5, 7. Cf. Bosworth emphasises the role of Indian translators: Bosworth, *Alexander and the East*, 124-6; Liotsakis, *Alexander the Great in Arrian's Anabasis*, 44-45.

¹⁰⁷ Eratosth. F23 (= Arr. *Anab.* 5.3.1). For Alexander's conscious cultivation of the myth, see: Bosworth, *Alexander and the East*, 123.

¹⁰⁸ Eratosth F21 (= Strabo 15.1.7-9).

¹⁰⁹ Fraser, *Ptol. Alex.* 1.176, 204; 2.347 n.117.

Arrian's and Strabo's extended treatment seem to be coloured by Eratosthenes' sympotic concerns.¹¹⁰ Despite his overt distancing, Arrian thematically introduces Eratosthenes' attitudes in the preceding passages by presenting an overly credulous Alexander susceptible to *κολακεία*.¹¹¹ The king is "seized with yearning" to discover the places sacred to Dionysus, and "wanted to believe the tale about the wandering Dionysus".¹¹² Whilst Arrian does not "wholly agree" with Eratosthenes' account, the emerging depiction is of a great king fooled by flattery as much as his own excessive ambition.¹¹³ Strabo also emphasises Alexander's "ambition", the king "blinded by good fortune" and overly credulous.¹¹⁴ Strabo agrees with Eratosthenes that the flatters of Alexander are the root of these distortions.¹¹⁵ Like Arrian, Strabo's extended account emphasises *κολακεία* as a violation of the role of the *φίλος*; the king needs the wisdom to welcome uncomfortable truths from friends over enticing flattery.¹¹⁶

ii. Heracles: A Hero Sidelined

Heracles played an essential role in Ptolemaic religious ideology, tying the Ptolemies, via Alexander, to the Argead House, further establishing their own "prestigious pedigree" in the Greek and Macedonian traditions.¹¹⁷ The Adulis Decree speaks to the divine status of Ptolemy III's lineage "in direct terms" as "the descendant on the father's side of Herakles, son of Zeus".¹¹⁸ The tradition of Heracles as "benefactor of all mankind" (*εὐεργέτης ἐγένετο τῶν ἀνθρώπων*) powerfully echoes Ptolemy III Euergetes' own claims to the title.¹¹⁹ Heracles rules the landscape and its peoples, Diodorus describing him as, "one who surpassed all men".¹²⁰ He was closely associated with kingship, imperial conquest, and the taming of the landscape: the hero "brought under cultivation the inhabited world".¹²¹ As an

¹¹⁰ "these doubts were clearly inspired by Eratosthenes", P.A. Brunt, "Appendix XVI Dionysus, Heracles and India", *Anabasis of Alexander, Volume II: Books 5-7. Indica*, 434; Bosworth, *Arrian to Alexander*, 41, 67.

¹¹¹ Eratosth. F23 (= Arr. *Anab.* 5.3.1-4); cf. Arr. *Anab.* 5.1.1-3, 5.2.5.

¹¹² Arr. *Anab.* 5.2.5, 5.2.1.

¹¹³ Eratosth. F23 (= Arr. *Anab.* 5.3.1-4); Bosworth, *From Arrian to Alexander*, 70-1; "the king's greed and his hubristic attitude towards Dionysus." Liotsakis, *Alexander the Great in Arrian's Anabasis*, 75.

¹¹⁴ Strabo 15.1.5.

¹¹⁵ Strabo 15.1.9; Cf. 11.1.4-5.

¹¹⁶ "a wise man will employ frankness toward his friends", Phld. *On Frank Criticism*, F15; Berrey, *Hellenistic Science at Court*, 106-7; D. Konstan, "Introduction", *Philodemus on Frank Criticism*, D. Konstan et. al. (trans. & ed.), (Georgia, 1998), 3-8.

¹¹⁷ Alexander's claims to Heracleian descent: Anagnostou-Laoutides, *In the Garden of the Gods*, 162; Edmunds, "The Religiosity of Alexander the Great", 363-91.

¹¹⁸ "direct terms", Fraser, *Ptol. Alex.* n. 106, 2.344; OGIS 54; Bevan, *House of Ptolemy*, 193; Pharaonic divine representation: G. Hölbl, *Ptolemaic Empire* 160-5; Manning, *The Last of the Pharaohs*, 42, 57, 80-2.

¹¹⁹ Ael. *VH* 5.3; Diod. Sic. 4.8-39.

¹²⁰ Diod. Sic. 4.8.1.

¹²¹ "Zeus, whose mind was fixed upon the birth of Heracles, announced in advance in the presence of all the gods that it was his intention to make the child who should be born that day king over the descendants of Perseus", Diod. Sic. 4.9.4; 4.8.5.

imperial figure, ruling and controlling the οἰκουμένη, Heracles serves a powerful totem for the Ptolemies.

Fittingly, Heracles' reach and strength secure the maritime limits of the οἰκουμένη, where the Ocean meets the sea. The delimiting Pillars of Heracles acquired their name, according to Diodorus, when the hero reached this edge of the οἰκουμένη, and built commemorative pillars. Taking control of the landscape, the hero then "narrow[ed] the passage", so that "he might prevent the great sea-monsters from passing out of the ocean into the inner sea".¹²² Heracles secures this worrying boundary between the mortal world and the "deep-eddy Ocean".¹²³ With Heracleian support, the "normative geography" of the inner sea is controlled and secure.¹²⁴ Such a figure functions as a powerful symbol for an "essentially maritime" empire.¹²⁵ The Ptolemies' gaze was firmly fixed on the Mediterranean, seeking to maintain control of islands, the coast, and shipping routes through the implementation of costly naval bases and the maintenance of a sizeable navy.¹²⁶ Heracles' deed of securing the maritime perimeter could be understood as a miraculous expression of the Ptolemaic thalassocracy's imperial control.¹²⁷

For Eratosthenes, these Pillars are of profound significance. They are the beginning of the main parallel which bisects the οἰκουμένη and the polymath seems eager to emphasise the natural origins for this pivotal feature.¹²⁸ For Eratosthenes, the Pillars are natural topographical features.¹²⁹ In his explanation, we are elevated to a birds-eye view, creating distance between the reader and Heracles. Instead, we are encouraged to look with the broadest of geographical and temporal lenses, to view the landscape as part of a natural process of causation. Eratosthenes argues that it is the Mediterranean Sea, fed by fluvial waters in the faraway Euxine Sea, which carved this breach into the external Ocean aeons ago, the landscape shaped by water in a way that dwarfs the efforts of mortal, or divine, hands.¹³⁰ The elevated lens allows us to move effortlessly away from the Pillars to the

¹²² Diod. Sic. 4.18.5; cf. Eratosth. F106 (= Strabo 3.5.5); F21 (= Strabo 15.1.7); for numerous etymological origin stories for the Pillars: Strabo 3.5.5.

¹²³ Hom. *Il.* 18.7-8; Hes. *Theog.* 20, 134, 365.

¹²⁴ For "normative geography": Stephens, "Battle of books", 231-2; See also: 39-64. P. McKechnie, "Our Academic visitor is missing", 136, 141.

¹²⁵ H. Hauben "Callicrates of Samos", 40-1.

¹²⁶ H. Hauben, "Cyprus and the Ptolemaic navy", *Report of the Department of Antiquities*, vol. 65 (1987), 213-26; cf. A. Erskine, "Polybius and Ptolemaic sea power", 82-3, 92-96. For securing against piracy, see: L. Criscuolo, "Ptolemies and Piracy", K. Buraselis, M. Stefanou, D.J. Thompson (eds.), *The Ptolemies, the Sea and the Nile* (Cambridge, 2013), 160-171, esp. 163-8.

¹²⁷ "Focussed from the very outset on the sea, the empire founded by Ptolemy I Soter was essentially maritime." H. Hauben "Callicrates of Samos", 40. F. Prontera, "Timosthenes and Eratosthenes", 207-212.

¹²⁸ The main parallel: Eratosth F49 (= Strabo 2.1.31), F55 (= Strabo, 2.1.37); F49 (= Strabo 2.1.31); F82 (= Strabo 2.1.31).

¹²⁹ Strabo 3.5.5; Cf. According to Aeslian, Aristotle is less emphatic in his scepticism: "when Hercules purified both land and sea and became indisputably the benefactor of mankind, men honoured him, named the pillars after Hercules". Ael. *VH* 5.3 (=Arist. Fr. 678 R.).

¹³⁰ Eratosthenes follows Xanthus and Strato of Lampascus: "the Pillars was broken through when the sea had been filled by the rivers, and at the time of the outrush of the water the places that had hitherto been covered

Euxine Sea, and back again, in our Peripatetic search for causation. Comparatively, the grand journey of Heracles, the Ptolemaic forebear, is diminished.

To consider Eratosthenes' equally scathing treatment of Heracleian legends in the east, we must return to the same fragment in which the geographer dismissed Dionysian legends. As with Dionysus, the focus is on the *κολακεία* which surrounds Alexander.¹³¹ However, in addition to Eratosthenes' dismissal of specious evidence that Heracles had, in fact, conquered India, Eratosthenes' ire is directed at profound geographical distortions which he believes were propagated to bolster Alexander's glory.¹³² Mount Paropamisus of the Hindu Kush is renamed Mount Caucasus by the Macedonians, "though it has nothing to do with Caucasus".¹³³ Eratosthenes' notes that this was done "to please Alexander", a theme echoed in Arrian and Strabo.¹³⁴ The motivation for relocating this mountain, according to Eratosthenes, is to emphasise Alexander's links to Heracles, who "arriving at this same spot, killed the eagle and released Prometheus from his chains".¹³⁵ The reasoning for the geographical distortion is notably imperial, to suggest that Alexander "actually crossed Mount Caucasus", walking in the footsteps of Heracles.¹³⁶ Eratosthenes, it seems, does not allow for us to dismiss this as cartographic error, concluding with his theme, that this was done "all for the glory of Alexander".¹³⁷ The sympotic concerns are emphasised through repetition: it is *κολακεία* that has confounded and disoriented Alexander. Without a frank geographer, Alexander is losing an understanding of his position, undermining his ability to function as a commander, let alone a king. Eratosthenes has highlighted the dangers of Cleitarchus' imperial geography, ideological concerns compromising its utility. Instead, Eratosthenes' offers the sympotic gift of geographical *παρηρσία* as a *φίλος* of the king.

with shoal-waters were left dry". Eratosth. F15 (= Strabo 1.3.3-4); Re. the Pillars origins, Strabo ultimately supports Eratosthenes' view: Strabo 3.5.5.

¹³¹ Bosworth, *HCA* 2.213-19; Bosworth, *Alexander and the East*, 143. Eratosth. F23 (= Arr. *Anab.* 5.3.1-4); Arr. *Ind.* 5.12; *Anab.* 5.3.4, Strabo 15.1.8.

¹³² Eratosth. F23 (= Arr. *Anab.* 5.3.1); Arr. *Ind.* 5.12; Strabo 15.8-9. The Heracles in the East mythology looms large in Megasthenes, associated with divine legitimacy: *BNJ* 715 F1a (= Jos. 10.227); F1b (= Euseb. *Praep. evang.* 9.14.1), F3b (= Jos. *AJ* 10.227); see esp. F4 Diod. Sic. 2.35.1-42 & Roller's commentary; D.W. Roller, "Megasthenes (715)", I. Worthington (ed.), *Brill's New Jacoby*, 2016, http://dx.doi.org/simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a715. Accessed 11th Sept 2019.

¹³³ Arr. *Ind.* 5.10-11.

¹³⁴ Eratosth. F23 (= Arr. *Anab.* 5.3.1); Strabo 5.1.8-9. For Arrian's autoptic verification of Prometheus cave in Cappadocia, see: A.B. Bosworth, *Arrian to Alexander*, 32.

¹³⁵ Eratosth. F23 (= Arr. *Anab.* 5.3.1).

¹³⁶ Eratosth. F23 (= Arr. *Anab.* 5.3.1); Hes. *Theog.* 525-6.

¹³⁷ Eratosth. F23 (= Arr. *Anab.* 5.3.1); Strabo 11.5.5; for a rationalist reading: Roller, *Eratosthenes' Geography*, 139; Bosworth, *Alexander and the East*, 118; Cleitarchus as Alexander's Historian: Kleitarchos *BNJ* 137 T5 (= Diod. Sic. 2.7.3).

iii. Ammon-Zeus: The Obsolescence of the Oracle

Eratosthenes' selective scepticism is levelled at only one oracle, that of Ammon-Zeus at Siwa. The renowned oracle, usually reached via his homeland of Cyrene, had long held a special role in uniting Greek and non-Greek religious understanding.¹³⁸ It was closely tied to the Ptolemaic Alexander cult, being where Alexander's divinity is affirmed, greeted as "child" by his father, Ammon-Zeus.¹³⁹ This temple and oracle is presented by Eratosthenes as a geographical relic, a victim of shifting coastlines. In a departure from the Herodotean oracular tradition, Eratosthenes' scepticism cuts across a swathe of intersecting ideological concerns, challenging the Alexander cult, his connections to Egypt, Ptolemaic associations with Pharaonic traditions, and the divine engagement with the physical landscape.¹⁴⁰

Mythic origins played an important role in oracular credibility as the source of "true divine knowledge".¹⁴¹ If we consider Delphi, the origin stories bind the divine to the landscape.¹⁴² For Pausanias, Delphi's past informs the present, myth providing a spiritual defence against the assaults of the impious.¹⁴³ The divinity of the oracle transcends time, emphasising continuity and renewal of geography and mythology.¹⁴⁴ Similarly, the oracle at Siwa was adapted by Greeks to fit into Greek understandings of oracles, with mythic foundations established to provide credibility to prophecy. Pindar's fourth *Pythian Ode* speaks of "the foundations of Zeus Ammon" in Libya as prophesied by Medea.¹⁴⁵ For Herodotus, venerable Siwa is a prominent competitor with Delphi for Croesus' patronage, and Arrian notes that it "was said to be infallible".¹⁴⁶ Siwa had history with the Greeks, Vlassopoulos noting that the oracle of Ammon-Zeus was the only non-Greek temple "steadily frequented" by Greeks in the archaic and classical eras.¹⁴⁷

Depicted as emulating Perseus and Heracles, Alexander's heroic journey to Siwa further amplifies Greek religious associations with the oracle.¹⁴⁸ The isolated geography of the oracle takes on heroic

¹³⁸ K. Vlassopoulos, *Greeks and Barbarians* (Cambridge, 2013), 150.

¹³⁹ Plut. *Vit. Alex.* 27.5.

¹⁴⁰ Herodotean usage: "prophecies complement the authoritative voice of the historian as the researcher and narrator of his history", J. Kindt, *Revisiting Delphi*, 23-4.

¹⁴¹ J. Kindt, *Revisiting Delphi*, 1-4, 10.

¹⁴² Strabo 9.3.6; Apollo's conflict with the python: Hom. *Hymn* 3, esp. 3.182-387, 354-6; for purification and founding of Pythian Games, see: Paus. 10.6.5-6; Apollod. 1.4.1; Eur. *IT* 1239-51; Fontenrose identifies five versions of the Apollo foundation myth: J. Fontenrose: *Python: A Study of Delphic Myth and its Origins* (Berkeley, 1959), 13-27, esp. 21-2.

¹⁴³ Under siege: 10.7.1; see also 22.13-23.14.

¹⁴⁴ Oracle under attack by mortals: Paus. 10.7.1; continuity in present: 10.8.6-10.11.6, 13.1-17.1; Delphi resists attack: 10.22.13-23.14.

¹⁴⁵ Pind. *Pyth.* 4; for earlier development of Ammon in Greek religious consciousness, see: Vlassopoulos, *Greeks and Barbarians*, 150-2; I. Malkin, *Myth and territory in the Spartan Mediterranean* (Cambridge, 1994), 143-68.

¹⁴⁶ Hdt. 1.46-8; Arr. *Anab.* 3.3.1.

¹⁴⁷ Vlassopoulos, *Greeks and Barbarians*, 150-3.

¹⁴⁸ Hardship of hero's journey & divine will: Hom. *Od.* 1.44-79; Ap. Rhod. *Argon.* 2.301, 341, 419-26; Perseus is said to have consulted the oracle on the way to confronting Medusa: Arr. *Anab.* 3.3.1; Medusa: Hes. *Theog.* 275-

proportions, Quintus Curtius calling it “hardly endurable”.¹⁴⁹ His narration places us in a “fiery” and “barren” landscape.¹⁵⁰ The lush landscape of the oasis is a mark of the divine hand, “although situated amid desert wastes,” it nonetheless contains “many founts of sweet water, flowing in all directions”.¹⁵¹ Arrian equally remarks upon the geographical improbability of such fertile conditions.¹⁵² Only the touch of the god’s divinity could be the explanation for this geographical anomaly in defiance of natural causation.

As an Egyptian temple, the oracle of Siwa bolsters the traditional Pharaonic claims of the Ptolemies. The indigenous oracular functions were judicial in nature, potentially lending authority to the Ptolemaic regime.¹⁵³ The legends of Alexander’s quest link the Ptolemies more firmly to this indigenous tradition. Ptolemy I’s account of Alexander’s journey elevates traditional Egyptian religious symbolism.¹⁵⁴ Snakes, not birds, act as divine guides, “giving voice”, whilst a pious Alexander urges his army to “trust the divinity” of the royal animals.¹⁵⁵ Furthermore, Alexander is portrayed by Arrian, Quintus Curtius, Plutarch and *the Alexander Romance*, with varying degrees of certainty, as Ammon’s son, and as a religiously legitimate Pharaoh.¹⁵⁶ The cult of Ammon is fundamental to Ptolemaic expressions of imperial reach in indigenous Egyptian terms, as exemplified in the Raphia Decree, the

8; Ovid makes no mention of Perseus’ consultation of Ammon: *Ov. Met.* 4.743-4, 770-804; Heracles consulted the oracle before confronting the giant Antaeus: *Arr. Anab.* 3.3.1-2; E. Anagnostou-Laoutides, *In the Garden of the Gods*, 162.

¹⁴⁹ *Curt.* 4.7.6; 4.7.10-15.

¹⁵⁰ *Curt.* 4.7.6; 4.7.10-15.

¹⁵¹ *Curt.* 4.7.16-17.

¹⁵² *Arr. Anab.* 3.4.1-2; *Curt.* 4.7.16-19.

¹⁵³ Blackman contrasts traditional Egyptian and Hellenic oracles, looking for the attitude of the deity, rather than prophecy in the Herodotean sense: H.W. Parke, *The Oracles of Zeus: Dodona, Olympia, Ammon* (Cambridge MA, 1967) 194-6; for Egyptian oracular function: see the pronouncements of Amut of Pe-Khenty regarding theft, *the British Museum Papyrus*, no. 10335J Hieratic oracular text at: A. M. Blackman, “Oracles in Ancient Egypt”, *Journal of Egyptian Archaeology*, vol. 11, no. 3/4 (Oct., 1925), 249-55, esp. 250-1.

¹⁵⁴ Egyptian identity promoted, also in Satrap Stele: Cairo JdE 22182, trans. Ritner, ed. Simpson, *Literature of Ancient Egypt*, 392-397 at 393. D.J. Thompson, “Ptolemy I in Egypt: Continuity and Change”, P. McKechnie, J.A. Cromwell (eds.), *Ptolemy I and the Transformation of Egypt, 404-282 BCE* (Leiden, Boston, 2018), 7,11; Ockinga argues that the Ptolemy’s claims in the stele are purposefully ambiguous, B.G. Ockinga, “The Satrap Stele of Ptolemy: A reassessment”, P. McKechnie, J.A. Cromwell (eds.), *Ptolemy I and the Transformation of Egypt, 404-282 BCE*, (Leiden, Boston, 2018), 166-98.

¹⁵⁵ *Arr. Anab.* 3.3.5: “Πτολεμαῖος μὲν δὴ ὁ Λάγου λέγει δράκοντας δύο ἰέναι πρὸ τοῦ στρατεύματος φωνὴν ἰέντας, καὶ τούτοις Ἀλέξανδρον κελεῦσαι ἐπεσθαι τοὺς ἡγεμόνας πιστεύσαντας τῷ θεῷ, τοὺς δὲ ἡγήσασθαι τὴν ὁδὸν τὴν ὅτε ἐς τὸ μαντεῖον καὶ ὀπίσω αὖθις”. For Aristobulus’ crows, see 3.3.6. Snakes had strong associations with Pharaonic cult: “the hissing snakes he recorded—the Egyptian royal reptile rather than Aristoboulus’ crows—who led his predecessor Alexander safely through the desert sandstorm to the oracle temple at Siwa”: D.J. Thompson, “Ptolemy I in Egypt”, 15. Cf. *Curt.* 4.7.15; T. Howe, “The Diadochi, Invented Tradition, And Alexander’s Expedition to Siwah”, V. A. Troncoso, E. M. Anson (eds), *After Alexander, The Time of the Diadochi (323-281 BC)*, (Oxford & Oakville, 2013), 63.

¹⁵⁶ *Arr. Anab.* 3.3.2; *Curt.* 4.7.8-9; *Ps.-Callisth. Al. Rom.*: Alexander speaking to his “father” Ammon: 1.31; sired by Nectanebo and Ammon: 1.1-12; Alexander overseeing sacrifices to Apis at Memphis, *Arr. Anab.* 3.1.4; D.J. Thompson, “Ptolemy I in Egypt”, 9, 11.

imperial god sweeping away all who resist the Pharaoh's righteous expeditions.¹⁵⁷ Ammon's oracle serves as geographical link with this tradition, functioning as a physical manifestation of Ptolemaic ties to imperial aspects of the Pharaonic tradition.

In contrast, Eratosthenes' treatment of Siwa is a Peripatetic assault on these religious associations. Eratosthenes distances us from myth by adopting a broad geographic lens and a deep temporal lens. The oracle's distant location, amid a Libyan desert landscape, emphasises its obscurity and smallness as a victim of natural forces.¹⁵⁸ Eratosthenes supports Strato of Lampascus' Peripatetic observations that the desert around Siwa reveals evidence of sea fossils, shipwreck debris, and salt flats, and that the road from Cyrene to Siwa once "had been submerged beneath the sea".¹⁵⁹ Eratosthenes uses Strato's observations to support his own Peripatetic theory of the sea, as an overwhelming power, capable of destroying, or abandoning, coastlines.¹⁶⁰ For Eratosthenes, the seas have undergone great, natural transformations: fed by fluvial inflow, the once closed Hellespont, and then the Pillars of Heracles, broke their banks, leaving great swathes of Libya, Scythia and the Sinai "dry", the Erythraean Sea cut off from the Mediterranean.¹⁶¹ The result is the isolation of Siwa. Rather than a sacred space, the oasis is transformed into something of a geographical and ideological fossil. Eratosthenes attempts to explain the oracles' current fame as an anachronism. Perhaps "...the oracle of Ammon with good reason became so distinguished and so well-known as it is if it was [once] situated on the sea".¹⁶² Eratosthenes' use of the deep temporal lens in this digression, in contrast to Pausanias' digressions, does not emphasise religious continuity. Instead, it encourages us to consider natural forces as geographical agents, distancing us from mythic causation.¹⁶³ He further elucidates the puzzle, "its present position so very far from the sea gives no reasonable explanation of its present distinction and fame".¹⁶⁴ For Eratosthenes, it is not divine potency but accessibility to prospective supplicants that makes an oracle significant and successful. The oracle surrounded by dunes is a geographical and cultural relic, its religious significance diminished, rather than amplified, by its isolation.

Eratosthenes' oracular scepticism is carefully targeted at the most ideologically significant oracle for the Ptolemies. We have no hint that Eratosthenes directed such scepticism at Delphi or Dodona, or

¹⁵⁷ Ptolemy IV's Ammon-led imperial expansion: R. S. Simpson, *Ptolemaic sacerdotal decrees*, (Oxford, 1996), 242-257 (= CM 31088, Cairo, Egyptian Museum CG 31088; Demotic / Greek / Hieroglyphic; stone (basalt), stele, L01 - Memphis, Mit Rahina, Kom el-Qala'a; BC03).

¹⁵⁸ Pind. *Pyth.* 4; Bagnold, *The Physics of Blown Sand*, xxi.

¹⁵⁹ Eratosth. F15 (= Strabo 1.3.4); For analysis of Fragments 15-7, see Roller, *Eratosthenes' Geography*, 129-135.

¹⁶⁰ Eratosth. F15 (= Strabo 1.3.4); Arist. *Mete.* 2.1-2.

¹⁶¹ Arist. *Mete.* 2.1-2; Erythraean Sea cut off from Mediterranean when Pillars breached: Eratosth. F16 (= Strabo 1.3.11-15); Eratosth. F15 (= Strabo 1.3.4).

¹⁶² Eratosth. F15 (= Strabo 1.3.4).

¹⁶³ In striking contrast to Pausanias' religious gaze encouraging the reader to see ancient myth in current artefacts at Delphi: 10.5.5-10.7.1; 10.7.4-8; offerings: 10.9.2- 10.11.6, 10.3.1-10.16.8; Pretzler, *Pausanias: Travel Writing*, 19-20, 59-60, 74, 102-3. Kindt. *Revisiting Delphi*, 133-4.

¹⁶⁴ Eratosth. F15 (= Strabo 1.3.4).

Trophonius for that matter, despite the scholar making other digressions concerning the Greek mainland, as cited by Strabo himself.¹⁶⁵ Strabo's explanation for the origins of Dodona reference Homer, with no mention of Eratosthenes.¹⁶⁶ His discussion of Delphi is also silent on Eratosthenes' views. Strabo considers Delphi's religious origins, but also notes that it is geographically in "the most advantageous position" between important cities.¹⁶⁷ Such a digression would be a potentially ideal place to include a sceptical discussion from Eratosthenes if one existed, even if only to challenge its scepticism. Furthermore, the oracle of Trophonius would appear to be an ideal target for Eratosthenes' irony, as seen in the anecdote of Semus used by Athenaeus for his sympotic works.¹⁶⁸ However, these oracles are distant, both geographically and ideologically, from the court of Alexandria, and clearly did not receive the same critical treatment by Eratosthenes that Siwa did. Far from the universal sceptic portrayed by Fraser, Eratosthenes' careful use of scepticism is targeted at the totems of Ptolemaic ideology, challenging notions of divine support for his royal patron, whilst the wider religious landscape remains notably unscathed.

iv. Homer: Challenging the New Cult

As we have seen in *The Letter to King Ptolemy*, the introduction of a treatise involved the positioning of the work within a scholarly tradition, a process which could express more than purely philosophical or literary concerns.¹⁶⁹ Berrey reveals the potency of a treatise's introduction as a method of challenging prior scholarship and expressing *παρηγορία*.¹⁷⁰ Eratosthenes' *Geographica* achieves the latter through the former, scepticism of Homer challenging the religious ideology of Ptolemy IV's court. The reader is positioned to question the Poet's status as a fountainhead of knowledge, especially in geographic and ethnographic terms.¹⁷¹

Eratosthenes' criticisms of Homer, originally opening his *Geographica*, survive exclusively in Strabo's hostile representations.¹⁷² Strabo's Homer is the man of "vast learning", the "first who studied

¹⁶⁵ Eratosth. F136 (= Strabo 1.2.20); F139 (=Strabo 8.7.2); F140 (=Strabo 8.8.4); for Oracle of Trophonius, see Strabo 9.3.9.

¹⁶⁶ Origins of Dodona: Strabo 7.7.5, 7.10-11; Hom. *Od.* 16.403-5; Hom. *Il.* 16.233; Parke, *The Oracles of Zeus*, 35-9.

¹⁶⁷ For Strabo, Delphi's location was both convenient & religiously significant: Strabo 9.3.2, 7; cf. Plutarch on oracular decline: Plut. *De def. or.* 5, 7-8; Britain's holiness despite inaccessibility: Plut. *De def. or.* 18. D. Dueck, *Strabo of Amasia*, 44.

¹⁶⁸ Ath. 14.614a-b; J. Kindt, *Revisiting Delphi*, 131-2.

¹⁶⁹ Literary introductory positioning as active: Fantuzzi & Hunter, *Tradition and Innovation in Hellenistic Poetry*, 17, 50, 462; cf. Couat's passive "belatedness" in Hellenistic literary introductions: A. Couat, *Alexandrian Poetry under the First Three Ptolemies*, trans J. Loeb (Paris, 1882, New York 1931), 542-7.

¹⁷⁰ Berrey, *Hellenistic Science at Court*, 55-6, 133-9; R. Netz, *Ludic Proof*, 162-3.

¹⁷¹ Eratosthenes' criticism of Homer's geography and causation opposed by Strabo: F2 (= Strabo 1.2.3); F3 (= Strabo 1.2.7); F5 (= Strabo 1.2.15); F6 (= Strabo 1.2.11-14); F10 (= Strabo 1.2.22-4).

¹⁷² D. Dueck, *Strabo of Amasia*, 34-40, esp. 39; Roller, *Eratosthenes' Geography*, 115.

geography".¹⁷³ He is a master in all crafts, "an expert in geography, or generalship, or agriculture, or rhetoric".¹⁷⁴ In contrast, Eratosthenes' representation of Homer initially appears part of a broadside against the didactic qualities of poetry, with poetry characterised as a "fable-prating old wife".¹⁷⁵ This seems surprising criticism from Eratosthenes, whose own poetry included the didactic *Hermes*, and the "flawless" *Erigone*, among others.¹⁷⁶ However, the polymath may not merely be following Plato's hostility to didactic utilisation of poetry, nor the Peripatetics' desire to distinguish the substantial, as well as aesthetic, differences between *ιστορία* and poetry.¹⁷⁷ Rather, Eratosthenes seems to be distinguishing his work as *παιδεία*.¹⁷⁸ His treatise is offered as a gift of knowledge to the king, not merely "for purposes of entertainment", but to challenge the reader.¹⁷⁹ This introduction primes the reader for geographical *παρηγορία*, new discoveries organised and presented in ways which challenge comfortable myths of traditional verse. If the scholarly treatise was indeed, as Berrey asserts, an "entertaining genre", this entertainment was to be achieved not through the wonder of myth but through the presentation of a world illuminated with a Peripatetic lens.¹⁸⁰

Eratosthenes' criticisms of Homer are ostensibly concerning geographical accuracy, highlighting the limits of the Poet's knowledge. Homer speaks "only of places that are nearby and in Greece" with any

¹⁷³ The Stoic, Strabo defines Homer primarily as *ἄνδρες φιλόσοφοι*: Strabo 1.1.1-2. Roller translates as "scholar" rather than "philosopher", D.W. Roller, *Eratosthenes' Geography*, commentary on F1, 111. Strabo "'solves' notorious problems of Homeric geography": L. Kim, "The Portrait of Homer in Strabo's Geography", 363-4, 66-7, 74-5, 77-8; D.M. Schenkeveld, "Strabo on Homer", *Mnemosyne*, vol. 29, no. 1 (1976), 64. For Homer defended in Strabo's introduction: 1.1.11, 1.2.3-6, 7, 9, 11-15, 17, 22-4, 31; 1.3.1-2; 2.1.30; for Homer as authority throughout Strabo's work: 3.2.12; 3.4.4, 13; 6.2.3; 7.3.2, 6-7, 10; 7.7.10-11; 8.3.3, 23; 8.7.2; 10.2.12; 12.2.4; 13.1; 14.2.28; 17.1.5. Cf. Pl. *Resp.* 5.19.

¹⁷⁴ Strabo 1.2.3. How, Strabo wonders, could Odysseus be so wise if the author of his works did not possess knowledge at least equal to the "resourceful" and "flawless" hero? For "Resourceful Odysseus" (*πολύμητις Ὀδυσσεύς*): Hom. *Od.* 5.214, 7.207, 240, 303, 8.152, 165, 412, 463, 9.1, 14.191, 15.380, 16.201, 17.192, 333, 453, 18.14, 51, 124, 365, 19.41, 70, 106, 164, 220, 335, 382, 499, 582, 20.36, 168, 226; "flawless Odysseus" (*Ὀδυσῆος ἀμύμονος*): *Od.* 14.159, 16.100, 19.304, 20.209; "Odysseus of many devices" (*πολυμήχαν' Ὀδυσσεῦ*) *Od.* 5.203. Odysseus as shipwright: *Od.* 5.228-261; navigator *Od.* 5.269-281. Strabo's "great reverence towards homer": Dueck, *Strabo of Amasia*, 31-40.

¹⁷⁵ Eratosth. F2 = Strabo 1.2.3; D. Dueck, *Strabo of Amasia*, 62. Blomquist calls this "a sarcastic remark" by Eratosthenes: Blomquist, "Alexandrian Science: The Case of Eratosthenes", 57. Fraser presents it as sceptical dismissal of obsolete data, Fraser, *Ptol. Alex.* 1.548. Cf. Roller's more moderate view of Eratosthenes as "caught between the two views of Homer", Roller, *Eratosthenes' Geography*, 113.

¹⁷⁶ *Hermes*, in E. Maas, *Commentariorum in Aratum reliquiae*, (Berlin, 1898), 63-64; *Erigone*: Longinus, *De subl.* 33.4-5; see also "Erigone" F22-28b in I.U. Powell, *Collectanea Alexandrina: Reliquiae minores Poetarum Graecorum Aetatis Ptolemaicae 323 – 146 A.C., Epicorum Elgiacorum, Lyricorum, Ethicorum* (London, 1925).

¹⁷⁷ Plato contra poetry serving a didactic function: Pl. *Resp.* 2.378b-383c; Pl. *Ion* 534b-d, 537a-542b; contra Homer: "Homer is the most poetic of poets and the first of tragedians, but we must know the truth... there is from of old a quarrel between philosophy and poetry", Pl. *Resp.* 10.606e-607b; Cf. Aristotelians' elevation of poetry, as it captured the universal, rather than specifics: Arist. *Poet.* 1451b.

¹⁷⁸ Cf. poetry, "Eratosthenes contends that the aim of every poet is to entertain, not to instruct.": Eratosth. F2 (= Strabo 1.2.3).

¹⁷⁹ Eratosth. F2 (= Strabo 1.2.3). For Roller's reading of Eratosthenes' criticism of excessive poetic license: Roller, *Eratosthenes' Geography*, 112-3. Cf. "no one can be useful through his knowledge of medicine or many another science if he attempts to reach the height of perfection with poetic craftsmanship" Phld. 5.1.

¹⁸⁰ Berrey, *Hellenistic Science at Court*, 130-9; Fantuzzi & Hunter, *Tradition and Innovation in Hellenistic Poetry*, 446.

degree of accuracy, whilst more distant marvels “stand convicted of error.”¹⁸¹ Errors can be seen at Alexandria’s very shore; the position of Pharos island is erroneously described by Homer as a full day’s travel from the coast.¹⁸² This verifiable example for the Alexandrine readership should encourage a rejection of Homer as the ultimate geographic authority. However, Eratosthenes’ survey of Homer’s apparent errors reveal more than concerns regarding cartographic accuracy.¹⁸³ Erroneous mythical examples discourage us from religious gazing, the location of the Sirens, Gorgons, and the various locales of Menelaus’ and Odysseus’ wanderings are dismissed as “nonsense”.¹⁸⁴ This scepticism of Homer and his mythic lens is preserved in Eratosthenes’ sympotic one-liner: “You will find the scene of the wanderings of Odysseus when you find the cobbler who sewed up the bag of the winds.”¹⁸⁵ Both are evidently as fanciful as each other.¹⁸⁶ Distancing us from Aeolus’ bag of winds, Eratosthenes creates an aetiological vacuum to be filled with Peripatetic wind theory: winds are natural forces, perhaps as part of the process of condensation that feeds the great river systems.¹⁸⁷ He understands the importance of the winds for navigation as much as geography, using them to account for inconsistencies in sailor’s reports.¹⁸⁸ Sitting beside this analysis, the veneration of Homer becomes the punchline of a sympotic joke.¹⁸⁹

Eratosthenes’ challenge to Homeric geography makes for a politically powerful statement in the court which deified Homer.¹⁹⁰ The temple’s cult statue situated Homer as the centre of geography, encircled by “all the cities which claim Homer as theirs”.¹⁹¹ In Archelaus of Priene’s stela, the *Apotheosis of Homer*, Homer is elevated to a divine state, crowned by Time and the Οἰκουμένη, and venerated by

¹⁸¹ Eratosth. F3 (= Strabo 1.2.7); F8 (= Strabo 7.3.6-7); F10 (= Strabo 1.2.22); Strabo counters that Homer even knew of the Erythraean Sea, the Ethiopians “sundered in twain” (1.2.22).

¹⁸² Eratosth. F10 (= Strabo 1.2.23); Pharos (Hom. *Od.* 4.354-7); “river Aegyptus” (Hom. *Od.* 14.258, 17.427)

¹⁸³ Roller, *Eratosthenes’ Geography*, 114, 118-19.

¹⁸⁴ “Eratosthenes makes many mistakes when he speaks of these wanderings and declares that not only the commentators on Homer but also Homer himself are dealers in nonsense.” Eratosth. F3 (= Strabo 1.2.7). Contra the wanderings of Jason, Menelaus and Odysseus: Eratosth. F13 (= Strabo 1.3.1-2), F17 (= Strabo 1.2.31); Sirens: Eratosth. F6 (= Strabo 1.2.13), cf. Hom. *Od.* 12.39-54; Gorgons F6 (= Strabo 1.2.13), cf. Hom. *Il.* 5.735; location of Gorgon: Hes. *Theog.* 275-9; as “undefined by Homer”, Roller, *Eratosthenes’ Geography*, 117.

¹⁸⁵ Eratosth. F5 (= Strabo 1.2.15); bag of winds: Hom. *Od.* 10.16-25, 46-70.

¹⁸⁶ Eratosth. F5 (= Strabo 1.2.15); Aeolus, the keeper of winds: “He gave me a bag, made of the hide of an ox nine years old, which he skinned, and in it he bound the paths of the blustering winds; the son of Cronus had made him keeper of the winds, both to still and to rouse whatever one he will.” (Hom. *Od.* 10.19-22, 46-81).

¹⁸⁷ Wind theory: Eratosth. F45 (= Strabo 2.3.2); Vitruvius notes that the “impediments” alter the eight winds, (Vitr. *De. arch.* 1.6.9). See also: Eratosth. F11 (= Strabo 1.2.20-1) Roller, *Eratosthenes’ Geography*, 124; winds presented as natural and observable: Arist. *Sit. Vent.* 1-25.

¹⁸⁸ Eratosth. F128 (= Strabo 2.5.24).

¹⁸⁹ On irony in παρρησία: Phld. *On Frank Speech* F26.

¹⁹⁰ Homer’s cult: Fraser, *Ptol. Alex.* 1.311, 611, 2.862; *Supplementum Hellenisticum*, vol. 11, no. 979 at 493; R. Hunter, *The Measure of Homer: The Ancient Reception of the Iliad and the Odyssey* (Cambridge, 2018), 2.

¹⁹¹ Ael. *VH* 13.22; A. Erskine, “Founding Alexandria in the Alexandrian imagination”, S. Ager, R. Faber (eds.), *Belonging and Isolation in the Hellenistic World* (Toronto, 2013), 176.

the Muses.¹⁹² Clearly, the new cult of Homer was making grand claims: Homer is in command of space and time; and the goddesses of the Museum are now venerating the Poet. Presumably, the scholars of the Museum are expected to follow suit. In this ideologically charged climate, Eratosthenes' attacks cannot be reasonably read in isolation as detached scepticism. Eratosthenes' introduction pointedly reveals Homer's ignorance of the οἰκουμένη, in a geographical and temporal sense. His *Geographica* goes further, distancing us from Homeric accounts. The attack on Homer, then, is more reasonably read as the παρρησία permitted to be expressed by only the most intimate of the king's φίλοι, dismantling the claims of the cult of Homer and challenging the beliefs of the new deity's most prominent worshipper, king Ptolemy IV.

Part 6) Eratosthenes' *Geographica*: Natural Digressions in Descriptive Geography

a) Nature as Protagonist: A Deep Temporal Lens

Nature has long been presented in overwhelming terms in Greek literature, humanity dwarfed by the temporal and geographic landscape. Initially assuming divine form in the "Broad-breasted Earth" of Hesiod, we see in Herodotus these overwhelming forces assuming an impersonal form and origin, with the divine hand becoming increasingly distant. Instead, a long-sighted temporal lens is required to explore these processes.¹ Quarries exist in a land which was once sea, and the Delta is the product of recent fluvial forces, only "lately" coming into existence.² These long-term natural causes for land formation are developed in Aristotle's *Meteorology*, in which the coast's level is maintained as the sea "imperceptibly evaporates" in a water cycle which he knows "by experiment".³ Mythological association is pejorative. For Aristotle, Democritus' theory of upward flowing subterranean rivers, for example, is likened to Aesop's stories of Charybdis as a form of derision.⁴ The distance between scholarly debate and mythological explanation is pronounced: it is water's elemental power, rather than the gods, which shapes the οἰκουμένη. Such a Peripatetic tradition equips Eratosthenes with the tools and the authority of tradition to challenge Ptolemaic mythology.

¹⁹² The "The Apotheosis of Homer", on display at the British Museum, vividly illustrates the cult function of Homer in Ptolemaic court, 3rd C. BCE. See: "The Apotheosis of Homer", marble stela, 1819, 0812.1, AN392940001, British Museum, London.

¹ Earth: Hes. *Theog.* 116-19; Continents formed by Ocean's children: Hes. *Theog.* 357-9; see also landscape: Hes. *Op.* 116-18; Zeus, not humanity, as protagonist for the ages of Man: S. A. Nelson, *God and the Land: The Metaphysics of Farming in Hesiod and Vergil* (New York & Oxford, 1998), 68-76.

² Hdt 2.3-4, 2.10, 15; The Delta and Nile valley were of intense interest to Herodotus: "indeed, there are no men, neither in the rest of Egypt, nor in the whole world, who gain from the soil with so little labour they have not the toil of breaking up the land with the plough, nor of hoeing, nor of any other work". Hdt. 2.14.

³ Arist. *Mete.* 2.3.

⁴ According to Aesop, Charybdis had sucked in the sea twice, exposing the mountains, then coast. The final time, she will suck the seas dry: Arist. *Mete.* 2.3

The use of natural forces to subvert imperial concerns has been identified in analysis of modern and ancient geographies. Gregory notes that natural forces can “overwhelm” the surveyor, denying a sense of control.⁵ As we have seen, during the North African Campaign, Bagnold saw the Libyan landscape as the more irrepressible force facing the British Empire. Almost two thousand years before these reflections, Tacitus’ *Germania* presented German territory as fundamentally resistant to Roman imperialism.⁶ Tan’s subversive reading reveals the ways in which Tacitus constructs a labyrinthine environment within an alien landscape.⁷ Without roads and settlements, the traditional tools of the periplus genre unravel. Instead, foreign groves are presented as markers, uncertainly located within the wilderness.⁸ Disoriented in an overwhelming land of forest and swamps, “the reader is left without any means to retrace her steps”.⁹ Such disorientation is usually reserved for paradoxographical texts, such as Lucian’s *True Story*, in which the reader is diminished, a small figure in an overwhelming landscape of wonders.¹⁰ Unlike Lucian’s entertaining depiction of distant lands, Tan shows that in Tacitus’ *Germania*, the foreign markers, disorienting the reader, evoke a certain pessimism, discouraging a sense of imperial agency.¹¹ The German landscape is one of gloom and shadows, unknowable and untameable.

Returning to the court of the Ptolemies, we may recall how Posidippus and Theocritus used the element of water, rivers and the sea, to bolster Ptolemaic imperial ideology, nature itself supplicating before the king. Instead, the digressions of Eratosthenes’ *Geographica* use hydrological and geological investigations to diminish imperial agency, using a similar gaze to Tacitus. We are reminded of our limited agency besides “the action of water, fire, earthquakes, volcanic eruptions, and other similar agencies”.¹² As we navigate Eratosthenes’ seals, these elements result in “irregularities” on the earth’s surface.¹³ The sea is of particular interest as a force of flux, the reader encouraged to view its impact

⁵ Gregory, “(Post)Colonialism and the Production of Nature”, 102-3.

⁶ Z.M. Tan, “Subversive Geography in Tacitus’ *Germania*”, *Journal of Roman Studies*, vol. 104 (2014), 182, 191.

⁷ Labyrinthine landscape: Tac. *Ger.* 7, 12, 14, 18-19, 29; cf. Plutarch and Pausanias more optimistically depict protagonists conquering the labyrinth: Plut. *Thes.* 19.1, cf. 16.1; Paus. 2.31.1; Herodotus too presents a maze as something navigable and potentially understood: Hdt. 2.148; Diod Sic. 1.61; Borgeaud on disorienting labyrinth’s in myth: P. Borgeaud, “The Open Entrance to the Closed Palace of the King: The Greek Labyrinth in Context” *History of Religions*, vol. 14, no. 1 (1974), 1-27. For nature as limiting imperialism: Z. M. Tan, “Subversive Geography”, vol. 104 (2014), 182, 191.

⁸ Groves: Tac. *Ger.* 7.3, 9.2, 10.2, 39.1, 43.3. Swamps: 5.1, 30.1; hodological & periegetic omissions: Tan, “Subversive Geography”, 195; Tac. *Ger.* 30.1, 32.1, 33.1, 36.1-2, 40.2, 42.1, 45.2.

⁹ Elusive, subjective landmarks: Tan, “Subversive Geography”, 190-191, 195; Cf. Caes. *B. Gall.* 6.25.

¹⁰ Lucian, *Ver. Hist.*: Untameable nature, 1.6-7, 10, 19, 31-2, 35-6; monstrous vegetation: 1.7, 22; monstrous beasts, 1.11, 13-18, 22, 30-1; Cf. Peripatetic rationalisation: *BNJ* 44 T2 (= Palaephatus, *On Unbelievable Tales*, *Suda* , Παλαίφατος); *BNJ* 44 T3a (= Theon, *Progymnasmata* p. 96.4); *BNJ* 44 F2 (= *Suda* , Μακροκέφαλοι); R. Nünlist, “Palaiphatos of Athens (44)”, *Brill’s New Jacoby*, ed. I. Worthington (2016), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a44. Accessed 21st August 2019.

¹¹ Cf. Lucian should not be read as simple escapism, containing its own criticisms of contemporaries: L. Romeri, “Fiction and History in Lucian.” *Tangence*, vol. 116 (2018), 23-37.

¹² Eratosth. F15 (= Strabo 1.3.3-4).

¹³ Eratosth. F15 (= Strabo 1.3.3-4); Eratosthenes follows the Peripatetics in observation of natural change over long duration: Arist. *Mete.* 1.14.

by adopting a deep temporal lens that spans aeons.¹⁴ Adopting the theories of the archaic historian and botanist Xanthus of Lydia, and Strato of Lampascus, Eratosthenes' *Geographica* appears to delve us into a distant past, in which rivers, steadily filling the Euxine sea, finally breach the banks of the Hellespont, flooding the basin that becomes the Mediterranean Sea.¹⁵ Ultimately, this too cannot be contained, the banks of the Pillars of Heracles were "broken through" by a natural chain of causation.¹⁶ As we have seen, such elemental forces not only resulted in the shifting of coasts, but in the isolation of an ideologically significant oracle for the Ptolemies, and the dismissal of the role of Heracles, the mythic ancestor of Eratosthenes' royal patron. Natural fluvial forces in the Euxine sea, rather than Ptolemaic gods, shape the landscape. Eratosthenes, it seems, is resurrecting older geographic works, emphasising prickly examples which, adapted to the new ideological context, contain fresh, ideologically subversive, meanings.

b) Nature Destroying Civilisation

Elsewhere, the limits of human agency in the face of these natural forces are emphasised. In his Sodom digression, Strabo contrasts evocative local folklore with Eratosthenes' account for the destruction of the metropolis and its twelve colonies. Strabo's narration uses an evocative digression, the reader passes "fissures and ashy soil" and lakes of pitch "which emit foul odours", intermittently crossing "ruined settlements here and there".¹⁷ Embedded in this foreboding landscape, we listen to "the oft-repeated assertions of the local inhabitants".¹⁸ Apparently, they say, it was fire and sulphur which "swallowed up" the cities.¹⁹ Almost as an afterthought, he notes that Eratosthenes disputes such accounts. Instead, Eratosthenes offers a geographically broader and temporally deeper lens. We are encouraged to envisage a different landscape in the distant past, the thirteen cities were dotted around a land which "was once a lake".²⁰ Reflecting his interest in tectonics, the theories of Xanthus

¹⁴ Eratosth. F47 (=Strabo 2.1.1-3); natural Ocean encircling *Oikoumene*: Eratosth. F39 (=Strabo 1.1.8-9); F33 (=Strabo 1.4.6-8); F69 (= Strabo 15.1.10); cf. Arist. *Mete.* 2.5.

¹⁵ Eratosthenes "praises" Xanthus' theory of coastal shifts, and Strato's assertions that "the rivers which empty into the Euxine forced and opened a passage, and then the water was discharged into the Propontis and the Hellespont", Eratosth. F15 (= Strabo 1.3.3-4); Xanthos of Lydia: as historian: *BNJ* 765 T4 (= Dion. Hal. *Thuc.* 5 (48.17 Aujac)); dated prior 5th C.: *BNJ* 765 T5 (= Ath. 12.11.515de); lost *History of Lydia* *BNJ* 765 F2 (= Steph. Byz. s.v. Λυκοσθένη); Xanthus was also known as a botanist: *BNJ* 765 T9 (=Plin. *HN* 1.25, 26); significantly, his botany involved submarine study: *BNJ* 765 F3a (=Plin *HN* 25.14); A. Paradiso, "Xanthos (765)", ed. I. Worthington, *Brill's New Jacoby*, (2016) http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a765. Accessed 25th August 2019.

¹⁶ "the passage at the Pillars was broken through when the sea had been filled by the rivers, and at the time of the outrush of the water the places that had hitherto been covered with shoal-waters were left dry." Eratosth. F15 (= Strabo 1.3.3-4).

¹⁷ Strabo 16.2.44.

¹⁸ Strabo 16.2.44.

¹⁹ Strabo 16.2.44; cf. NRSV *Gen.* 19.24; *Deut.* 29.22; *Matt.* 10.15.

²⁰ Eratosth. F18 (= Strabo 16.2.44).

are applied. Impersonal and overwhelming natural forces destroy a civilization.²¹ Geological movements led to “outbreaks” of water, the lake draining here and flooding elsewhere. The cities are abandoned by the water, not by the gods.²² We are elevated above the immediate and local concerns. We are distanced from divine intervention and human agency, and made to feel very small beside greater elemental forces.

Part 7) Eratosthenes’ Mathematical Geography

a. Mathematics as Alternate Focalisation

Although Eratosthenes’ digressions provide the most striking challenges to Ptolemaic imperial and religious ideology, his mathematical geography may also reveal challenges to the regime’s claims of centrality and control. Eratosthenes adopts an alternate focalisation, distancing us from the imperial gaze. The meridians and parallels which demarcate the οἰκουμένη, and his focus on unreachable areas of the globe, combined with his aversion to political demarcation, build a tapestry which combine to limit imperial pretensions.¹

Eratosthenes’ focus on lands out of the Ptolemies’ reach runs contrary to imperial cartographic tradition. Peripheral boundaries had long been used for imperial purposes, suggesting un-colonised land is unattainable for mortals. A good example is the “bitter river” in the Neo-Babylonian *The Map of the World*, which orients the viewer towards the geographical and imperial centre, Babylon.² Beyond the perimeter lie only the abstract ‘Nagu’, depicted as lands which only the semi-divine may reach. For Homer, the Ocean serves as an effective edge of the mortal realm.³ The spherical world of Pythagoreans, Platonists and Peripatetics soon diminished the liminal role of the Ocean, Eratosthenes following Aristotle in depicting it as theoretically, if not practically, traversable.⁴ In its place, the

²¹ Eratosth F139 (Strabo, Geography 8.7.2); “Eratosthenes’ one documented field trip, to the site of the Achaean earthquake of 373 BC”, Roller, *Eratosthenes’ Geography*, 129.

²² Deluge from natural forces: Eratosth. F18 (= Strabo 16.2.44); Arist. *Mete.* 1.14; contra: divine deluge: *Gilgamesh*. 11.14-35, 93-132; NRSV *Gen.* 18-19; *Enûma Eliš* 4.49, 5.50; *Atrahasis* 3.5-20.

¹ Alternate focalisation in modern geography: Gregory, “(Post)Colonialism and the Production of Nature”, 85,87, 97; Thrift & Whatmore, “Introduction”, *Cultural Geography*, 6-8, 14; Sibley, *Geographies of Exclusion*, 184-5.

² See *The Map of the World*, 92687, 6th C BCE, Clay Tablet, British Museum, London:

https://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?assetId=404485001&objectId=362000&partId=1 Accessed 23rd May 2019. The “Bitter River” divides geographically organised space within and more abstract space without. Babylon is at the heart of the circular map; cf. *Gilgamesh*. 11.3.100-4.181.

³ Hom. *Il.* 18.7-8; Hom. *Od.* 11.13-20; Equally, Hesiod portrays the Ocean as a limit on which only heroes may dwell: Hes. *Op.* 165-70; Anaximander: *BNJ* 9 F2 (=Plin *HN* 4.58).

⁴ Delineating Ocean: Hecataeus: *BNJ* 1 T12a (= Agathemerous, *Geographiae informatio* 1.1); Hecataeus: Hdt. 4.36.2. Contra: Ocean circumnavigable: Parmenides proposal of a round Earth: Diog. Laert. 9.21; Eratosth. 33 (Strabo 1.4.6); Strabo’s limits of the οἰκουμένη defined by Ocean: 1.1.8, also 17.3.24; Dueck, *Strabo of Amasia*, 43, 109-110; “less in size than half of the quadrilateral”, Eratosth. F39 (= Strabo 1.1.8-9); F33 (=Strabo 1.4.6-8);

οἰκουμένη was increasingly hemmed in by climate zones. The theory of climate zones, built on the notion of a sloping earth (κλίματα) became an increasingly powerful means of limiting the map.⁵ For Aristotle, the arctic circle and the tropic of Cancer are the limits of habitation, boundaries shaped by meteorology rather than Ocean.⁶ For practical geographers like Strabo, this is where the map ends.⁷ Imperial utility helps define the borders: the realms where the empire cannot physically reach is, ostensibly at least, of no interest to Strabo or his intended audience.

Conversely, Eratosthenes draws our gaze to the realms beyond reach in his lost poem *Hermes*.⁸ Eratosthenes elevates us high above a world in which climate zones function as the “fil conducteur” of unification.⁹ We observe the harmony of the climate zones in a panoramic vision. From our elevated height, our attention is first drawn to the “burned” zone of the tropics, before being moved to the dark arctic and antarctic zones.¹⁰ The poem concludes with two temperate zones, blessed by the fertility of Demeter.¹¹ The view is Platonically symmetrical, and Eratosthenes’ encourages us to view the globe in its entirety. From such an elevated height, no empires or geopolitical boundaries are observable.¹² Instead, of greater import are the climate zones. Our broad geographic lens and Platonic symmetry encourage us to consider the antipodean peoples beyond the tropic zone, who are forever out of imperial reach. In the *Geographica*, Eratosthenes follows his Peripatetic forebears in highlighting the torrid zone as uncrossable. 3,000 stadia south of Meroe, “the country is no longer inhabitable on account of the heat”.¹³ This is the same latitude as the Cinnamon-Bearing Country,

Roller, *Eratosthenes’ Geography*, 156. Cf. Isidorus, Pytheas and Skylax of Caryanda: “Each of these revealed distances on the sea, measured in sailing days, not stadia.”: *BNJ* 781 T2 (= Markianos of Heraclea, *Epit.* 2).

⁵ Κλίματα: LSJ s.v. κλίμα 4.

⁶ Arist. *Mete.* 2.5.

⁷ Strabo 2.5.13, 2.5.5; Strabo 1.1.1; for a “practical map” see also Polyb. 1.1.1-2, 3.7.4; for comparison and influence, see: Dueck, *Strabo of Amasia*, 46-8.

⁸ Eratosthenes lost *Hermes*, see: Theon of Smyrna, “De Proportionibus” and “De ratione et intervallo” ed. E. Hiller, *Theonis Symrnaei Philosophi Platonici Expositio Rerum Mathematicarum Ad Legendum Platonem Utilium* (New York, 1878), 63-4. Solmsen argues that *Hermes* reflects Eratosthenes’ Platonic mathematical harmonics: F. Solmsen, “Eratosthenes as Platonist and Poet.” *Transactions and Proceedings of the American Philological Association*, vol. 73, (1942) 192–213; a “panoramic view of the earth’s globe with its five zones”, Gutzwiller, *Guide to Hellenistic Literature*, 175; Pl. *Tim.* 92a. Eratosthenes’ antipathy towards political boundaries: “he does not see how this investigation can end in any practical result, but that it belongs only to persons who choose to live on a diet of disputation...”, Eratosth. F33 (= Strab 1.4.6-8). E. Maass, *Commentariorum in Aratum reliquiae* (Berlin, 1898) 63-64; B. Rochette, “La Description Des Zones Climatiques Terrestres. À Propos d’Ératosthène, Hermès”, *L’Antiquité Classique*, vol. 83 (2014), 139, 141-2.

⁹ Rochette, “La Description des Zones Climatiques Terrestres”, 141.

¹⁰ Torrid zone: Eratosth. *Hermes* 3 (= Powell, *Fragmenta* 16) Cf *Geographica* F30 (= Strabo 2.5.5-6); F45 (= Strabo 2.3.2); F47 (= Strabo 2.1.1-3). Arctic: “οὐ μὲν ὕδωρ, ἀλλ’ αὐτὸς ἀπ’ οὐρανὸθεν κρύσταλλος” Eratosthenes *Hermes* 11 (= Powell, *Fragmenta* 16).

¹¹ Temperate zones: Eratosthenes *Hermes* 15-19 (= Powell, *Fragmenta* 16); “Barren” Arctic zones: *Hermes* 4, 9-13; “burned” Tropic zone: 5-8; Rochette, “La Description Des Zones Climatiques Terrestres”, 141.

¹² Rochette, “La Description Des Zones Climatiques Terrestres. À Propos d’Ératosthène, Hermès”, *L’Antiquité Classique*, vol. 83 (2014), 139.

¹³ Tropic Zone as limit: Eratosth. F30 (= Strabo 2.5.5-6); Eratosth. F34 (= Strabo 2.5.7); Arist. *Mete.* 2.5.

which is defined as “the limit of our inhabited world on the South”.¹⁴ At this stage, the mathematical geography seems to adhere to imperial norms: the land we cannot reach is “uninhabitable”.¹⁵

However, Eratosthenes then takes us deeper south, through the torrid zone to its very heart, the equator.¹⁶ There, he draws us in, focussing on a slender, fertile, temperate strip, cool on its elevated equatorial mountains.¹⁷ In contrast to the fiery equatorial “chariot of the gods” found by Hanno, these equatorial highlands are lush.¹⁸ Eratosthenes’ interest was most probably informed by Simonides, who had “lived in Meroë for five years, when he wrote about Aithiopia”.¹⁹ The data seems to have encouraged Eratosthenes’ in his theories for a southerly source of the Nile. Eratosthenes, who had made study of the Nile’s flooding and source, challenged those who posited a western source for the Nile. Eratosthenes traces its shape as a reverse nu (‘N’), which, despite its curves, ultimately comes from the south, from the elevated equatorial zone which he proposed.²⁰ We are encouraged to envisage the source of the Nile as a habitable and desirable land, tantalisingly cut off by the thousands of burning stadia between the Ptolemies and this legendary source.

Such a geographical account sharply contradicts the ideology expressed by Posidippus and Theocritus, in which “all the roaring rivers are ruled by Ptolemy”.²¹ Instead, Ptolemaic impotence is emphasised, the control of the Nile itself is clearly out of reach. Eratosthenes’ Nile is a river frustrating, rather than supporting, Ptolemaic imperial pretensions. His focus on the Nile’s idyllic, unattainable source subverts imperial ideology, his map curtailing the king’s reach and power over the landscape.

¹⁴ Eratosth. F34 (= Strabo 2.5.7).

¹⁵ Eratosth. F100 (= Strabo 17.3.1-2); The lands south of the Cinnamon-Bearing country, and Meroe, cannot maintain civilization “on account of the heat”. Eratosth. F34 (= Strabo 2.5.7).

¹⁶ Eratosthenes unattainable temperate equator: Eratosth F45 (= Strabo 2.3.2). Cf. Strabo: “as to these stretches, it makes no difference whether they are bounded by sea or by uninhabited land; for the geographer undertakes to describe the known parts of the inhabited world, but he leaves out of consideration the unknown parts of it — just as he does what is outside of it”, Strabo 2.5.5.

¹⁷ Eratosth. F45 (= Strabo 2.3.2).

¹⁸ Plin. *HN* 2.108, 5.47, 6.163.; Hanno *Periplus* 16. For Hanno, see: Roller, *Pillars*, 39-41; Roller, *Eratosthenes’ Geography*, 159.

¹⁹ Simonides *BNJ* T1 (= Plin. *HN* 6.183); for mountains on the equator, see Claudius Ptolemy “the Pylaei mountains” near “Lake Coloë, from which flows the Astapus river” at zero degrees latitude: Ptol. *Geog.* 4.7. See also: Ptol. *Geog.* 1.9, 17; 4.6-8. For Polybius’ lost work on a temperate equatorial zone: “...It is reasonable then to suppose that the climates situated under the equator are more temperate, as the sun does not prolong his stay near the extreme point but rapidly recedes from it... the region under the equator in the middle of the torrid zone has a more temperate climate than those at the extremities of the torrid zone, which lie under the tropic circles.” Polyb. 34.7 (= Geminus 16); Strabo 2.3.2.

²⁰ Flooding Nile: Eratosth. F99 (= Procl. *In Ti.* 37b); Western source of Nile: Hdt. 2.32-4; N shaped Nile: Eratosth. F98 (= Strabo 17.1.2); Nile from southern rainy territory: Eratosth. F41 (= Plin. *HN* 2.183-5); F99 (= Proclus, *Commentary on Plato’s Timaeus* p.37b.); Arist. *Mete.* 1.13.

²¹ Theoc. *Id.* 17.92; Posidippus, *On Stones*, AB7 (= P. Mil. Vogl. VIII 309, AB7).

b. Seals: Demarcation as Subverting Geo-Political Control

Eratosthenes' novel use of demarcation—replacing geo-political units with the geometrically and topographically defined *σφραγίδες*—encourages the reader to perceive the world with an alternate focalisation, potentially subverting Ptolemaic imperial concerns. Like in *Hermes*, we are elevated above geo-political concerns, to a height where kingdoms and their boundaries cannot be seen or identified. Instead, seals are defined with geometric parallels or meridians, and natural features, such as the Caucasus mountains and the Ocean.²² Kosmin's and Bianchetti's propagandistic reading of the *Geographica* are challenged by this alternate focalisation, the reader encouraged to view the world as defined by mountains, seas, and Euclidian mathematical expressions, imperial claims relatively diminished.²³

The first of Eratosthenes' seals, India, seems to have pleased Strabo. For Strabo, demarcation was like "amputation", which needed to be done "at the joint".²⁴ These clear boundaries should reflect ethnic as well as geographic concerns.²⁵ Eratosthenes' first seal, in Strabo's mind, was appropriately ethnically homogeneous and clearly demarcated by river, mountain and sea.²⁶ However, in the second seal, "Ariana", Eratosthenes takes the revolutionary step of demoting ethnic divisions as a form of demarcation. Ariana's boundaries are topographical, using "the same sea and the same mountains as India, ... the same river, the Indus".²⁷ The mountains also serve as a geometrical border, believed to run along the main parallel as a spine of the *οἰκουμένη*. This would seem to be an attempt to synthesise the mathematical and topographical delineating approaches.²⁸ Clearer geometric expression is found in the western boundary, "a line drawn" between Carmania and the Caspian Gates, so that the whole assumes a "Quadrilateral" shape.²⁹ The seal is, for Strabo, far too large at

²² Topographical & Geometric boundaries: Seal I (India): Eratosth. F71 (= Arr. *Ind.* 3.1-5); Seal II ('Ariana'): Eratosth. F71 (= Strabo 15.2.1), F78 (= Strabo 15.2.8-9), F80 (= Strabo 2.1.28-9); Seal III (Mesopotamia): F82 (= Strabo 2.1.31), F83 (= Strabo 2.1.23-6), F86 (= Strabo 15.3.1); Seal IV (Arabia-Egypt): F92 (= Strabo 2.1.32); see also Plin. *HN* 6.108.

²³ Euclid's (geometric) influence on Eratosthenes: Fraser, *Ptol. Alex.* 1.483; Solmsen, "Eratosthenes as Platonist and Poet", 193-195. For Euclid's impact on Alexandrian scholarship, see: Gutzwiller, *Guide to Hellenistic Literature*, 154-7, 160-1; Fraser, *Ptol. Alex.* 1.444-445.

²⁴ Strabo 2.1.30.

²⁵ Strabo 2.1.30; Dueck, *Strabo of Amasia*, 43-4.

²⁶ Indian culture as homogeneous: Megasthenes: *BNJ* 715 F2 (= Ath. 4.39.153d); Arr. *Anab.* 7.10-12; Hdt. 3.99-106. Cf. India containing "people of all kinds", Diod. Sic. 2.38.1. India's clear, rhomboidal shape: Eratosth. F49 (= Strabo 2.1.31); Megasthenes *BNJ* 715 F4 (= Diod. Sic. 2.35.1). Ocean boundary: Eratosth. F66 (= Strabo 2.1.22). Indus and Himalaya boundaries: Eratosth. F72 (= Arr. *Ind.* 3.1-5).

²⁷ Eratosth. F77 (= Strabo 15.2.1).

²⁸ Cf. Dueck portrays descriptive and mathematical geography as distinct & separate in the third century BCE, placing Eratosthenes exclusively, and misleadingly, in the latter camp: Dueck, *Geography in Classical Antiquity*: for descriptive geography, see: 20-67; mathematical geography, see: 68-98. For Eratosthenes as mathematical, see: 70, 72-3, 81-2, 92, 97.

²⁹ Eratosth. F77 (= Strabo 15.2.1); for Caspian Gates: Diod. Sic. 2.2; Polyb. 5.44; Strabo 11.7.1; A.R. Anderson, "Alexander at the Caspian Gates", *Transactions and Proceedings of the American Philological Association*, vol. 59 (1928), 133; Roller, *Ancient Geography*, 94-6.

14,000 stadia and, significantly, it is too ethnically heterogeneous.³⁰ To illustrate his concerns, Strabo uses hodological narration, taking us on an ethnographic tour of the seal, orienting each position to the last.³¹ Strabo raises concerns that “part of Persia and Media” is included in the north, whilst other parts of these lands, with peoples who “speak approximately the same language”, are excluded from the seal.³² Eratosthenes’ mathematical and topographical boundaries have divided some ancient lands and crowded others together. These are not the usual criticisms surrounding Eratosthenes’ erroneous data.³³ Rather, for Strabo, it is this distinct lack of concern for traditional boundaries that causes the most anxiety. This is not a geography which controls the landscape in a way Strabo understands. Instead, it privileges topographic and mathematical lenses at the expense of the geo-political lens, something that challenges imperial notions of stability.

The third seal as represented through our source, Strabo, is confused. He calls it “wholly untraceable” and his account certainly confounds the reader. It would seem that the seal’s southern side is presented “inaccurately” and somehow “runs through the very centre” of the seal, whilst the northern boundary is unclear.³⁴ Fraser argues that Eratosthenes’ data on the area were limited, and Roller supports this view.³⁵ Eratosthenes’ seals have split ancient Babylonian lands, something which concerned Strabo. A cursory glance may support a propagandistic interpretation: the Seleucid heartland is evidently cut to pieces.³⁶ However, a closer look may reveal Eratosthenes’ potentially subversive concerns, with restless rivers, the Euphrates and part of the Tigris, awkwardly forming parts of the seal’s borders. This is “is nowhere near a straight line” as Strabo, not unreasonably, complains, the seal ultimately being shaped like a rower’s cushion.³⁷ This distorted seal may be victim to Eratosthenes’ subversive emphasis of fluvial forces.

Eratosthenes’ use of rivers for the demarcation of the third seal draws our attention to the nature of these transgressive entities, a recurring interest of Eratosthenes. Unlike the Xanthus for Achilles, or the rivers of Gaul for Caesar, these rivers do not ultimately adhere to human agency nor function as effective demarcation. Eratosthenes carries us towards this understanding through digression. He

³⁰ Strabo 15.2.8; *Stages of Asia*: Amyntas BNJ 122 F1 (= Ath. 11.102.500d), BNJ 122 F2 (= Ath. 12.39.529e-530a); BNJ 122 F3 (= Ael. 17.17).

³¹ Strabo 15.2.2; Tan, “Subversive Geography”, 194; Dueck, *Strabo of Amasia*, 42-3.

³² Strabo 15.2.8.

³³ Hipparchus’ criticisms concerning erroneous data: Eratosth. F80 (= Strabo 2.1.28-9).

³⁴ Eratosth. F82 (= Strabo 2.1.31); Cf. Isodorus of Charax, *Parthian Stopping Points*: BNJ 781 F2 (= Anonymus-Anonymi, Codex, Parisinus 443).

³⁵ P. M. Fraser, *Cities of Alexander the Great* (Oxford, 1996), 80-82, see especially n 10, 11; Eratosth. F83 (= Strabo 2.1.23-6); F84 (= Strabo 2.1.27); Roller, *Eratosthenes’ Geography*, 186-8.

³⁶ Strabo 2.1.32; Curiously, Kosmin’s propagandistic reading does not utilise this dissection of the Babylonian heartland. Rather, he emphasises Eratosthenes’ use of archaic markers, Babylon and Susa, instead of Seleucia-on-the-Tigris and Seleucia-on-the-Eulaeus, as a means of erasing contemporary Seleucid claims upon the landscape. These archaic terms highlight Eratosthenes’ own explicit complaints regarding his outdated hodological data for the seal. Eratosth. F83 (= Strabo 2.1.23-6); Kosmin, “The Politics of Science”, 91-2.

³⁷ F82 (= Strabo 2.1.23-6).

depicts them as geo-politically subversive, sinking underground in one land before rising up again in another.³⁸ This is exemplified by the Tigris. Using emplotment, Eratosthenes first places us at the “old bridge” which Alexander crossed, highlighting the tension between king and river, before we follow the mighty Tigris southward.³⁹ It is presented as an unstoppable entity, almost writhing as it twists across the land, before ploughing “through the middle of Lake Thopitis” undaunted.⁴⁰ With no pause, “it sinks underground with upward blasts and a loud noise”.⁴¹ Having “flowed for a considerable distance invisible, it rises again” forcing “impetuously” through Lake Gordyaea.⁴² We get an evocative sense of rivers which transcends geo-political limits, something which fascinated Eratosthenes. The polymath evokes an almost mythological imagery, personified in defiance of imperial shackles.⁴³ Alexander may have traversed this river, but we are under no illusion that he can control it.

The fourth seal would appear to be a departure from Eratosthenes’ attempts to combine topographical and geographical features. It is substantially more geometrical in nature, delineated by meridians and parallels on all four sides. According to Strabo, Eratosthenes had little choice but to use geometric demarcation due to limited descriptive data, making it “impossible to determine ...sides”.⁴⁴ We can hear mostly Strabo’s own concerns here. In his defence of Eratosthenes, he presents the geometric measurements as a poor substitute for descriptive data.⁴⁵ Roller echoes Strabo’s concerns, characterising the Fourth seal as a “valiant try” to continue a failed experiment, and describing the use of four geometrical boundaries as “astonishingly dogmatic”.⁴⁶ The limited data to the south and west would lend weight to this argument, however, to describe the Egyptian coast—the northern parallel at Alexandria—as developed due to an absence of descriptive data, is clearly unsustainable.⁴⁷

Within these boundaries lie parts of the Persian Gulf, Arabia, Ethiopia and Egypt up to the Nile.⁴⁸ A superficial argument can be made for understanding this seal as an imperial expression; Alexandria is

³⁸ Eratosthenes also suggests blocked lakes in Arabia subvert boundaries, and flow “underground as far as the country of Coelê-Syria, and that it is pressed up into the region of Rhinocolura and Mt. Casius and forms the lakes and the pits there.” (Eratosth. F96 (=Strabo 16.1.12)).

³⁹ Eratosth. F83 (= Strabo 2.1.23-6). This bridge became a geographical “nexus” for Ancient geographers: Roller, *Ancient Geography*, 94.

⁴⁰ Eratosth. F87 = (Strabo 16.1.21-22).

⁴¹ Eratosth. F87 = (Strabo 16.1.21-22).

⁴² Eratosth. F87 = (Strabo 16.1.21-22).

⁴³ Waterways have a long tradition of rebellion against imperial control: see Xanthus’s & Achilles: Hom. *Il.* 21; Xerxes & the Hellespont: Hdt 7.35-6.

⁴⁴ Eratosth. F92 (=Strabo 2.1.32).

⁴⁵ Dueck makes a strong case for Strabo’s prejudice for descriptive geography over mathematical geography: Dueck, *Strabo of Amasia*, 40-62; Dueck, *Geography in Classical Antiquity*, 42-44.

⁴⁶ Roller, *Eratosthenes’ Geography*, 192.

⁴⁷ For data for the Persian Sea, see expeditions by Nearchus and Onesicritus: Onesikritos *BNJ* 134 T4 (= Arr. *Ind.* 18.9); *BNJ* 134 T 5a (Plut. *De. Alex. fort.* 1.10.331e); *BNJ* 134 T 5b (=Plut. *Alex.* 66); F28 (=Plin *NH* 6.96-100); *BNJ* 134 T5c (= Strabo 15.2.4).

⁴⁸ Geometric demarcation: “Of this section, the length will be the space bounded by two meridian lines, of which lines the one is drawn through the most western point on the section and the other through the most eastern point. Its breadth will be the space between two parallels of latitude, of which the one is drawn through the most

united with eastern territory, potentially reflecting some of the eastward geo-political ambitions of the kingdom under Ptolemies III and IV.⁴⁹ However, the seal does not function effectively as an expression of Alexandria's centrality or control. If we picture the northern parallel through Canopis and Alexandria, intersecting with the prime Meridian, running from Syene to Alexandria, we are presented with an ideologically lopsided seal.⁵⁰ The political centres of Lower Egypt and the Delta are crowded into the north-west corner, and our gaze is drawn to the Erythraean Sea and Eratosthenes' much-celebrated Arabia Eudaimon, which takes centre stage. Of equal significance, the fourth seal's northern boundary divides Alexandria from the Mediterranean Sea, in a potentially profound act of subversive geography. Eratosthenes places his northern parallel "between the mouths of the Nile" passing through Canopus and Alexandria.⁵¹ In a geometric stroke, this cuts the empire off from the sea. This is remarkable demarcation given the ideological significance of the Mediterranean Sea for Ptolemaic imperial identity, in military, diplomatic, and cultural terms.⁵² Erskine notes that Ptolemaic naval power may have been less active in the last years of Philopator's reign, with a fleet unfit to sail from Samos.⁵³ For a king indulging in "grand gestures", an imperial map would be a way to compensate for loss of geo-political influence.⁵⁴ This fourth seal may be a subtle yet powerful subversion of imperial geography, presented as *παρρησία*: the empire's reach is limited and diminishing. The elevation of mathematical geography has allowed Eratosthenes to question the very fabric of Ptolemaic imperialism. In his new ordering of the world, Alexandria is neither central, nor united with its imperial dominions. Instead, it is squeezed into one corner of one seal which it shares with Arabia Eudaimon. Cut off from its empire and sharing a seal with its beautiful sibling, Alexandria is very much diminished.

northern point, and the other through the most southern point", Eratosth. F92 (=Strabo 2.1.32); also see Strabo 2.1.32 for Strabo's discussion of the eastern meridian; see also: Plin. *HN* 6.108. Cf. Rivers as continental boundaries: Nile: Hdt. 4.45; Strabo: problems: 2.1.30; cf. Tanaïs: F24 (= Strabo 11.7.4), cf. Hdt. 4.45, 100. Peninsulas as boundary: Hdt. 2.158.

⁴⁹ Syrian Wars: Ptolemy III's campaign in the Third Syrian War: the Adulis inscription: *OGIS* 54 (= Austin 268); J.D. Grainger, *The Syrian Wars* (Leiden & Boston, 2010), 157-62; for the Fourth Syrian War, see Polyb. 5.57-86; J.D. Grainger, *The Syrian Wars*, 195-218; Shipley, *The Greek World*, 204, 208, 231, 289-90.

⁵⁰ Strabo 2.1.33.

⁵¹ Strabo 2.1.33.

⁵² H. Hauben, "Callicrates of Samos and Patrocles of Macedon", 40, 62-4; for diplomatic imperialism: P. Bing, "Posidippus and the Admiral: Kallikrates of Samos in the Milan Epigrams", 243-66; Samos in thassalocracy: *IG* 12.6 282; *IG* 12.6 446; *IG* 41.6 588; for earlier imperial reach, League of Islanders: A. Meadows, "The Ptolemaic League of Islanders", K. Buraselis, M. Stefanou, D.J. Thompson (eds.), *The Ptolemies, the Sea and the Nile: Studies in Waterborne Power*, 19-38.

⁵³ Polyb. 16.2.9 (cf. 5.35.11): "he [Phillip] had not been able to fit out all the ships which were at Samos... the majority of them had not been fitted out and so were initially unusable"; F.W. Walbank, *A Historical Commentary on Polybius*, vol. 2, 505-6.

⁵⁴ Naval deterioration: A. Erskine, "Polybius and Ptolemaic Sea Power", 92-6; Bevan, *House of Ptolemy*, 228, 238-9.

Conclusion

Eratosthenes' geographical treatises sit uncertainly between disciplines, lending themselves to readings which tend to be one-sided. The traditional analysis of his work has had teleological tendencies. The polymath is still introduced to most school students as "the first" to calculate the size of the earth, to "invent" longitude and latitude, along with Eratosthenes' sieve. Students from around the world can collaborate in "the Eratosthenes project", facilitated by their science teachers.¹ Such an introduction to Eratosthenes continues to shade our historical understanding of the polymath's *The Measurement of the Earth* and the *Geographica* as works of Hellenistic science somehow divorced from the court culture in which they were produced. However, these traditional should not be dismissed entirely. Their consideration of Platonist, Stoic, Peripatetic, and other philosophical concerns are vital for maintaining a balanced reading of Eratosthenes' geographical texts.

The propagandistic revisionism, led by Kosmin's 2017 paper, attempts to correct the apolitical assumptions of traditional readings, using the tools of political geography to present Eratosthenes' geographical works as the cartographic mouthpiece for the Ptolemaic regime. Whilst certainly making important strides to a fuller understanding of Eratosthenes' geographical works as part of court culture, the current propagandistic reading's weaknesses lie in the omission, or minimisation, of the more ideologically problematic areas of the polymath's treatises. These aspects need to be identified if further analysis is to give us a fuller and more satisfactory understanding of the polymath's geographical works.

As has been proposed in this thesis, these ideologically unorthodox elements may be better understood as part of the sympotic traditions of court literature. The scholar's work may function as παιδεία within the sympotic tradition. As a φίλος τοῦ βασιλέως, there was certainly an expectation on the Cyrenian polymath to use παρρησία as a means to express his status. It is with no small degree of irony that the ideal φίλος was one who challenged the κολακεία of the Ptolemaic court.² A true friend would emphasise his position through the assertion of uncomfortable truths, tactfully expressed.

As we have seen, Eratosthenes seems to have been a master of this approach. His *Letter to King Ptolemy* tells a cautionary tale of mythical kings who ignored scholars' advice, whilst promising that his advice will steer the king, and his son, away from such folly, if heeded. His *Catasterismi* emphasise myths which challenge court ideology. *The Crown* deftly reiterates an older Cretan origin story for

¹ The Eratosthenes Project: "Eratosthenes", *The European Association for Astronomy Education*, (2009, 2019) <https://www.eaae-astronomy.org/eratosthenes>. Accessed 3rd Aug. 2019; "Eratosthenes of Cyrene", *The Khan Academy*, <https://www.khanacademy.org/partner-content/big-history-project/solar-system-and-earth/known-solar-system-earth/a/eratosthenes-of-cyrene>. Accessed 3rd Aug. 2019. Continuing a tradition: Keltie & Howarth, *History of Geography*, 23-5.

² Phld. *On Frank Criticism* F26.

Berenice's Lock, whilst the Cancer origin story de-fangs the militant Dionysus of Ptolemaic pompe, reorienting the reader towards his more comic aspects.

Identification of the unorthodox, and potentially subversive, elements in his geographical works requires a range of literary and geographic tools. The most striking challenges to Ptolemaic religious ideology can be identified in the descriptive digressions of the third book, which adopt literary techniques of emplotment and juxtaposition to elevate natural forces, certain barbarian cultures and governmental systems, and undermine the myths which form the foundation of Ptolemaic religious ideology. Imperial reach is diminished and Ptolemaic claims of centrality and significance are questioned.

The mathematical geography reveals areas of subtle, but no less potent, challenges to the Ptolemaic regime. It appears that Eratosthenes subverts zone theory to demonstrate the limits of Ptolemaic imperialism, the Nile's source is fecund yet inaccessible, turning Posidippus' *On Stones* on its head. Using an alternate focalisation, demarcation can be identified as potentially subversive. The omission of geo-political markers, and their substitution with novel seals, certainly undermines the geo-political claims of kings, Seleucid and Ptolemaic alike. Eratosthenes' use of seals elevates the topographic and the natural. Fluvial demarcations are potentially fertile area for a future subversive reading, these restless entities traversing geopolitical boundaries. The fourth seal may potentially reveal aspects which challenge Ptolemaic imperialism. Arabia Eudaimon appears to be elevated whilst Alexandria is pushed into a corner, like a geographic irrelevancy. The use of boundaries to separate Alexandria from its maritime empire, and Coele-Syria, provide opportunities for further subversive analysis, examining the geo-political and military shifts at the time the work was produced.

This survey has allowed for cursory consideration of these elements of the text which would appear to challenge, or even subvert Ptolemaic ideology. Future research requires a more extensive investigation of sympotic culture in the Ptolemaic court, and a more extensive consideration of how *παρρησία* was used to navigate court culture, comparing Eratosthenes' subversive elements with the approaches of other significant literary figures, something which has only been touched on here. Berrey and Strootman make important steps in this direction. The considerations of competition, self-promotion and subversion within court discourse needs to be more fully considered, examining the vital role technical literature plays as entertainment in a sympotic court culture. The elevated status of *παιδεία* may well play an important role in understanding this, with the tantalising clue of Hegesianax' ultimatum to the king revealing the scholar's role: it is better to recite well, than to dance poorly.³

³ Hegesianax of Alexandria Troas: *BNJ* 45 T3 (= Ath. 4.155a-b); A. Erskine, "From Alexander to Augustus", 23.

Eratosthenes' epitaph is a testament to his success in navigating the pitfalls of a scholar in the competitive and complex world of sympotic court culture:

*Gentler old age, and not darkening disease,
Extinguished you, and you sleep your deserved sleep,
after meditating upon the heights, Eratosthenes. And Cyrene,
your mother, did not receive you within the tombs of your fathers,
son of Aglaos, but beloved even in a foreign country you are buried
at this edge of Proteus' shore.⁴*

The outspoken polymath kept his position in Alexandria, career longevity, perhaps, being the most salient evidence of the Cyrenian scholar's success. The scholar venerated with one hand and challenged with the other. It is through tactful *παρηγορία* that such subversion could be successfully expressed in an ideologically charged court.

⁴ BNJ 241 T6 (= Dionysios of Kyzikos, *Anthologia Palatina* 7.78).

Bibliography

Ancient Sources

Aelian, *Varia Historia*, trans. N.G. Wilson, *Historical Miscellany*, Loeb Classical Library (Cambridge MA, 1997).

Aeschylus, *Prometheus bound*, trans. & ed. A.H. Sommerstein, *Persians, Seven against Thebes, The suppliants, Prometheus bound*, Loeb Classical Library (Cambridge MA, London, 2008).

Amyntas, "Amyntas (122)", trans. and ed. C. Bearzot, *Brill's New Jacoby*, gen. ed. I. Worthington (2016), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a122. Accessed 30th August 2019.

Anaximander the Younger, "Anaximander the Younger (9)", trans. and ed. M. Węcowski, *Brill's New Jacoby*, gen. ed. I. Worthington (2016). http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a9 Accessed 2nd June 2019.

Archimedes, "The Method of Archimedes' Treating of Mechanical Problems – To Eratosthenes", trans. & ed. T.L. Heath, *The Method of Archimedes: Recently Discovered by Heiberg, A Supplement to the world of Archimedes 1897* (Cambridge, 1912).

Aristeas, *Aristeas to Philocrates: (Letter of Aristeas)*, trans. & ed. M. Hadas (Eugene OR, 1951), 91-228.

Aristophanes, *The Frogs*, trans. J. Henderson, *Aristophanes: Frogs, Assemblywomen, Wealth*, Loeb Classical Library (Cambridge MA, 2002).

Apollonius of Rhodes, *Argonautica*, trans. & ed. W.H. Race, Loeb Classical Library (Cambridge MA, 2009).

Aristotle, *The Situations and Names of Winds*, trans. W.S. Hett, *Aristotle, Minor Works: On Colours. On Things Heard. Physiognomics. On Plants. On Marvellous Things Heard. Mechanical Problems. On Indivisible Lines. The Situations and Names of Winds. On Melissus, Xenophanes, Gorgias*, Loeb Classical Library (Cambridge MA, London, 1936).

Aristotle, *Generation of Animals*, trans. A.L. Peck, Loeb Classical Library (Cambridge MA, London, 1943).

Aristotle, *Meteorologica*, trans. H.D.P. Lee, Loeb Classical Library (Cambridge MA, London, 1951).

Aristotle, *Nicomachean Ethics*, trans. H. Rackham, Loeb Classical Library (Cambridge MA, London, 1934).

- Aristotle, *Poetics*, trans. S Halliwell, *Aristotle/Poetics, Longinus/On the Sublime, Demetrius/on Style* (Cambridge MA, 1995).
- Aristotle *Parts of Animals*, trans A.L. Peck and E.S. Forster, *Parts of animals. Movement of animals. Progression of animals*, Loeb Classical Library (Cambridge MA, London, 1937).
- Aristotle, *Physics*, trans. P.H. Wicksteed & F.M. Cornford, Loeb Classical Library, vols 1-2 (Cambridge MA, London, 1957).
- Aristotle, *Politics*, trans. H. Rackham, Loeb Classical Library (Cambridge MA, London, 1932).
- Arrian, *Anabasis*, trans. P.A. Brunt, *Anabasis of Alexander, Volume I: Books 1-4*, Loeb Classical Library (Cambridge MA, 1976).
- Arrian, *Anabasis*, trans. P.A. Brunt, *Anabasis of Alexander, Volume II: Books 5-7. Indica*, Loeb Classical Library (Cambridge MA, 1976).
- Arrian, *Anabasis*, trans. P. Mensch, ed. J. Romm, *The Landmark Arrian: the Campaigns of Alexander = Anabasis Alexandrou / a New Translation by Pamela Mensch ; with Maps, Annotations, Appendices, and Encyclopedic Index ; Edited by James Romm ; with an Introduction by Paul Cartledge* (New York, 2010).
- Arrian, *Indica*, trans. P.A. Brunt, *Anabasis of Alexander, Volume II: Books 5-7. Indica*, Loeb Classical Library (Cambridge MA, 1976).
- Ashoka Maurya, *Major Rock Edict no. 13*, trans. Ven. S. Dhammika, *The Edicts of King Ashoka*, (Kandy & Berkeley, 1993), accessed 21st August 2019, <https://www.cs.colostate.edu/~malaiya/ashoka.html>.
- Athenaeus, *Deipnosophistae*, trans. & ed. S.D. Olson, Loeb Classical Library, vols. 1-4 (Cambridge MA, 2008).
- Bible, New Revised Standard Version*, Anglicized Edition (London, 1995).
- British Museum "The Apotheosis of Homer", marble stela, 1819, 0812.1, AN392940001, British Museum, London.
- Catullus, *The Carmina of Gaius Valerius Catullus*, trans. L.C. Smithers (London, 1894).
- Caesar, Julius, *The Gallic War*, trans. H.J. Edwards, Loeb Classical Library (Cambridge MA, London, 1958).
- Censorinus, *De Die Natali Liber*, ed. F. Hultsch (Leipzig, 1867).
- Cicero, *De Re Publica*, trans. GP. Gould, *Cicero XVI: On the Republic, On the Laws* (Cambridge MA, 1928).

Cleitarchus, “Kleitarchos of Alexandria (137)”, trans. and ed. L. Prandi, *Brill’s New Jacoby*, gen. ed. I. Worthington (2016), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a137. Accessed 14th April, 2019.

Clement of Alexandria, *Stromata*, trans. G.W. Butterworth, Loeb Classical Library (Cambridge MA, London, 1960).

Collectanea Alexandrina: Reliquiae Minores Poetarum Graecorum Aetatis Ptolemaicae 323-146 A.C., Epicorum, Elegiacorum, Lyricorum, Ethicorum / Cum Epimetris Et Indice Nominum Edidit Iohannes U. Powell, ed. J.U. Powell (New York, 1925).

Deimachus, “Daimachos (716)”, trans. and ed. J. Engels, *Brill’s New Jacoby*, gen. ed. I. Worthington (2016), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a716. Accessed 3rd July 2019.

Democritus, trans. I. Thomas, *Greek Mathematical Works, Volume I: Thales to Euclid*, Loeb Classical Library (Cambridge MA, 1939).

Demosthenes, *Against Meidias*, trans. J.H. Vince, *Orations, Volume III: Orations 21-26: Against Meidias. Against Androtion. Against Aristocrates. Against Timocrates. Against Aristogeiton 1 and 2*, Loeb Classical Library (Cambridge MA, London, 1935).

Diodorus Siculus, *Library of History*, trans. C.H. Oldfather, C.L. Sherman, C. Bradword Welles, R.M. Greer, F.R. Walton, Loeb Classical Library, Vol. 1-12 (Cambridge MA, London, 1933-1967).

Diogenes Laertius, *Lives of Eminent Philosophers*, trans. R.D. Hicks, Loeb Classical Library, Vol 1-2 (Cambridge MA, London, 1925).

Epic of Gilgamesh, trans. A. George (London, 1999).

Eratosthenes of Cyrene, *Catasterismi*, trans. R. Hard, *Eratosthenes and Hyginus, Constellation Myths, with Aratus’s Phenomena*, Oxford World Classics (Oxford, 2015).

Eratosthenes of Cyrene, “Eratosthenes of Cyrene (241)”, trans. & ed. F. Pownall, *Brill’s New Jacoby*, gen. ed. I. Worthington (2016), http://dx.doi.org/10.1163/1873-5363_bnj_a241. Accessed 23rd April 2019.

Eratosthenes of Cyrene, *Geographica*, trans. Roller, D. *Eratosthenes’ Geography: Fragments Collected and Translated with Commentary and Additional Material by Duane W. Roller*, (Princeton and Oxford, 2010).

Eratosthenes of Cyrene, *Measurement of the Earth*, trans. Roller, D. *Eratosthenes' Geography: Fragments Collected and Translated with Commentary and Additional Material by Duane W. Roller*, (Princeton and Oxford, 2010).

Eratosthenes of Cyrene, *Hermes*, I.U. Powell (ed.), *Collectanea Alexandrina: Reliquiae minores Poetarum Graecorum Aetatis Ptolemaeae 323 – 146 A.C. Epicorum, Eligiacorum, Lyricorum, Ethicorum. Cum Epimetris et Indice Nominum* (Oxford, 1875), F16. 62-3.

Eratosthenes of Cyrene, “Letter to King Ptolemy” in “Eutochius’ Commentary to the Sphere and the Cylinder I”, *The Works of Archimedes*, trans ed. R. Netz, vol. 1 (Cambridge, 2004), 294-8.

Eratosthenes of Cyrene, “Letter to King Ptolemy” in “Eutochius’ Commentary to the Sphere and the Cylinder I”, *Archimedis opera omnia*, ed. J.L. Heiberg, Vol. 3 (Leipzig, 1881), 102-14.

Euripides, *Bacchae*, trans. D. Kovacs, *Bacchae; Iphigenia at Aulis; Rhesus*, Loeb Classical Library (Cambridge, MA, London, 1994).

Euripides, *Cyclops*, trans. D. Kovacs, *Cyclops; Alcestis; Medea*, Loeb Classical Library (Cambridge, MA, London, 1994).

Euripides, *Hippolytus*, trans. D. Kovacs, *Children of Heracles; Hippolytus; Andromache; Hecuba*, Loeb Classical Library (Cambridge, MA, London, 1995).

Euripides, *Phoenician Women*, trans. D. Kovacs, *Euripides: Helen, Phoenician Women, Orestes*, Loeb Classical Library (Cambridge MA, London, 2002).

Galen of Pergamon, *Commentary on Hipparchus’ Epidemics, III*, ed. K.G. Kühn, (Leipzig, 1829), 17a, 606-7.

Geminus, *Introduction to Astronomy*, trans. J. Evans & J.L. Berggren, *Geminus’s Introduction to the Phenomena, A Translation and Study of a Hellenistic survey of Astronomy* (Princeton, 2006).

Hanno, *The Periplus of Hanno, A Voyage of Discovery Down the West African Coast by a Carthaginian Admiral of the Fifth Century B.C.*, trans. W.H. Schoff (Philadelphia, 1912).

Hecataeus, Hekataios of Miletos (1)”, trans. and ed. F. Pownall, gen. ed. I. Worthington, *Brill’s New Jacoby*, (2016). http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a1, Accessed 25th May 2019.

Hegesianax of Alexandria Troas, “Hegesianax of Alexandria Troas (45)”, trans. & ed. V. Costa, *Brill’s New Jacoby*, gen. ed. I. Worthington (2016), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a45. Accessed 7th August, 2019.

Hero of Alexandria, *Pneumatics*, trans & ed. B. Woodcraft, *The Pneumatics of Hero of Alexandria*, (London, 1851).

Hesiod, *Theogony*, trans & ed. G.W. Most, *Hesiod: Theogony, Works and Days, Testimonia*, (Cambridge MA, London, 2006).

Hesiod, *Works and Days*, trans. & ed. G.W. Most, *Hesiod: Theogony, Works and Days, Testimonia*, (Cambridge MA, London, 2006).

Herodotus, *The Persian Wars*, trans. & ed. A.D. Godley, Loeb Classical Library, vols. 1-4 (Cambridge MA, London, 1922).

Herodotus, *Histories*, trans. A.L. Purvis, ed. R.B. Strassler, *The Landmark Herodotus: the Histories / a New Translation by Andrea L. Purvis with Maps, Annotations, Appendices, and Encyclopedic Index; Edited by Robert B. Strassler; with an Introduction by Rosalind Thomas* (New York, Toronto, 2007).

Homer, *Iliad*, trans. W. Heinemann, Loeb Classical Library, vols. 1-2 (Cambridge MA, London, 1924-5).

Homer, *Odyssey*, trans. A.T. Murray, Loeb Classical Library, vols. 1-2 (Cambridge MA, London, 1919).

Isocrates, *Ad Nicoclem*, trans. E.S. Forster, *Isocrates Cyprian Orations* (Oxford, 1912).

Isodorus of Charax, "Isidoros of Charax (781)", trans. and ed. D.W. Roller, *Brill's New Jacoby*, gen. ed. I. Worthington (2016), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a781. Accessed 15th July 2019.

Justin, *Epitome of the Philippic History of Pompeius Trogus*, trans. J.S. Watson (London, 1853).

Lindian Chronicle, "Lindian Chronicle (532)", trans. and ed. C. Higbie, *Brill's New Jacoby*, gen. ed. I. Worthington (2016), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a532. Accessed 12th August 2019.

Lucan, *The Civil War*, trans. J.D. Duff, Loeb Classical Library (Cambridge MA, London, 1927).

Lucian, *A True Story*, trans. A.M. Harmon, *The Works of Lucian*, vol. 1, Loeb Classical Library (Cambridge MA, London, 1913).

Longinus, *On the Sublime*, trans. S. Halliwell, W.H. Fyfe, D.C. Innes, W.R. Roberts, Revised D.A. Russell, *Aristotle, Longinus, Demetrius. Poetics. Longinus: On the Sublime. Demetrius: On Style*. Loeb Classical Library (Cambridge MA. 1995).

Lysias, trans. W.R.M. Lamb, Loeb Classical Library (Cambridge MA, London, 1930).

Macrobius, *Commentary on the Dream of Scipio*, trans. W.H. Stahl (New York, 1952).

Map of the World, 92687, 6th C BCE, Clay Tablet, British Museum, London:
https://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?assetId=404485001&objectId=362000&partId=1. Accessed 23rd May 2019.

Martianus Capella, *Geometry in De nuptiis Philologiae et Mercurii*, trans. W.M. Stahl and R. Johnson, *Martianus Capella and the Several Liberal Arts*, vol. 2 (New York, 1977).

Megasthenes, “Megasthenes (715)”, trans. and ed. D.W. Roller, *Brill’s New Jacoby*, gen. ed. I. Worthington (2016), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a715. Accessed 17th March 2019.

Nearchus, “Nearchos (133)”, trans and ed. M. Whitby, *Brill’s New Jacoby*, gen. ed. I. Worthington (2016), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a133. Accessed 30th April 2019.

Onesicritus, “Onesikritos (134)”, trans. and ed. M. Whitby, *Brill’s New Jacoby*, gen. ed. I. Worthington (2016), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a134. Accessed 29th April 2019.

Orientis Graeci Inscriptiones Selectae: Supplementum Sylloges Inscriptionum Graecarum, vols. 1-2, ed. W. Dittenberger (Leipzig, 1903-5, Hildesheim, 1970).

Ovid, *Metamorphosis*, trans. F.J. Miller, Loeb Classical Library, vols. 1-2 (Cambridge MA, London, 1916).

Oxyrhynchus Papyri, Part 10, eds. B. P. Grenfell & A. S. Hunt (London, 1914).

Palaiphatos, “Palaiphatos of Athens (44)”, trans. and ed. R. Nünlist, *Brill’s New Jacoby*, gen. ed. I. Worthington (2016), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a44, accessed online on 21 Aug. 2019.

Parian Marble, “Marmor Parium (239)”, trans. J.P. Sickinger, *Brill’s New Jacoby*, ed. I. Worthington (2019). http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a239. Accessed 23rd June 2019.

Pausanias, *Description of Greece*, trans. W. H. S. Jones, Loeb Classical Library, vols. 1-5 (Cambridge MA, London, 1918-26).

Patrocles, “Patrokles (712)”, trans. and ed. M. F. Williams, *Brill’s New Jacoby*, gen. ed. Ian Worthington (2016), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a712. Accessed May 1st 2019.

Periplus Maris Erythraei, trans. L. Casson (Princeton, 1989).

Philo, *Belopolika* (Mechanics IV), 3.5-7, trans and eds. M.R. Cohen, I.E. Drabkin, *A Source Book in Greek Science* (London, 1948), 318-335.

Philodemus, *On Poems*, trans. R. Janko, *On poems / Philodemus* (Oxford, New York, 2000).

Philodemus, *On Frank Criticism*, trans. & ed. D. Konstan, D. Clay, C.E. Glad, J.C. Thom, J. Ware (trans. & eds.), (Atlanta, 1998).

Pindar, *Isthmian Odes*, trans. W.H. Race, *Pindar*, vol. 2, Loeb Classical Library (Cambridge MA, 1997).

Pindar, *Pythian Odes*, trans. W.H. Race, *Pindar*, vol. 2, Loeb Classical Library (Cambridge MA, 1997).

Plato, *Euthyphro*, trans. H.N. Fowler, *Euthyphro. Apology. Crito. Phaedo. Phaedrus*, Loeb Classical Library, (Cambridge MA, 1914).

Plato, *Ion*, trans. W.R.M. Lamb, *Plato in Twelve Volumes*, vol. 9 (Cambridge MA, London, 1925).

Plato, *Laws*, trans. A. Taylor (London, New York, 1960).

Plato, *Republic*, trans. by P. Shorey, *Plato in Twelve Volumes*, vols. 5 & 6 (Cambridge MA, London, 1969).

Plato, *Phaedrus*, trans. H.N. Fowler, *Plato: Euthyphro. Apology. Crito. Phaedo. Phaedrus*, Loeb Classical Library, vol. 1 (Cambridge MA, London, 1914).

Plato, *Symposium*, trans. W.R.M. Lamb, *Lysis. Symposium. Gorgias*, Loeb Classical Library, vol. 3 (Cambridge MA, London, 1925).

Plato, *Timaeus*, trans. R.G. Bury, *Plato: Timaeus. Critias, Cleitophon, Menexenus, Epistles*, Loeb Classical Library, vol. 9 (Cambridge MA, London, 1929).

Pliny, *Natural History*, trans. H. Rackham, *Natural History: Preface and Books 1-2*, Loeb Classical Library, vol. 1 (Cambridge MA, London, 1938).

Plutarch, *Life of Alexander*, trans. B. Perrin, *Lives: Demosthenes and Cicero. Alexander and Caesar*, vol. 7 (Cambridge MA, London, 1919).

Plutarch, *Life of Cleomenes*, trans. B. Perrin, *Lives: Agis and Cleomenes*, Loeb Classical Library, vol. 10 (Cambridge MA, London, 1968).

Plutarch, *Life of Demosthenes*, trans. B. Perrin, *Lives: Demosthenes and Cicero. Alexander and Caesar*, Loeb Classical Library, vol. 7 (Cambridge MA, London, 1919).

Plutarch, *Life of Lycurgus*, trans B. Perrin, *Lives: Theseus and Romulus. Lycurgus and Numa. Solon and Publicola*, Loeb Classical Library, vol. 5 (Cambridge MA, London, 1914).

- Plutarch, *On the Obsolescence of Oracles*, trans. F.C. Babbitt, *Moralia: Volume V*, Loeb Classical Library (Cambridge MA, London, 1936).
- Plutarch, *On the Fortune or the Virtue of Alexander*, trans F.C. Babbitt, *Plutarch's Moralia*, vol. 4, Loeb Classical Library (Cambridge MA, London, 1962).
- Plutarch, *On Table Talk (Quaestiones Conviviales)*, trans. C.H. Teubner, *Moralia: Volume VIII. Table-talk, Books 1–6*, Loeb Classical Library, vol. 8 (Cambridge MA, London, 1961).
- Plutarch, *On Table Talk (Quaestiones Conviviales)*, trans. C.H. Teubner, *Moralia: Table-Talk, Books 7–9. Dialogue on Love*, Loeb Classical Library, vol. 9 (Cambridge MA, London, 1961).
- Plutarch, *Moralia: Volume X. Love Stories. That a Philosopher Ought to Converse Especially With Men in Power. To an Uneducated Ruler. Whether an Old Man Should Engage in Public Affairs. Precepts of Statecraft. On Monarchy, Democracy, and Oligarchy. That We Ought Not To Borrow. Lives of the Ten Orators. Summary of a Comparison Between Aristophanes and Menander*, trans XX, Loeb Classical Library, vol. 10 (Cambridge MA, London, 1936).
- Plutarch, *That Epicurus Actually Makes a Pleasant Life Impossible*. trans B. Einarsson & P. H. De Lacy, *Moralia: Volume XIV. That Epicurus Actually Makes a Pleasant Life Impossible. Reply to Colotes in Defence of the Other Philosophers. Is "Live Unknown" a Wise Precept? On Music*, Loeb Classical Library, vol. 14 (Cambridge MA, London, 1967).
- Polybius, trans. H.J. Edwards, *The Histories of Polybius*, Loeb Classical Library, vols. 1-6 (Cambridge MA, 1922-7).
- Pomponius Mela, *De chorographia* trans & ed. F.E. Romer, *Pomponius Mela's Description of the World* (Michigan, 1998).
- Posidippus P. Mil. Vogl. VIII 309, trans. F. Nisetich, "The Poems of Posidippus", ed. K. Gutzwiller, *The New Posidippus: A Hellenistic Poetry Book* (Oxford, 2005), 17-64.
- Posidonius, *Histories*, trans. K. Clarke, *Between Geography and History*, Appendix B, 347-373.
- Posidonius, "Poseidonios (87)", trans. & ed. K. Dowden, *Brill's New Jacoby*, gen. ed. I. Worthington (2016), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a87. Accessed 8th June, 2019.
- Proclus, *Commentary on Plato's Timaeus*, trans. & ed. H. Tarrant, D. Baltzly (Cambridge, 2007).
- Prosopographica Ptolemaica*, ed. H. de. Meulenaere (Bruxelles, 1959).
- Pseudo-Callisthenes, *The Alexander Romance*, trans & ed. R. Stoneman (Harmondsworth, 1991).

Pseudo-Xenophon, *The Athenian Constitution*, trans. G.W. Bowersock, E.C. Marchant, *Hiero. Agesilaus. Constitution of the Lacedaemonians. Ways and Means. Cavalry Commander. Art of Horsemanship. On Hunting. Constitution of the Athenians / Xenophon* (Cambridge MA, 1925).

Ptolemaic sacerdotal decrees, trans & ed. R. S. Simpson (Oxford, 1996).

Ptolemy, Claudius, *The Geography*, trans & ed. E.L. Stevenson (Mineola NY, Dover, Toronto, 1991).

Quintus Curtius, *History of Alexander*, trans. J.C. Rolfe, Loeb Classical Library, vols. 1-2 (Cambridge MA, 1946).

Satrap Stele, Cairo JdE 22182, trans. Ritner, ed. W.K. Simpson, *Literature of Ancient Egypt* (New Haven, CT, 2003).

Satyros of Alexandria, "Satyros of Alexandria (631)", trans & ed. S. Gambetti, *Brill's New Jacoby*, gen. ed. I Worthington (2012), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a631. Accessed 27th August, 2019.

SEG 7- 326, Khorai   (prope Qana, or. versus a Tyro), *Dedicatio Ptolemaeo IV, a. 219/17a.*, J.HJ.E. Hondius (ed.), *Supplementum Epigraphicum Graecum*, eds. A. Chaniotis, T. Corsten, N. Papazarkadas, R.A. Tybout, http://dx.doi.org/10.1163/1874-6772_seg_a7_326. Accessed 30th June 2019.

Sextus Empiricus, *Outlines of Pyrrhonism*, trans R.G. Bury, *Outlines of Pyrrhonism*, Loeb Classical Library (Cambridge MA, London, 1933).

Strabo, *The Geography of Strabo*, trans. H.L. Jones, Loeb Classical Library, vols. 1-8 (Cambridge MA, London, 1917- 1932).

Strato of Lampsacus, trans. & ed. R.W. Sharples, *Strato of Lampsacus: The Sources, Texts and Translations* (New York, 2011).

Suda, gen. ed. D. Whitehead, *Suda on Line : Byzantine Lexicography*, Stoa Consortium (2000), <https://www.cs.uky.edu/~raphael/sol/sol-html/> (2000). Accessed 14th April 2019.

Suetonius, *De grammaticis et rhetoribus*, trans. J.C. Rolfe, *Suetonius*, vol.2 (Cambridge MA, London).
Supplementum Hellenisticum, ed. H. Lloyd-Jones & P.J. Parsons, vol. 11 (Berlin & New York, 1983)

Tacitus, *Germania*, trans. M. Hutton & W. Peterson, *Tacitus, Agricola, Germania, Dialogue on Oratory* (Cambridge MA, London, 1914).

Theocritus, *Idylls*, trans. & ed. N. Hopkinson, *Theocritus, Moschus, Bion*, Loeb Classical Library (Cambridge MA, London, 2015).

Theoginus, trans. D.E. Gerber, *Greek Elegiac Poems*, Loeb Classical Library (Cambridge MA, 1999).

Theon of Smyrna, “De Proportionibus” and “De ratione et intervallo” ed. Hiller, Eduard. *Theonis Symrnaei Philosophi Platonici Expositio Rerum Mathematicarum Ad Legendum Platonem Utilium* (New York, 1878).

Theophrastus, *History of Plants*, trans. Arthur Hort, *Theophrastus: Enquiry into Plants and Minor Works on Odours and Weather Signs*, Loeb Classical Library, vol.2 (Cambridge MA, London, 1926).

Thucydides, *History of the Peloponnesian War*, trans. C.F. Smith, Loeb Classical Library, vols. 1-4 (Cambridge MA, London, 1920).

Thucydides, *History of the Peloponnesian War*, trans. R Crawley, ed. R. Strassler, *The Landmark Thucydides : A Comprehensive Guide to the Peloponnesian War* (New York, 1996).

Timon, “Philologi in Museo Alexandrino”, ed. H. Lloyd-Jones & P.J. Parsons, *Supplementum Hellenisticum*, vol. 11 (Berlin & New York, 1983), 786 (12) at 373.

Velleius Paterculus, trans. F.W. Shipley, *Compendium of Roman History. Res Gestae Divi Augusti / Velleius Paterculus*, Loeb Classical Library (Cambridge MA, London, 1924).

Vitruvius, *On Architecture*, trans. F. Granger, *On Architecture*, Loeb Classical Library, vols. 1-2 (Cambridge MA, London, 1931-4).

Xanthus of Lydia, “Xanthos (765)”, trans. and ed. A. Paradiso, *Brill’s New Jacoby*, gen. ed. I. Worthington (2016), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a765, Accessed 25 August 2019.

Xenophon, *Symposium*, trans. O.J. Todd, Rev. J. Henderson, *Memorabilia; Oeconomicus / Xenophon; translated by E.C. Marchant. Symposium ; Apology / translated by O.J. Todd ; revised by Jeffrey Henderson*. Loeb Classical Library (Cambridge MA, 1925, 2013).

Modern Scholarship

Aly, W., *Strabon von Amaseia 4: Untersuchungen über Text, Aufbau und Quellen der Geographika* (Bonn, 1957).

Almagor, E., “Who is a barbarian? The barbarians in the ethnological and cultural taxonomies of Strabo”, D. Dueck, H. Lindsay, S. Potheary (eds.), *Strabo’s Cultural Geography: The Making of a Kolossourgia* (Cambridge, 2005), 43-55.

Anagnostou-Laoutides, E., *In the Garden of the Gods, Models of Kingship from the Sumerians to the Seleucids* (London & New York, 2017).

- Anderson, A.R., "Alexander at the Caspian Gates", *Transactions and Proceedings of the American Philological Association*, vol. 59 (1928), 130 -163.
- Anson, E. M., 'Alexander and Siwah', *The Ancient World*, vol. 34 (2003), 117-30.
- Aujac, G., "The Growth of an Empirical Cartography in Hellenistic Greece", J.B. Harley, & D. Woodward (eds.), *The History of Cartography*, vol. 1 (Chicago & London, 1987), 148-160.
- Baronowski, D.W., *Polybius and Roman Imperialism* (London & New York, 2011).
- Beagon, M., *Roman Nature: The Thought of Pliny the Elder* (Oxford, 1992).
- Belich, J., *The New Zealand Wars and the Victorian Interpretation of Racial Conflict* (Auckland, 1986).
- Benuzzi, F., "Eratosthenes' studia Aristophanica", R. Berardi, N. Bruno, L. Fizzarotti (eds.), *On the Track of the Books: Scribes, Libraries and Textual Transmission* (Berlin, Boston, 2019), 125-142.
- Berger, H., *Geschichte der wissenschaftlichen Erdkunde der Griechen* vol. I-IV (Leipzig, 1887-1893).
- Berggren, J. L., & Jones, A., *Ptolemy's Geography: An Annotated Translation of the Theoretical Chapters*, (Princeton & Oxford: Princeton University Press, 2000).
- Bergquist, B., "Sympotic Space", O. Murray (ed.), *Sympotica: A Symposium on the Symposion* (Oxford, 1990), 37-65.
- Berrey, M., *Hellenistic Science at Court* (Berlin & Boston, 2017).
- Bevan, E.R., *The House of Ptolemy* (London, 1927).
- Bianchetti, S., "The Invention of Geography", S. Bianchetti, M.R Cataudella, H.-J. Gehrke, (eds.), *Brill's Companion to Ancient Geography: The Inhabited World in Greek and Roman Tradition* (Leiden & Boston, 2016), 132-149.
- Bing, P., "The Politics and Poetry of Geography in the Milan Piosidippus, Section One: On Stones (AB 1-20)", K. Gutzwiller (ed.), *The New Posidippus: A Hellenistic Poetry Book* (Oxford, 2005), 119-140.
- Blackman, A.M., "Oracles in Ancient Egypt", *Journal of Egyptian Archaeology*, vol. 11, no. 3/4 (Oct., 1925), 249-255.
- Blomquist, J., "Alexandrian Science: The Case of Eratosthenes", P. Bilde, T. Engberg-Pedersen, L. Hannestad, J. Zahle (eds.), *Ethnicity in Hellenistic Egypt* (Aarhus, 1992), 53-69.
- Borgeaud, P., "The Open Entrance to the Closed Palace of the King: The Greek Labyrinth in Context", *History of Religions*, vol. 14, no. 1 (1974), 1-27.

- Bosworth, A.B., *A Historical Commentary on Arrian's History of Alexander, Volume 1, Commentary on Books I-III* (Oxford 1980).
- Bosworth, A.B., *A Historical Commentary on Arrian's History of Alexander, Volume 2, Commentary on Books IV-V* (Oxford 1995).
- Bosworth, A.B., *Alexander and the East: The Tragedy of Triumph* (Oxford, 1996).
- Bosworth, A.B., "Alexander and the Iranians.", *Journal of Hellenic Studies*, vol. 101, 1981, 1.
- Bosworth, A.B., *Arrian, Alexander, and the Pursuit of Glory* (Malden MA, Oxford, Carlton, 2007).
- Bosworth, A.B., "Arrian at the Caspian Gates: A Study in Methodology", *The Classical Quarterly*, vol. 33, no. 1 (1983), 265-276.
- Bosworth, A.B., *From Arrian to Alexander: Studies in Historical Interpretation* (Oxford, 1988).
- Bosworth, A.B., "The Historical Setting of Megasthenes' Indica", *Classical Philology*, vol. 91, no. 2 (April, 1996), 113-127.
- Brodersen, K., "Chapter 4: Cartography", D. Dueck, (ed.), *Geography in Classical Antiquity* (Cambridge, 2012), 99-110.
- Brownson, C. L., "Reasons for Plato's Hostility to the Poets." *Transactions and Proceedings of the American Philological Association*, vol. 28 (1897), 5-41.
- Brunt, P.A., "Introduction", *Anabasis of Alexander, Volume I: Books 1-4*, Loeb Classical Library (Cambridge MA, 1976), IX-LXXXIV.
- Brunt, P.A., *Arrian, History of Alexander and Indica*, vols 1-2 (Cambridge MA, 1976, 1983).
- Bunbury, E.H., *A History of Ancient Geography Among the Greeks and Romans from the Earliest Ages till the Fall of the Roman Empire*, vol. 1 (London, 1879).
- Burstein, S., "Elephants for Ptolemy II: Ptolemaic Policy in Nubia in the Third Century BC", P. McKechnie & P. Guillaume (eds.), *Ptolemy II Philadelphus and his World*, (Leiden & Boston, 2008), 135 – 148.
- Burton, D., *The History of Mathematics: an introduction* (New York, 2006).
- Burton, J.B., *Theocritus' Urban Mimes: Mobility, Gender, Patronage* (Berkeley & London, 1995).
- Bury, J.B., *The Hellenistic Age: Aspects of Hellenistic Civilization* (New York, 1923).
- Carey, S., *Pliny's Catalogue of Culture: Art and Empire in the Natural History* (Oxford, 2003).

- Cartledge, P., "Introduction", *Arrian, Anabasis*, trans. P. Mensch, ed. J. Romm, *The Landmark Arrian : the Campaigns of Alexander = Anabasis Alexandrou / a New Translation by Pamela Mensch ; with Maps, Annotations, Appendices, and Encyclopedic Index ; Edited by James Romm ; with an Introduction by Paul Cartledge* (New York, 2010), xiii-xxviii.
- Ceccarelli, P., *Ancient Greek Letter Writing: A Cultural History (600 BC- 150 BC)* (Oxford, 2013)
- Ceccarelli, P., "Letters and Decrees: Diplomatic protocols in the Hellenistic Period", P. Ceccarelli, L. Doering, T. Fögen, I. Gildenhard (eds.), *Letters and Communities: Studies in the Socio-Political Dimensions of Ancient Epistolography* (Oxford, 2018), 146-84.
- Chaniotis, A., *War in the Hellenistic World: A Social and Cultural History* (Malden, MA, Oxford, Carlton, 2005).
- Christopherson, S., 'On Being Outside "the Project"', *Antipode*, vol. 21, no. 2 (1989), 83-89.
- Church, M., "Immanuel Kant and the Emergence of Modern Geography", S. Eldon & E. Mendieta, *Reading Kant's Geography* (New York, 2011). 19 – 46.
- Clarke, K., *Between Geography and History: Hellenistic Constructions of the Roman World* (Oxford, 1999).
- Clarke, K., "In Search of the Author of Strabo's Geography", *Journal of Roman Studies*, Vol. 87 (1997), 92-110.
- Clayman, D., "Berenice and Her Lock." *Transactions of the American Philological Association*, vol. 141, no. 2 (2011), 229-46.
- Clayman, D., *Berenice II and the Golden Age of Ptolemaic Egypt* (Oxford, 2014).
- Collinder, P., "Dicaearchus and the 'Lysimachian' Measurement of the Earth." *Sudhoffs Archiv für Geschichte der Medizin und der Naturwissenschaften*, vol. 48, no. 1, 1964, 63–78.
- Collins, A., "Alexander's Visit to Siwa: A new Analysis", *Phoenix*, vol. 68, no. 1/2 (2014), 62-77.
- Connors, C., "Eratosthenes, Strabo, and the Geographer's Gaze", *Pacific Coast Philology*, Vol. 46, No. 2, Special Issue: Literature, Culture, and the Environment (2011), 139-152
- Conrad, J., *Heart of Darkness* (London, 1899).
- Costa, V., "Hegesianax of Alexandria Troas (45)", biographical essay and commentary, I. Worthington (ed.), *Brill's New Jacoby* (2016), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a45. Accessed 7th August, 2019.

- Couat A., *Alexandrian Poetry under the first three Ptolemies, 324-222 BC*, trans J. Loeb (Paris, 1882, New York, 1931).
- Criscuolo, L., "Ptolemies and Piracy", K. Buraselis, M. Stefanou, D.J. Thompson (eds.), *The Ptolemies, the Sea and the Nile* (Cambridge, 2013), 160-71.
- Cummings, L.V., *Alexander the Great*, (New York, 1940).
- Dan, A., Geus, K. & Guckelsberger, K., "What is Common Sense Geography? Some Preliminary Thoughts from a Historical Perspective" in *Features of Common Sense Geography: Implicit Knowledge Structures in Ancient Geographical Texts*, K. Geus & M. Thiering (eds.), Zürich, 2014), 17-38.
- Deacy, S., "Gods – Olympian or Chthonian?", E. Eidinow & J. Kindt (eds), *Classical Studies, Classical Religions and Mythologies*, (Oxford, 2015, online 2016),
<https://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199642038.001.0001/oxfordhb-9780199642038-e-25>. Accessed 13th March 2019.
- De Jong, I.J.F., "Introduction", I.J.F. De Jong, (ed.), *Homer: Critical Assessments*, Vol. 3. (London and New York, 1999), 1-24.
- De Jong, I.J.F., *Narratology and the classics* (Oxford, 2014).
- Dicks, D.R., "Strabo and the KAIMATA", *The Classical Quarterly*, vol. 6, no. 3/4 (1956), 243-247.
- Diller, A., "Geographical Latitudes in Eratosthenes, Hipparchus and Posidonius." *Klio*, vol. 27 (1934), 258-69.
- Diller, A., "The Ancient Measurements of the Earth", *Isis* 40, 1, (1949), 6-9.
- Dueck, D., *Geography in Classical Antiquity* (Cambridge, 2012).
- Dueck, D., *Strabo of Amasia: A Greek Man of Letters in Augustan Rome* (London, 2000).
- Edmunds, L., "The Religiosity of Alexander the Great," *Greek, Roman and Byzantine Studies*, vol. 12, no.3 (1971), 363–91.
- Elsner, J., "Structuring 'Greece': Pausanias's Periegesis as a Literary Construct", S. Alcock, J.F. Cherry, J. Elsner (eds.), *Pausanias: Travel and Memory in Roman Greece* (New York, 2001), 3-20.
- Elsner, J., *Art and the Roman viewer: the transformation of art from the Pagan world to Christianity* (Cambridge, 1995).

- Engels, J., "Daimachos (716)", biographical essay and commentary, I. Worthington (ed.), *Brill's New Jacoby* (2016), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a716. Accessed 3rd July 2019.
- Eriksen, T.H., *Ethnicity and nationalism: anthropological perspectives* (New York, 1993).
- Erskine, A., "Approaching the Hellenistic World", A. Erskine (ed.), *A Companion to the Hellenistic World* (Malden MA, Oxford & Melbourne, 2003), 1-15.
- Erskine, A., "Between Philosophy and the Court: The Life of Persaios of Kition", A. Erskine & L. Llewellyn-Jones (eds.), *Creating a Hellenistic World* (Swansea, 2010), 177-194.
- Erskine, A., "Culture and Power in Ptolemaic Egypt: The Museum and Library of Alexandria." *Greece & Rome* 42, no. 1 (1995), 38-48.
- Erskine, A., "Founding Alexandria in the Alexandrian imagination", S. Ager, R. Faber (eds.), *Belonging and Isolation in the Hellenistic World* (Toronto, 2013), 169-183.
- Erskine, A., "From Alexander to Augustus", J.J. Clauss & M. Cuypers (eds.), *A Companion to Hellenistic Literature*, (Malden MA, Oxford & Chichester, 2010), 17-29.
- Erskine, A., "Life After Death: Alexandria and the Body of Alexander", *Greece & Rome*, vol. 49, no. 2, (2012), 163-179.
- Erskine, A., "Polybius and Ptolemaic Sea Power", K. Buraselis, M. Stefanou, D.J. Thompson (eds.), *The Ptolemies, the Sea and the Nile: Studies in Waterborne Power* (Cambridge, 2013), 92-96.
- Erskine, A., *The Hellenistic Stoa: political thought and action* (London, 1990).
- Evans, R., "The Cruel Sea?: Ocean as Boundary Marker and Transgressor in Pliny's Roman Geography." *Antichthon*, vol. 39 (2005), 105–119.
- Fairbanks, A., "Herodotus and the Oracle at Delphi", *Classical Journal*, vol. 1, no. 2 (1906), 37-48.
- Fantuzzi, M., & Hunter, R., *Tradition and Innovation in Hellenistic Poetry* (Cambridge, 2004).
- Fehr, B., "Entertainers at the *Symposion*: The *Akleteoi* in the Archaic period", O. Murray (ed.), *Symptica: A symposium on the Symposion* (Oxford 1990), 185-95.
- Fisch, M.H., "Alexander and the Stoics", *American Journal of Philology*, vol. 58, no. 2 (1937), 129-151.
- Fontenrose, J., *Python: A Study of Delphic Myth and its Origins* (Berkeley, 1959).

- Fowler, D., "Narrate and Describe, the problem with Ekphrasis", *Journal of Roman Studies*, vol. 81 (1991), 25-35.
- Fox, R.L., "The First Hellenistic Man", *Creating a Hellenistic World*, A. Erskine & L. Llewelyn-Jones (eds.), (Swansea, 2011), 1-31.
- Fraser, P.M., *Cities of Alexander the Great* (Oxford, 1996).
- Fraser, P.M., *Eratosthenes of Cyrene: Lecture on a Master Mind*, British Academy (London, 1971).
- Fraser, P.M., *Ptolemaic Alexandria*, Vol. I, Text (Oxford, 1972).
- Fraser, P.M., *Ptolemaic Alexandria*, Vol. II, Notes (Oxford, 1972).
- Fraser, P.M., *Ptolemaic Alexandria*, Vol. III, Indexes (Oxford, 1972).
- Fukuyama, F., "The End of History?", *The National Interest*, no. 16 (Summer 1989), 3-18.
- Gaspar, J.A. & Leitão, H., "Squaring the Circle: How Mercator Constructed His Projection in 1569", *Imago Mundi*, vol. 66, no. 1, 1-24.
- Geertz, C., *The Interpretation of Cultures: Selected Essays* (New York, 1973).
- Gellner, E., *Nations and Nationalism*, (Oxford, 1983).
- Geus, K., *Eratosthenes Von Kyrene: Studien zur hellenistischen Kultur und Wissenschaftsgeschichte* (Munich 2002).
- Geus, K., & Guckelsberger, K., "Measurement Data in Strabo's Geography", D. Dueck (ed.), *Routledge Companion to Strabo* (Abingdon, New York, 2017), 165-179.
- Gill, C., "Altruism and Reciprocity in Greek Philosophy?", C. Gill, N. Postlethwaite, R. Seaford (eds.), *Reciprocity in Ancient Greece*, 303-328.
- Gmirkin, R., *Berosus and Genesis, Manetho and Exodus: Hellenistic Histories and the Date of the Pentateuch* (New York, 2006).
- Goldhill, S., *The Invention of Prose* (Oxford, 2002).
- Gould, P., & White, R., *Mental Maps* (Harmondsworth, 1974).
- Gow, A.S.F., *Theocritus, edited with a translation and commentary*, 2 vols. (Cambridge, 1950).
- Goyette, M., "Ptolemy II Philadelphus and the Dionysiac Model of Political Authority", *Journal of Ancient Egyptian Interconnections*, vol. 2, no.1 (2010), 1-13.
- Grainger, J.D., *A Seleukid Prosopography and Gazetteer* (Leiden, 1997).

- Gray, P., "The Liar Paradox and the Letter to Titus", *Catholic Biblical Quarterly*, vol. 69, no. 2 (April 2007), 302-314.
- Green, P., *Alexander to Actium: the historical evolution of the Hellenistic* (Berkeley, 1990).
- Green, P., *Hellenistic History and Culture* (Berkeley, Los Angeles, London, 1993).
- Green, P., "The politics of Royal Patronage Early Ptolemaic Alexandria", *Grand Street*, vol. 5, no. 1, (1985), 151-163.
- Gruen, E., "Hellenistic Court patronage and the non-Greek world", A. Erskine, L. Llewellyn-Jones, S. Wallace (eds), *The Hellenistic Court: Monarchic Power and Élite Society from Alexandria to Cleopatra*, (Swansea, 2017), 295-318.
- Gutzwiller, K., *A Guide to Hellenistic Literature* (Malden MA, Oxford & Melbourne, 2007).
- Hall, E., *Inventing the Barbarian: Greek Self-Definition through Tragedy* (Oxford, 1989).
- Hall, J., "The role of language in Greek ethnicities", *Cambridge Classical Journal: Proceedings of the Cambridge Philological Society*, vol 41 (1996), 83-100.
- Halliwell, S., "Poetry in the Light of Prose: Gorgias, Isocrates, Philodemus.", *Between Ecstasy and Truth* (Oxford, 2012), 266- 326.
- Hamilton, J.R., "The Start of Nearchus' Voyage", *Historia*, vol. 43 (1994), 499-503.
- Hammond, N.G.L., *Sources for Alexander the Great. An Analysis of Plutarch's Life and Arrian's Anabasis Alexandrou* (Cambridge, 1993).
- Hammond, N.G.L., "The Royal Journal of Alexander", *Historia* 37 (1988), 129-50.
- Harley, J.B., "The map and the Development of the History of Cartography", J.B. Harley & D. Woodward (eds.), *The History of Cartography: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean*, vol. 1 (Chicago & London, 1987), 1-42.
- Harvey, D., *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change* (Oxford, 1989).
- Hauben, H., "Callicrates of Samos and Patrocles of Macedon", K. Buraselis, M. Stefanou, & D.J. Thompson (eds.), *The Ptolemies, the Sea and the Nile: Studies in Waterborne Power* (Cambridge, 2013), 39-66.
- Hauben, H., "Cyprus and the Ptolemaic navy", *Report of the Department of Antiquities*, vol. 65 (1987), 213-26.

- Havelock, C. M., "The Archaistic Athena Promachos in Early Hellenistic Coinages." *American Journal of Archaeology*, vol. 84, no. 1, 1980, 41–50.
- Hazzard, R.A., *Imagination of a Monarchy: Studies in Ptolemaic Propaganda* (Toronto, 2000).
- Heerink, M., "Merging paradigms: translating pharaonic ideology in Theocritus' Idyll 17", R. Rollinger, M. Lang, B. Gufler, I. Madreiter (eds.), *Interkulturalität in der Alten Welt: Vorderasien, Hellas, Ägypten und die vielfältigen Ebenen des Kontakt* (Wiesbaden, 2010), 383-408.
- Herman, G., *Ritualised Friendship and the Greek City* (Cambridge, 1987).
- Heyne, C.G., "De Genio Saeculi Ptolemaeorum", *Opuscula Academica Collecta*, vol. 1 (Göttingen, 1785), 76–134.
- Hinds, S., "Generalising about Ovid", *Ramus*, Vol. 16, No. 1-2, 1987, 4-31.
- Hölbl, G., *A History of the Ptolemaic Empire* (New York, 2001).
- Hornblower, S., "Narratology and Narrative Techniques in Thucydides", S. Hornblower (ed.), *Thucydidean Themes* (New York, 2011), 59-99.
- Hornblower, S., "Peter Marshall Fraser, 1918-2007", *The British Academy* (November, 2013), 158 - 169, <https://www.thebritishacademy.ac.uk/publications/memoirs/fraser-peter-marshall-1918-2007>, accessed 1st July 2019.
- Howe, T., "The Diadochi, Invented Tradition, And Alexander's Expedition to Siwah", *After Alexander, The Time of the Diadochi (323-281 BC)*, V. A. Troncoso, E. M. Anson (Oxford & Oakville, 2013), 56-70.
- Humbolt, A. von, *Personal Narrative of a journey to the Equinoctial Regions of the New Continent*, trans. J. Wilson (London, 1818, 1995).
- Hunter, R., "The Reputation of Callimachus", D. Obbink, R. Rutherford (eds.), *Culture in Pieces: Essays on Ancient Texts in Honour of Peter Parsons* (Oxford, 2011), 220-237.
- Hunter, R., (trans. & ed.) *Theocritus: Encomium of Ptolemy Philadelphus* (Berkeley, Los Angeles, London, 2003).
- Hunter, R., *Theocritus and the Archaeology of Greek Poetry* (Cambridge, 1996).
- Hunter, *The Measure of Homer: The Ancient Reception of the Iliad and the Odyssey* (Cambridge, 2018).
- Ignacio, A., & Marín, M., "Under the Shadow of Eratosthenes: Strabo and the Alexander Historians", D. Dueck (ed.) *The Routledge Companion to Strabo* (Abingdon & New York, 2017), 294-305.

- Irby G., "Mapping the World: Greek Initiatives from Homer to Eratosthenes", R. Talbert, (ed.), *Ancient Perspectives: Maps and Their Place in Mesopotamia, Egypt, Greece and Rome* (Chicago & London, 2012), 81-107.
- Janni, P., *La mappa e il periplo: Cartografia antica e spazio odologico* (Rome, 1984).
- Keltie, J. S., & Howarth, O. J. R., *History of Geography* (New York & London, 1913).
- Keyser, P. T., "Reviewed Work(s): Eratosthenes' Geography: Fragments Collected and Translated with Commentary and Additional Material by Duane W. Roller", *Classical World*, vol. 105, no. 1 (2011), 146-147.
- Keyser, P.T. & Irby-Massie, G., "Science, Medicine and Technology", G.R. Bugh (ed.), *The Cambridge Companion to the Hellenistic World* (New York, 2006), 241-64.
- Keyser, P., "The Geographical Work of Dikaiarchos", W. Fortenbaugh & E. Schutrumpf (eds.), *Dicaearchus of Messana. Text, Translation, and Discussion* (London, 2001), 353-72.
- Kern, O., *Orphicorum Fragmenta*, (Berlin, 1922).
- Kim, L., "The Portrait of Homer in Strabo's Geography", *Classical Philology*, vol. 102, no. 4 (2007), 363-388.
- Kindt, J., *Rethinking Greek Religion*, (Cambridge, 2012).
- Kindt, J., *Revisiting Delphi: Religion and Storytelling in Ancient Greece* (Cambridge, 2016).
- Knorr, W. R., *Textual Studies in Ancient and Medieval Geometry* (Boston, 1989).
- Konstan, D. "Introduction", *Philodemus on Frank Criticism*, D. Konstan, D. Clay, C.E. Glad, J.C. Thom, J. Ware (trans. & eds.), (Atlanta, 1998).
- Konstan, D., "Reciprocity and Friendship", E. Gill, N. Postlethwaite, R. Seaford (eds.), *Reciprocity in Ancient Greece* (Oxford, 1998), 279-302.
- Kosmin, P.J., *The Land of the Elephant Kings: Space, Territory, and Ideology in the Seleucid Empire* (Cambridge MA, London, 2010)
- Kosmin, P.J., "The Politics of Science: Eratosthenes' Geography and Ptolemaic Imperialism", *Orbis Terrarum, Journal of Historical Geography of the Ancient World*, vol. 15 (2017), 85-96.
- Krupp, E. C., "Hair-Raising Tale", *Sky & Telescope*, vol. 95, no. 5, (1998), 80.
- Landvatter, T., "The Serapis and Isis Coinage of Ptolemy IV." *American Journal of Numismatics*, vol. 24 (2012), 61-90.

- Langslow, D. R., "The Epistula in Ancient Scientific and Technical Literature, with Special Reference to Medicine", R. Morello and A. D. Morrison (eds.), *Ancient Letters: Classical and Late Antiquity Epistolography*, (Oxford, 2007), 211–234.
- Laronde, A., *Cyrène et la Libye Hellénistique. Libykai Historiai* (Paris, 1987).
- Larson, J., *Understanding Greek Religion* (London, 2016).
- Laskowska-Kustzal, E., *Die Dekorfragmente der ptolemäisch-römischen Tempel von Elephantine. Elephantine XV. AV 73* (Mainz, 1996), 151-2.
- Laskowska-Kustzal, E., "The Contribution of Graeco-Roman Elephantine to the Theology of the First Cataract Region", D. Raue, S.J. Seidlmayer, P. Speiser (eds.), *The First Cataract Region: One Region – Diverse Perspectives* (Berlin, 2013), 103-110.
- Leith, D., Causing Doubts: Diodorus Cronus and Herophilus of Chalcedon on Causality, *Classical Quarterly*, vol., 64 no. 2 (2014), 592-608.
- Leventhal, M., "Eratosthenes' Letter to Ptolemy: The Literary Mechanics of Empire", *American Journal of Philology*, vol. 138, no. 1, (2017), 43-84.
- Levi-Strauss, C., trans. J. and D. Weightman, *Tristes Tropiques* (Paris, 1955, London, 1992).
- Lewis, M.J.T., *Surveying Instruments of Greece and Rome* (Cambridge, 2001).
- Lewis, M.J.T., "Greek and Roman Surveying Instruments" R.J.A. Talbert, (ed.), *Ancient Perspectives: Maps and their Place in Mesopotamia, Egypt, Greece and Rome* (Chicago, 2012), 129-162.
- Lewis, N., *Greeks in Ptolemaic Egypt* (Oxford, 1986).
- Liddell, H. G., & Scott, R., *A Greek-English lexicon: with a supplement 1968*, 9th edition, revised H. S. Jones (Oxford, 1990).
- Liotsakis, V., *Alexander the Great in Arrian's Anabasis* (Berlin, Boston, 2019).
- Lloyd, A.B., "The Egyptian Élite in the early period: some hieroglyphic evidence", *The Hellenistic World: New Perspectives*, D. Ogden (ed.), (London, 2002), 117 – 136.
- Lloyd, G.E.R., *The Revolutions of Wisdom: Studies in the Claims and Practice of Ancient Greek Science*. (Berkeley, 1987).
- Lloyd, G.E.R., *Greek Science After Aristotle* (London, 1973).
- Lloyd-Jones & P.J. Parsons, F979 commentary, *Supplementum Hellenisticum*, ed. H. Lloyd-Jones & P.J. Parsons, vol. 11 (Berlin & New York, 1983), 493-4.

- Longhorn, M., & S. Hughes, "Modern Replication of Eratosthenes' Measurement of the Circumference of Earth." *Physics Education*, vol. 50, no. 2 (2015), 175–178.
- Lloyd, G.E.R., *The Revolutions of Wisdom: Studies in the Claims and Practice of Ancient Greek Science* (Berkeley, 1987).
- Luce, J.V., "Greek Science in its Hellenistic Phase", *Hermathena*, vol. 145 (Winter, 1988), 23-38.
- Lukinovich, A., "The Play of Reflections between Literary Form and the Sympotic Theme in the *Deipnosophistae* of Athenaeus", O. Murray (ed.), *Symptotica: A symposium on the Symposium* (Oxford, 1990).
- Lukoševičius, V., & Duska, T., "Eratosthenes' Map of the Oecumene", *Geodesy and Cartography*, vol. 38, no. 2 (2012), 81-85.
- McKechnie, P., "Our Academic visitor is missing: Posidippus 89 (A–B) and 'smart capital' for the thalassocrats", K. Buraselis, M. Stefanou, D.J. Thompson (eds.), *The Ptolemies, the Sea and the Nile: Studies in Waterborne Power* (Cambridge, 2013), 132-142.
- McKechnie, P., "Ptolemy Philadelphus: A New Moses", P. McKechnie & P. Guillaume (eds.), *Ptolemy II Philadelphus and his World*, 233-246.
- McPhail, C., "Pytheas of Masallia's Route of Travel", *Phoenix*, vol. 68, no. 3/4 (Fall-Winter/automne-hiver 2014), 247-257.
- McPhail, C., "Pytheas of Massalia's Route of Travel" *Phoenix*, vol. 68, no. 3/4 (2014), 247-57.
- Machiraju, R., "Fixing the Mercator Projection for the Internet Age", *Computer* (2014), vol. 47, no. 1, 9.
- Malkin, I., *Myth and territory in the Spartan Mediterranean* (Cambridge, 1994).
- Manning, J.G., *The Last Pharaohs: Egypt under the Ptolemies, 305 – 30 BC* (Princeton, 2010).
- Matthen, M., and Hankinson, R. "Aristotle's Universe: Its Form and Matter." *Synthese*, vol. 96, no. 3, 1993, 417–435.
- Meadows, A., "The Ptolemaic League of Islanders", K. Buraselis, M. Stefanou, D.J. Thompson (eds.), *The Ptolemies, the Sea and the Nile: Studies in Waterborne Power* (Cambridge, 2013), 19-38.
- Miller, J., "Aristotle's Paradox of Monarchy and the Biographical Tradition", *History of Political Thought*, vol. 19, no. 4, 1998, 501–516.
- Mitchell, L.G., *Greeks bearing gifts: The Public and Private Relations in the Greek World, 435-323 BC* (Cambridge, 1997).

- Montana, F., "Aristotle, Eratosthenes and the beginnings of Alexandrian scholarship on the Archaia", *Trends in Classics*, vol. 5, no.1 (2013), 144-158.
- Mooren, L., *The Aulic Titulature in Ptolemaic Egypt* (Brussels, 1975).
- Morgan, J., "At home with Royalty: re-viewing the Hellenistic Palace", A. Erskine, L. Lloyd-Jones, S. Wallace (eds.), *The Hellenistic Court: Monarchic Power and Élite Society from Alexander to Cleopatra* (Swansea, 2017), 31-68.
- Müller, W., "Hellenistic Aswan", D. Raue, S.J. Seidlmayer, P. Speiser, (eds.), *The First Cataract of the Nile: One Region Diverse Perspectives* (Berlin, 2013), 122-33.
- Murphy, T., *Pliny the Elder's Natural History: The Empire in the Encyclopedia* (Oxford, 2004).
- Murray, G., *A History of Ancient Greek Literature* (New York, 1897).
- Murray, O., "Philosophy and monarchy in the Hellenistic world", in T. Rajak, S. Pearce, J. Aitken & J. Dines (eds.), *Jewish Perspectives on Hellenistic Rulers* (Berkeley, 2007), 13-28.
- Murray, O., "Ptolemaic Royal Patronage", P. McKechnie, P. Guillame, P. (eds.), *Ptolemy II Philadelphus and His World* (Leiden & Boston, 2008), 9-24.
- Murray O., "Symptotic History", O. Murray (ed.), *Symptotica: A symposium on the Symposium* (Oxford 1990), 3-13.
- Murray, O., *The Symposium: Drinking Greek Style* (Oxford 2018).
- Murray, O., "The Greek Symposium in History", E. Gabba (ed.), *Tria Corda: Scritti in onore di Arnaldo Momigliano* (Como, 1983), 257-72.
- Nachtergaele, G., "La Chevelure d'Isis" *L'Antiquité Classique*, vol. 50 (1981), 584-606.
- Nagle, D. B., "The Cultural Context of Alexander's Speech at Opis", *Transactions of the American Philological Association*, vol. 126, (1996), 151-172.
- Naunton, C., "Libyans and Nubians", A. B. Lloyd (ed.), *A Companion to Ancient Egypt*, vol. 1 (Oxford, 2010).
- Nelson, S.A., *God and the Land: The Metaphysics of Farming in Hesiod and Vergil* (New York, Oxford, 1998).
- Netz, R., *Ludic Proof: Greek Mathematics and the Alexandrian Aesthetic* (Cambridge, 2009).
- Oberhelman, S.M., "Eratosthenes", N. Wilson (ed), *Encyclopedia of Ancient Greece* (New York, 2006), 269-70.

- Obbink, D. "Vanishing Conjecture: Lost books and their recovery from Aristotle to Eco", D. Obbink, & R. Rutherford, *Culture In Pieces: Essays on Ancient Texts in Honour of Peter Parsons* (Oxford, 2011). 20-49.
- Ockinga, B.G., "The Satrap Stele of Ptolemy: A reassessment", P. McKechnie, J.A. Cromwell (eds.), *Ptolemy I and the Transformation of Egypt, 404-282 BCE*, (Leiden, Boston, 2018), 166-98.
- Ogden, D., 'From Chaos to Cleopatra', D. Ogden (ed.) *The Hellenistic World: New Perspectives* (London and Swansea, 2002) i–xv.
- Ogden, D., *The Crooked Kings of Ancient Greece* (London, 1997).
- Osborne, R., *Classical Landscape with Figures: The Ancient Greek City and its Countryside* (London, 1987).
- Pàmias, J., "Dionysus and Donkeys on the Streets of Alexandria: Eratosthenes' Criticism of Ptolemaic Ideology", *Harvard Studies in Classical Philology*, vol. 102 (2004), 191-198.
- Papademetriou, K., "The Performative Meaning of the Word *παρρησία* in Ancient Greek and in the Greek Bible", P.-B. Smit & E. van Urk (eds.), *Parrhesia: Ancient and Modern Perspectives on Freedom of Speech* (Leiden ; Boston, 2018), 15-38.
- Paradiso, A., "Xanthos (765)", biographical essay and commentary, *Brill's New Jacoby*, I. Worthington (ed.) (2016), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a765. Accessed 25 August 2019.
- Parke, H.W., *The Oracles of Zeus: Dodona, Olympia, Ammon* (Cambridge MA, 1967).
- Parker, R., *On Greek Religion* (Ithaca NY, 2011).
- Parker, R., "Early Orphism", A. Powell (ed.), *The Greek World* (London, 1995), 483-510.
- Pelling, C., "Seeing Through Caesar's Eyes: Focalisation and interpretation", J. Grethlein & A. Rengakos (eds.), *Trends in the Classics: Supplementary Volumes. Narratology and Interpretation: The Content of Narrative Form in Ancient Literature*, vol. 1 (Berlin & New York, 2009), 507-526.
- Perlman, S., "Political Leadership in Athens in the fourth century BC", *Greek, Roman and Byzantine Studies*, vol. 17 (1976), 223-33.
- Petrie, W.M.F., *Koptos*, (London, 1896).
- Pfeiffer, R., *History of Classical Scholarship, From the Beginnings to the End of the Hellenistic Age* (Oxford, 1968).

- Pfeiffer, S., "The God Serapis, his Cult and the Beginnings of the Ruler Cult in Ptolemaic Egypt", P. McKechnie, P. Guilleme, (eds.), *Ptolemy II Philadelphus and His World* (Leiden & Boston, 2008), 387-408.
- Poiss, T., "Looking for the Bird's Eye View in Ancient Greek Sources", K. Geus & M. Thiering (eds.), *Features of Common sense Geography: Implicit knowledge structures in ancient geographical texts* (Zürich & Berlin, 2014), 69-87.
- Porter, J., "Ideals and Ruins: Pausanias, Longinus, and the second Sophistic", S. Alcock, J. Cherry, J. Elsner (eds.), *Pausanias: Travel and Memory in Roman Greece* (New York, 2001), 63-92.
- Pothecary, S., "Strabo, the Tiberian Author: Past, Present and Silence in Strabo's Geography." *Mnemosyne*, vol. 55, no. 4 (2002), 387-438.
- Pothecary, S., "Roller's Eratosthenes: A Strabonian Slant: Review of Duane W. Roller, *Eratosthenes' Geography*, Princeton University Press, 2010", (2010), <http://www.strabo.ca/Eratosthenes.pdf>. Accessed 11th August 2019.
- Pownall, F., "Eratosthenes of Cyrene (241)", biographical essay and commentary, I. Worthington (ed.), *Brill's New Jacoby* (2016), http://dx.doi.org/10.1163/1873-5363_bnj_a241. Accessed 23rd April 2019.
- Pownall, F., Hekataios of Miletos (1)", biographical essay and commentary, I. Worthington (ed.), *Brill's New Jacoby* (2016), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a1, Accessed 25th May 2019.
- Petrie, W.M.F., *Koptos* (London, 1896).
- Pfeiffer, R., *History of Classical Scholarship, From the Beginnings to the End of the Hellenistic Age* (Oxford, 1968).
- Potter, D.S., *The Emperors of Rome: The Story of Imperial Rome from Julius Caesar to the Last Emperor* (London, 1988).
- Pratt, M.L., *Imperial Eyes: Travel Writing and Transculturation* (London & New York, 1992).
- Prandi, L., "Kleitarchos of Alexandria (137)", biographical essay and commentary, I. Worthington (ed.), *Brill's New Jacoby*, (2016), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a137. Accessed May 12th 2019.
- Préaux, C., "Alexandrie et la Chlamyde." *Chronique D'Egypte*, vol. 43, no. 85 (1968), 176–187.
- Préaux, C., "Polybe et Ptolémée Philopator", *Chronique D'Egypte*, vol. 40, no. 80 (1965), 364-75.

- Pretzler, M., Comparing Strabo with Pausanias: Greece in context vs. Greece in depth”, D. Dueck, H. Lindsay, S. Potheary, (eds.), *Strabo’s Cultural Geography: The Making of a Kolossourgia* (Cambridge, 2005), 144-60.
- Pretzler, M., *Pausanias: Travel Writing in Ancient Greece* (London, 2007).
- Prontera, F., “Timosthenes and Eratosthenes”, K. Buraselis, M. Stefanou, & D.J. Thompson (eds.), *The Ptolemies, the Sea and the Nile: Studies in Waterborne Power*, (Cambridge, 2013), 207-217.
- Rice, E.E., *The Grand Procession of Ptolemy Philadelphus* (Oxford, 1983).
- Riggsby, A. M., *Caesar in Gaul and Rome: War in Words* (Austin, 2006).
- Rochette, B., “La Description Des Zones Climatiques Terrestres. À Propos d’Ératosthène, Hermès”, *L’Antiquité Classique*, vol. 83 (2014), 139–148.
- Roller, D.W., *Ancient Geography: The Discovery of the World in Classical Greece and Rome*, (London & New York, 2015).
- Roller, D.W., “Dionysios (717)”, biographical essay and commentary, I. Worthington (ed.), *Brill’s New Jacoby* (2016), http://dx.doi.org/10.1163/1873-5363_bnj_a717. Accessed 15th July 2019.
- Roller, D.W., *Eratosthenes’ Geography: Fragments Collected and Translated, with Commentary and Additional Material*, by Duane W. Roller (Princeton and Oxford, 2010).
- Roller, D.W., “Megasthenes (715)”, biographical essay and commentary, I. Worthington (ed.), *Brill’s New Jacoby*, http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a715. Accessed 17th March 2019.
- Roller, D.W., *Through the Pillars of Herakles: Greco-Roman Exploration of the Atlantic* (New York, 2006).
- Romeri, L., “Fiction and History in Lucian.” *Tangence*, vol. 116 (2018), 23–37
- Romm, J.S., *The Edges of the Earth in Ancient Thought: Geography, Exploration, and Fiction*, (Princeton, 1992), 184-186.
- Rood, T., *Thucydides: Narrative and Explanation* (Oxford & New York, 1998).
- Roseman, C.H., “Reflections of philosophy: Strabo and geographical sources”, Dueck, D., Lindsay, H. Potheary, S. (eds.), *Strabo’s Cultural Geography: The Making of a Kolossourgia* (Cambridge, 2005), 27-41.
- Rösler, W., “Mnemosyne in the Symposium”, O. Murray, (ed.), *Sympotica: A Symposium on the Symposium* (Oxford 1990), 230 – 237.

- Rosokoski, A., *Die Erigone des Eratosthenes* (Heidelberg 1995).
- Rostovtzeff, M., *The Social and Economic History of the Hellenistic World*, vols. 1-3 (Oxford, 1941).
- Rutherford, I., "Tourism and the Sacred: Pausanias and the Tradition of Greek Pilgrimage", S.E. Alcock, J.F. Cherry, J. Elsner (eds.), *Pausanias: Travel and Memory in Ancient Greece* (Oxford, 2001), 40-52.
- Rutherford, R., "The Use and Abuse of Irony", Obbink, D., & Rutherford, R. (eds.) *Culture in pieces: Essays on ancient texts in honour of Peter Parsons* (Oxford, 2011), 84-103.
- Ryan, J., "Visualizing imperial geography: Halford Mackinder and the colonial office visual instruction committee, 1902-11", *Ecumene*, vol. 1, no. 2 (1994), 157-176.
- Safrai, Z., "Temporal layers within Strabo's description of Coele Syria, Phoenicia and Judaea", D. Dueck, H. Lindsay, S. Potheary (eds.), *Strabo's Cultural Geography: The Making of a Kolossourgia* (Cambridge, 2005), 250-8.
- Said, E.W., *Orientalism* (New York & Toronto, 1978).
- Sarton, G., *Hellenistic Science and Culture in the last Three Centuries B.C., 111-13* (New York, 1959).
- Sarton, G., *Introduction to the History of Science*, vol. 1 (Baltimore, 1927).
- Schmitt-Pantel, P., "Sacrificial Meal and the Symposium: Two Models of Civic Institutions in the Archaic City?", O. Murray (ed.), *Symptica: A symposium on the Symposium* (Oxford 1990), 14-33.
- Shcheglov, D.A., "Eratosthenes' Contribution to Ptolemy's Map of the World", *Imago Mundi*, vol. 69, no. 2 (2017), 159-175.
- Shinnie, P.L., "Trade Routes of the Ancient Sudan 3,000 BC – AD 350", W.V. Davies (ed.), *Egypt and Africa: Nubia from Prehistory to Islam* (London, 1991), 49-53.
- Shipley, G., *The Greek World After Alexander: 323 – 30 BC* (London & New York, 2000).
- Showleh, T., "The River Ocean: Homer's Cosmogony", S.A. Paipetis (ed.), *Science and Technology in Homeric Epic* (Patras, 2008), 85-100.
- Sibley, D., *Geographies of Exclusion* (London & New York, 1995).
- Simpson, W.K., *Literature of Ancient Egypt* (New Haven, CT, 2003).
- Skinner, J. E., *The Invention of Greek Ethnography: From Homer to Herodotus* (Oxford, 2012).
- Smith, S.J., "Black: White", P. Cloke, & R. Johnston (eds.), *Spaces of Geographical Thought* (London, 2005), 97-118.

- Solmsen, F., "Eratosthenes as Platonist and Poet." *Transactions and Proceedings of the American Philological Association*, vol. 73, (1942), 192–213.
- Spalinger, A., *War in Ancient Egypt* (Malden, Oxford, Melbourne, 2005).
- Staden, H. von, *Herophilus: The Art of Medicine in Early Alexandria* (Cambridge, 1989).
- Steele, R. B., "The Method of Arrian in the Anabasis." *Classical Philology*, vol. 14, no. 2 (1919), 147–157.
- Stephens, S., "Battle of books", K. Gutzwiller, (ed.), *The New Posidippus: A Hellenistic Poetry Book* (Oxford, 2005), 229-48.
- Stephens, S., "For you Arsinoë", B. Acosta-Hughes, E. Kosmetatou and M. Baumbach (eds.), *Labored in Papyrus Leaves: Perspectives on an Epigram Collection Attributed to Posidippus (P. Mil. Vogl. VIII 309)* (Cambridge MA, 2004), 161-176.
- Stephens, S. "Ptolemaic Alexandria", J.J. Clauss, M. Cuypers (eds.), *A Companion to Hellenistic Literature* (Chichester, 2010), 46-61.
- Strootman, R., "Literature and the Kings", J.J. Clauss, M. Cuypers (eds.), *A Companion to Hellenistic Literature* (Chichester, 2010), 30-45.
- Strootman, R., *The Birdcage of the Muses: Patronage of the Arts and Sciences at the Ptolemaic Imperial Court 3-5-222 BCE* (Leuven, Paris & Bristol, 2017).
- Talbert, R.J.A., "Urbs Roma to Urbus Romanus: Roman Mapping on the Grand Scale", R.J.A. Talbert (ed.), *Ancient Perspectives: Maps and their Place in Mesopotamia, Egypt, Greece and Rome*, (Chicago, 2012), 163-192.
- Tan, Z. M., "Subversive Geography in Tacitus' 'Germania'", *Journal of Roman Studies*, vol. 104 (2014), 181-204.
- Tarbell, F., "The Form of the Chlamys." *Classical Philology*, vol. 1 (1906), 283-9.
- Tarn, W.W., "Alexander, Cynics and Stoics", *American Journal of Philology*, vol. 60, no. 1 (1939), 41-70.
- Tarn, W.W., *Alexander the Great: I, Narrative* (Cambridge, 1948).
- Tarn, W.W., *Alexander the Great: II, Sources and Studies* (Cambridge, 1948).
- Tarn, W. W., *Hellenistic Civilization* (Cleveland & New York, 1952).
- Tarn, W.W., "Patrocles and the Oxo-Caspian Trade Route", *Journal of Hellenic Studies*, vol. 21 (1901), 10-29.

- Tarn, W.W., "Ptolemy II", *Journal of Egyptian Archaeology*, vol. 14, no. 3/4 (Nov., 1928), 246-60.
- Taub, L., *Aetna and the Moon: Explaining Nature in Ancient Greece and Rome* (Cambridge, 2008).
- Taub, L., "'Eratosthenes sends greetings to King Ptolemy': Reading the contents of a 'mathematical' letter", *Mathematics Celestial and Terrestrial.*, *Acta Historica Leopoldina*, vol. 54 (2008), 285–302.
- Taub, L. "Science after Aristotle: Hellenistic and Roman Science", A. Jones & L. Taub (eds.), *The Cambridge History of Science: Volume 1, Ancient Science*, 248-277.
- Taub, L., *Science Writing in Greco-Roman Antiquity* (Cambridge, 2017).
- Tecuşan, M., "Logos Symptotikos: Patterns of the Irrational in Philosophical Drinking: Plato Outside the Symposium" O. Murray (ed) *Symptotica: A Symposium on the Symposium*, 238-260.
- Thiering, M. "implicit Knowledge structures", Talbert, R. J. A. (ed.), *Ancient Perspectives: Maps and their Place in Mesopotamia, Egypt, Greece and Rome*, (Chicago, 2012), 265 – 310.
- Thomson, J.O., *A History of Ancient Geography* (New York, 1965).
- Thompson, D.J., "Ptolemy I in Egypt: Continuity and Change", P. McKechnie, J.A. Cromwell (eds.), *Ptolemy I and the Transformation of Egypt, 404-282 BCE*, (Leiden, Boston, 2018), 6-26.
- Thrift, N. & Whatmore, S., "Introduction", N. Thrift, & S. Whatmore (eds.), *Cultural Geography: Critical Concepts in the Social Sciences* (London & New York, 2004), 1-17.
- Vickers, M., "Attic Symposia after the Persian Wars", O. Murray (ed.), *Symptotica: A Symposium on the Symposium* (Oxford, 1990), 105-22.
- Vlassopoulos, K., *Greeks and Barbarians* (Cambridge, 2013).
- Walbank, F.W., "The Problem of Greek Nationality", *Phoenix*, vol. 5, no. 2 (1951), 41-60.
- Walbank, F.W., *Polybius, Rome and the Hellenistic World: Reflections and Essays* (Cambridge, 2002).
- Walbank, F.W. "Monarchies and Monarchic Ideas", A.E. Austin, M.W. Fredricksen, R.M. Ogilvie, F.W. Walbank (eds.), *Cambridge Ancient History*, vol. 7, (Cambridge, 1984), 62-100.
- Wallace, S., "Court, kingship and royal style in the early Hellenistic period", A. Erskine, L. Lloyd-Jones, S. Wallace (eds.), *The Hellenistic Court: Monarchic Power and Élite Society from Alexander to Cleopatra* (Swansea, 2017), 1-30.
- Węcowski, M., "Anaximander the Younger (9)", biographical essay and commentary, I. Worthington (ed.) *Brill's New Jacoby* (2016), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a9. Accessed 2nd June 2019.

- Wilamowitz-Moellendorff, U. von, *Antigonos Von Karystos*, (Berlin, 1881).
- Wilamowitz-Moellendorff, U. von, "Ein Weihgeschenk des Eratosthenes," *Nachrichten der k. Gesellschaft der Wissenschaften zu Gottingen* (Berlin, 1894,) 15-35.
- Williams, M. F., "Patrokles (712)", biographical essay and commentary, ed. I. Worthington, *Brill's New Jacoby* (2016) http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a712. Accessed May 1st 2019.
- Whitby, M., "Nearchos (133)", biographical essay and commentary, I. Worthington (ed.), *Brill's New Jacoby* (2016), http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a134. Accessed 29th April 2019.
- Whitby, M., "Onesikritos (134)", biographical essay and commentary, *Brill's New Jacoby*, I. Worthington (ed.). http://dx.doi.org.simsrad.net.ocs.mq.edu.au/10.1163/1873-5363_bnj_a134, Accessed 29th April 2019.
- White, H., *Metahistory: The Historical Imagination in Nineteenth- Century Europe* (Baltimore, 1973).
- Whitmarsh, T., *Ancient Greek Literature* (Cambridge, 2004).
- Worthington, I., *Ptolemy I: King and Pharaoh of Egypt* (New York, 2016).
- Wright, J. K., "A Plea for the History of Geography." *Isis*, vol. 8, no. 3 (1926), 477-91.
- Wylie, J.W., "Histories and practice", N. Thrift & S. Whatmore (eds.), *Cultural Geography: Critical Concepts in the Social Sciences*, vol. 1 (London & New York, 2004), 21-41.
- Wylie, J.W., *Landscape* (London & New York, 2007).
- Yamagata, N., "Use of Homeric references in Plato and Xenophon", *Classical Quarterly*, vol. 62, no. 1 (2012), 130–144.
- Youtie, H., *The textual criticism of documentary papyri: Prolegomena*, Supplement 6 (London, 1958).
- Zimmermann, K., "Eratosthenes' chlamys-shaped world: a misunderstood metaphor", D. Ogden, (ed.), *The Hellenistic World: New Perspectives* (London, 2002), 79-110.