

Alexander, Callisthenes and the Sources of the Nile

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Aristotle's Solution

THE CAUSE of the Nile flood was the first great problem of Greek physical geography. After coming to the attention of Ionian intellectuals as a result of the close contacts between Saite Egypt and the Aegean, the question puzzled Greek thinkers for almost three centuries. As knowledge of the Sudan dwindled with the increasingly uncertain authority of Persia in Egypt and over its Nubian vassal the kingdom of Meroe during the fifth and early fourth centuries,¹ the theories proposed became ever more detached from the realities of conditions in Egypt until they reached a climax in the historian Ephorus' notion that the porous soil of Egypt absorbed water like a sponge during the cool months and exuded it during the hot summer just as a body sweats in the heat.² Then suddenly the debate ended. In the so-called *De Inundatione Nili*, an abstract of a lost work by Aristotle³ on the Nile flood preserved in a mediaeval Latin transla-

¹ On the basis of Hdt. 7.69 and the list of gifts brought by the Ethiopians to the Persian kings in 3.97.1-3, Max Dunker (*The History of Antiquity*, trans. Evelyn Abbott, VI [London 1882] 161-63) argued that the kingdom of Meroe became a vassal of Persia after Cambyses' Ethiopian expedition. His theory has been confirmed by the identification of an okapi, a forest animal whose range can never have included lower Nubia, on the tribute-bearer reliefs at Persepolis (L. Sprague de Camp, "Xerxes' Okapi and Greek Geography," *Isis* 54 [1963] 123-25) and the recent intensive archaeological surveys of the northern Sudan, which indicate that lower Nubia was almost totally uninhabited during most of the first millennium B.C. (W. Y. Adams, "Continuity and Change in Nubian Cultural History," *Sudan Notes and Records* 48 [1967] 10-11). The importance of this period for Greek knowledge of the Sudan was pointed out by Claire Préaux, "Les Grecs à la découverte de l'Afrique par l'Égypte," *Cd'E* 32 (1952) 284-312.

² Ephorus, *FGrHist* II A, 70 F 65. For the debate see Danielle Bonneau, *La crue du Nil: divinité égyptienne à travers mille ans d'histoire (332 av.-641 ap. J.-C)* (Paris 1964) 135-214.

³ *FGrHist* III C1, 646. For the text I have used the edition by D. Bonneau, "Liber Aristotelis De Inundatione Nili," *Études de Papyrologie* 9 (1971) 1-33. *Contra* Jacoby, the Aristotelian authorship of this work has been generally accepted since the thorough study of the problem by J. Partsch, "Des Aristoteles Buch 'Über das Steigen des Nil'," *AbhLeipzig* 27 (1909) 554-600. Cf. Paul Bolchert, "Liber Aristotelis De Inundacione Nili," *NJbb* 27 (1911)

tion, there occurs the following jubilant passage (*Liber 12=FGrHist III C1, 646 F 1.10*):

Nunc autem relinquetur sola causa dictorum: hanc causam dicendum, propter quod jam non problema videtur esse; in sensum enim venit, quemadmodum per se videntes facti a visis; videntur enim aquae factae in Ethiopia per tempora haec a Cane usque ad Arcturum multae et habundanter hyeme autem nullae; et fluctus nutriuntur cum crescunt in ipsis; et propter hoc simul annualibus advenit fluviis; isti enim nebulas maxime ferunt ad regionem et quicumque alii venti fiunt estivales ante hos; quibus offendentibus ad montes defluunt aquae ad stagna, per quae Nilus fluit.

“Now there remains only one cause of the matters under discussion. It is necessary to discuss this cause because there no longer seems to be a problem. For we have perceived how men have gained knowledge on their own from observations. Rains are seen to occur frequently and abundantly in Ethiopia throughout the period from the Dog Star until Arcturus, but in winter there are no rains. The flood waters are nourished by these same rains while they are growing. For this reason the flood arrives at the same time as the Etesian winds. These and the other summer winds which precede them but these especially bring clouds to the region. When the clouds strike against the mountains, rains occur and the water flows down to the swamps through which the Nile flows.”

As is so often the case, Aristotle’s explanation was a mixture of the old and the new. In the fifth century both Democritus⁴ and Thrasyalces of Thasos⁵ had suggested that the Nile flood could be explained by assuming that the Etesian winds caused heavy rains in the south of Ethiopia by blowing rain-bearing clouds there from the northern regions. Eudoxus of Cnidus, who visited Egypt in 365/4,⁶ claimed that the Egyptian priests agreed, explaining that it rained in Ethiopia during the summer because the seasons were reversed in the southern

150–55; Johannes Geffcken, *Griechische Literaturgeschichte II* (Heidelberg 1934) 251; Werner Jaeger, *Aristotle: Fundamentals of the History of his Development*,² trans. R. Robinson (Oxford 1948) 331 n.2; and Janine Balty-Fontaine, “Pour une édition nouvelle du ‘Liber Aristotelis de Inundacione Nili’,” *Cd’E* 34 (1959) 100–02.

⁴ Democritus, D-K 68 A 99. Bonneau, *op.cit.* (*supra* n.2) 201–03.

⁵ Thrasyalces, D-K 35 F 1. Bonneau, *op.cit.* (*supra* n.2) 201.

⁶ François Lasserre, ed., *Die Fragmente des Eudoxos von Knidos* (Berlin 1966) 139.

hemisphere.⁷ Eudoxus was probably also the source of the information concerning the occurrence of heavy summer rains in Ethiopia and Arabia which Aristotle included in the *Meteorologica*.⁸ Finally, eye-witnesses clinched the theory by confirming the coincidence between the timing of the heaviest rains and the flood. But who were these eye-witnesses? J. Partsch⁹ and Danielle Bonneau¹⁰ point to a passage quoted by John the Lydian from a lost portion of Seneca's *Naturales Quaestiones* as providing the answer. According to John, "Callisthenes the Peripatetic states in the fourth book of his *Hellenica* that he campaigned with Alexander the Macedonian and while in Ethiopia he discovered that the Nile flooded from the unlimited rains in that region."¹¹ The obvious and, I will attempt to show, correct conclusion to be drawn from this text is that Aristotle derived his information from Alexander's explorers via Callisthenes, who was probably himself a member of the expedition.

The Evidence of John the Lydian

With few exceptions,¹² however, scholars have generally either rejected out of hand¹³ the idea of Alexander's having dispatched such an expedition or treated it with extreme scepticism.¹⁴ And with good reason. John the Lydian's quotation from Seneca contains two serious errors. First, John says that Callisthenes discussed Alexander's Nile

⁷ Eudoxus fr. 287-88. Cf. Diod. 1.40. The report of the priests' beliefs concerning the connection between the rains and the flood is correct (Georges Posener, Serge Sauneron and Jean Yoyotte, *A Dictionary of Egyptian Civilization* [London 1962] 190).

⁸ Arist. *Mete.* 1.12, 349a5-9 (ed. & transl. H. D. P. Lee [London 1952]). The *Meteorologica* precedes Alexander's expedition (Lee, xxiii-xxv). For Eudoxus as Aristotle's source see Friedrich Pfister, "Das Alexander-Archiv und die hellenistische-römische Wissenschaft," *Historia* 10 (1961) 46.

⁹ Partsch, *op.cit.* (*supra* n.3) 582-86.

¹⁰ Bonneau, *op.cit.* (*supra* n.2) 203, and *op.cit.* (*supra* n.3) 21-23.

¹¹ *De Mensibus*, ed. R. Wuensch (Leipzig 1898) 4.107 = Callisthenes, *FGrHist* II B, 124 F 12a.

¹² The most important are: Ulrich Wilcken, *Alexander the Great*, trans. G. C. Richards (New York 1967) 130; Peter Green, *Alexander of Macedon: 356-323 B.C.* (Harmondsworth 1974) 279; and Robin Lane Fox, *Alexander the Great* (New York 1974) 197.

¹³ e.g. Wilhelm Capelle, "Die Nilschwelle," *NJbb* 33 (1914) 348-49; James Oliver Thomson, *History of Ancient Geography* (Cambridge 1948) 136; M. Cary & E. H. Warmington, *The Ancient Explorers*² (London 1963) 208; and Lionel Pearson, *The Lost Histories of Alexander the Great* (London 1960) 30-31.

¹⁴ e.g. W. W. Tarn, *Alexander the Great I* (Cambridge 1948) 44-45; Victor Ehrenberg, *Alexander und Ägypten* (Beihefte zum alten Orient 7, Leipzig 1926) 21 n.1; and Préaux, *op.cit.* (*supra* n.1) 307.

expedition in the fourth book of his *Hellenica*, but that cannot be correct since the *Hellenica* covered the period from the King's Peace to the Sacred War and was published before the beginning of Alexander's invasion of Asia.¹⁵ Second, as Jacoby pointed out, Seneca's doxography on the Nile belongs to the same tradition as that represented by the *Anonymous Florentinus*, and there Callisthenes is said to have advanced his explanation on the basis of *gnome*, not *opsis*.¹⁶ There can be no doubt, therefore, that Jacoby was correct in concluding that Callisthenes discussed the Nile problem in the fourth book of the *Hellenica* in connection with his account of Pharnabazus' unsuccessful invasion of Egypt in 374/3.¹⁷ Clearly, the account in John the Lydian has been garbled somehow. Fortunately, the confusion can be clarified.

The first and most important question is whether the confusion is to be ascribed to John the Lydian or Seneca, and here the answer is clear. The high degree of accuracy of John's translation in those portions where it can be compared with Seneca's original allows us to conclude confidently that his account of Callisthenes is faithful to what Seneca wrote.¹⁸ The errors, accordingly, were already present in Seneca's *Naturales Quaestiones*; and that is important because there is another text bearing on Alexander's Nile expedition which permits us to determine how they probably arose.

The tenth book of Lucan's *Bellum Civile* contains an elaborate digression about the Nile, which is divided into three parts, an account of the various attempts to explain the flood (lines 194–267), a brief historical survey of unsuccessful attempts to discover the sources of the river (lines 268–85), and an extended description of its course

¹⁵ Callisthenes, *FGrHist* II B, 124 τ 27. Pearson, *op.cit.* (*supra* n.13) 29.

¹⁶ *FGrHist* III C1, 647 F 1.3. *FGrHist* II D, 420 *ad* 124 F 12c.

¹⁷ *FGrHist* II D, 419–420 *ad* 124 F 12. Jacoby's attempt to use the fact that the extant Alexander historians discuss the Nile problem in connection with the invasion of India to discredit F 12a is unconvincing since Callisthenes' work, unlike those of his successors, was not written from the perspective of the whole of Alexander's career. In this regard it should be noted that Nearchus' claim (*FGrHist* II B, 133 F 20) that the Indian rains solved the Nile problem is incorrect. In discussions of the Nile flood they served only as a useful analogy to the conditions determined by observation to exist in Nubia (*cf.* Diod. 1.41.7 = Agatharchides, *FGrHist* II A, 86 F 19).

¹⁸ Comparison of Seneca's treatment of the theories of Anaxagoras (*QNat.* 4A.2.17–21, ed. & transl. T. H. Corcoran [London 1971–72]), Euthymenes of Massilia (4A.2.22–26) and Diogenes of Apollonia (4A.2.28–30) with John the Lydian, *De Mensibus* 4.107 reveals that John's practice was to translate fully the statement of the various theories and abbreviate Seneca's critiques of them.

(lines 285–331). Included in the historical survey is the following passage about Alexander (272–75):

*Summus Alexander regum, quem Memphis adorat,
invidit Nilo, misitque per ultima terrae
Aethiopum lectos: illos rubicunda perusti
zona poli tenuit; Nilum videre calentem.*

“Alexander, greatest of kings, was jealous of the Nile which Memphis worships, and he sent chosen explorers through the utmost parts of Ethiopia; but they were stopped by the blazing zone of parched sky; they but saw the Nile steaming with heat” (transl. J. D. Duff). Here is a simple narrative of a small unsuccessful expedition to find the sources of the Nile. What is its relation to the account preserved by John the Lydian?

In 1885 Hermann Diels showed that two of the three sections of Lucan’s digression on the Nile, those dealing with the causes of the flood and the geography of the river, are virtually close verse paraphrases of the account of the Nile in the fourth book of the *Naturales Quaestiones*,¹⁹ which Diels quite naturally concluded was the immediate source of Lucan’s digression;²⁰ but that cannot be correct for two reasons. First, Lucan’s account is sometimes fuller than that of Seneca,²¹ and, second, Seneca in Book 4 of the *Naturales Quaestiones* commits the geographical blunder of confusing Philae and Meroe,²² while Lucan (10.303–06) properly distinguishes the two places. Taken together with the verbal similarities noted by Diels, these facts can only mean that both Seneca and Lucan drew on a now lost common source. Interestingly, a similar relationship is also indicated for the second part of Lucan’s digression, the historical survey. Since Seneca did not discuss the problem of the Nile’s sources in the fourth book of the *Naturales Quaestiones*,²³ Lucan could not have drawn on that book for his account. Nevertheless, he did use a source also used by Seneca but in another work, the *De Ira*, since both he and his uncle tell a unique story about Cambyses’ Ethiopian campaign, namely, that

¹⁹ Hermann Diels, “Seneca und Lucan,” *AbhBerlin* 3 (1885) 1–54.

²⁰ Diels, *op.cit.* (*supra* n.19) 27.

²¹ For example see Diels, *op.cit.* (*supra* n.19) 7, 11, 15–18, 20–21.

²² QNat. 4A.2.3: *Philae insula est aspera et undique praerupta; duobus in unum coituris amnibus cingitur, qui Nilo mutantur et eius nomen ferunt; urbem totam complectitur.*

²³ QNat. 4A1.1. Cf. 3.1.2, 3.26.1. The problem of its sources is discussed briefly and superficially at QNat. 6.8.3–5.

Cambyses himself resorted to cannibalism when food ran short²⁴ instead of recoiling in horror when he discovered the practice among his troops as Herodotus (3.25.6–7) reports. This coincidence strongly points to Lucan having based his whole digression in the *Bellum Civile* on a source which Seneca used for an historical *exemplum* about Cambyses in the *De Ira* and for the doxographical information about the Nile flood and the geography of the river in the *Naturales Quaestiones*. What was this source?

The ultimate source of much of both Seneca and Lucan's information about the Nile was Posidonius.²⁵ But while Seneca may have consulted Posidonius directly while writing the *Naturales Quaestiones*, the echoes of Senecan phraseology documented by Diels²⁶ suggest that Lucan did not do so. There is a more likely candidate for their immediate source, namely, Seneca's own *De Situ et Sacris Aegyptiorum*. Not only would it have been natural for both uncle and nephew to consult the former's monograph on Egypt, containing as it did Seneca's own impressions of Egypt,²⁷ when they came to write their excursuses on the Nile and its problems, but Seneca himself reveals that he did draw on his own works in composing the *Naturales Quaestiones* by indicating that the book on earthquakes is essentially a revision of an earlier work of his on the same subject.²⁸ Confirmation of this hypothesis is provided by two pieces of evidence, the close similarity between the references to the holy island near Philae called Abaton in the *Bellum Civile*²⁹ and Book 4 of the *Naturales Quaestiones*³⁰ and that in the fragment of the *De Situ et Sacris Aegyptiorum* preserved by Servius,³¹ and the clear allusion to Seneca's work on Egypt by Lucan in the

²⁴ *De Ira* 3.20.4. *Bellum Civile* 10.280–81. Diels, *op.cit.* (*supra* n.19) 20, noted the relationship between these texts.

²⁵ Diels, *op.cit.* (*supra* n.19) 8–9, 20.

²⁶ For examples see Diels, *op.cit.* (*supra* n.19) 10, 14, 22–27.

²⁷ Seneca was in Egypt during A.D. 26 or 27 (Robert Turcan, *Sénèque et les religions orientales* [Collection Latomus 91, Brussels 1967] 39).

²⁸ Cf. Seneca, *QNat.* 6.4.2: *Quorum adeo est mihi dulcis inspectio ut, quamvis aliquando de motu terrarum volumen iuvenis ediderim, tamen temptare me voluerim et experiri aetas aliquid nobis aut ad scientiam aut certe ad diligentiam adiecerit.*

²⁹ 10.323–24: *Hinc, Abaton quam nostra vocat veneranda vetustas
†terra potens† primos sentit percussa tumultus. . . .*

³⁰ 4A.2.7: *Exiguo ab hac spatio [sc. Phila] petra dividitur (Abaton Graeci vocant, nec illam ulli nisi antistites calcant); illa primum saxa auctum fluminis sentiunt.*

³¹ *FGrHist* III C1, 644 F 1: *ultra hanc est brevis insula, anaccessa hominibus, unde Abatos appellata est. . . .* Turcan, *op.cit.* (*supra* n.27) 41, pointed to a connection between the *Naturales Quaestiones* and the *De Situ et Sacris Aegyptiorum*.

dialogue which introduces the digression on the Nile at *Bellum Civile* 10.176–79:³²

*O sacris devote senex, quodque arguit aetas
non neglecte deis, Phariae primordia gentis
terrarumque situs volgique edissere mores
et ritus formasque deum. . . .*

“Sir, devoted as you are to the service of heaven, and, as your age proves, not unprotected by the gods, expound to me the origins of the Egyptian nation, the features of the land, the manners of the common people, your forms of worship, and the shapes of your gods. . . .” Ironically, as the example of Seneca’s confusing Meroe and Philae suggests, Seneca was more careless in excerpting his own book than Lucan.³³ That carelessness is probably also what accounts for the confusion apparent in John the Lydian’s account of Callisthenes’ Nile theory, a confusion created most likely by Seneca’s appending to the doxographical quotation from the *Hellenica* a note about his Nile experiences based on the passage Lucan paraphrased in the *Bellum Civile*. Thus, the accounts of Lucan and John the Lydian both derive, the first directly and the second through the *Naturales Quaestiones*, from a narrative of an expedition dispatched by Alexander to find the sources of the Nile which Seneca related in his *De Situ et Sacris Aegyptiorum* on the purported authority of Callisthenes, presumably in his capacity as historian of Alexander’s campaign.

Reliability of the Tradition

The combined evidence of Seneca, John the Lydian and Lucan indicates that an account of an expedition up the Nile credited to Callisthenes was current in the first century. Was this tradition reliable? Direct evidence on that point is lacking. Diodorus (1.37.5), it is true, does state that prior to the invasion of Ethiopia by Ptolemy II no Greek had ever approached the southern border of Egypt, much less

³² The significance of this passage was pointed out by C. Weyman, whose work, however, is accessible to me only through its quotation in Eduard Norden, *Die germanische Urgeschichte in Tacitus Germania*⁴ (Stuttgart 1959) 453 n.1.

³³ Such errors were only to be expected since the *Naturales Quaestiones* appears to have been hastily composed during A.D. 62–63 (Corcoran, *op.cit.* [*supra* n.18] I, xi–xiii). Quint. 10.1.125 blamed such errors on Seneca’s practice of using ‘research assistants’ to collect the material for his books.

crossed into Ethiopia, but this passage proves nothing. Leaving aside such obvious exceptions to this assertion as the Greek mercenaries of Necho II³⁴ or Herodotus (2.29.1), who visited Elephantine in the fifth century, it is not even true for the early Hellenistic period when Alexander (Arrian, *Anab.Alex.* 3.2.7) and Ptolemy I³⁵ both stationed garrisons at Syene, and the latter in addition made dedications in the temple of Khnum at Elephantine³⁶ and even conducted a brief campaign in Lower Nubia in 311 B.C.³⁷ Agatharchides of Cnidus, Diodorus' source for this statement,³⁸ was quite simply mistaken as to the extent of Greek contact with Nubia prior to the reign of Ptolemy II.

Modern critics of this tradition adduce against it primarily the silence of our principal sources for the career of Alexander concerning such an expedition.³⁹ The argument from silence, always weak, is, however, particularly unconvincing in this case for two reasons: first, the superficial coverage of Alexander's stay in Egypt in all of our sources⁴⁰ and, second, the fact that the Seneca, John the Lydian and Lucan texts are only the most explicit of a number of texts concerning a Nile expedition under Alexander. In a passage closely related to the *De Inundatione Nili* the anonymous author of a life of Pythagoras epitomized by Photius states that Aristotle's theory of the cause of the Nile flood was confirmed by explorers sent by Alexander at the philosopher's request.⁴¹ Eratosthenes also seems to have known of an expedition to the sources of the Nile for the purpose of proving Aristotle's theory,⁴² and there is reason to believe that Posidonius cited

³⁴ Latest text, R. Meiggs and D. M. Lewis, edd. *A Selection of Greek Historical Inscriptions to the End of the Fifth Century B.C.* (Oxford 1969) no.7.

³⁵ Edwyn R. Bevan, *The House of Ptolemy: A History of Egypt under the Ptolemaic Dynasty* (London 1927) 76. Anne Burton, *Diodorus Siculus, Book I, A Commentary* (Leiden 1972) 137–38 ad 1.37.5.

³⁶ Bertha Porter & Rosalind L. B. Moss, *Topographical Bibliography of Ancient Egyptian Hieroglyphic Texts, Reliefs, and Paintings, V: Upper Egypt, Sites* (Oxford 1937) 227.

³⁷ F. K. Kienitz, *Die politische Geschichte Ägyptens von 7. bis zum 4. Jahrhundert vor der Zeitwende* (Berlin 1953) 134–35.

³⁸ Burton, *op.cit.* (*supra* n.35) 21–25.

³⁹ e.g. Bolchert, *op.cit.* (*supra* n.3) 150; Capelle, *op.cit.* (*supra* n.15) 348–49; Pearson, *op.cit.* (*supra* n.13) 31.

⁴⁰ The preserved sources concentrate on the founding of Alexandria and the journey to Siwah. Characteristically, Alexander's garrisoning of Syene is known only from an incidental reference at Arr. *Anab.* 3.2.7.

⁴¹ Phot. *Bibl.*, ed. R. Henry, VII (Paris 1974) 249, 441b = FG_{GrHist} III C1, 646 τ 2a. For this passage see Otto Immisch, *Agatharchidea*, SB_{Heidelberg} 10.7 (1919) 16–20.

⁴² FG_{GrHist} III C1, 646 τ 2c. The correct interpretation of this text was pointed out by Préaux, *op.cit.* (*supra* n.1) 307 n.2.

Callisthenes as his authority for an account of the heavy Ethiopian rains responsible for the flooding of the Nile.⁴³ Finally, as Friedrich Pfister pointed out, some such account is probably behind the romantic story of Alexander's visit to Meroe in the Ps.-Callisthenes life of Alexander.⁴⁴ Far from being isolated, therefore, the tradition represented by Seneca, John the Lydian and Lucan can be traced back as far as the third century B.C. and appears to have been fairly widespread.

This by itself is strong evidence in support of the tradition, but there is also considerable circumstantial evidence pointing to its reliability as well. In the first place, Alexander's interest in the Nile and the problem of its sources in particular is well attested.⁴⁵ Moreover when he entered Egypt, his plans clearly encompassed the conquest of all Asia;⁴⁶ and a respected body of geographical theory dating back to Hecataeus of Miletus made the Nile the southwestern boundary of Asia and located its sources in Ocean.⁴⁷ In view of these two facts and Alexander's later attempts to reach the northern and eastern boun-

⁴³ This is, of course, suggested by the use of Posidonius by Seneca. Moreover, P. Corssen, "Das angebliche Werk des Olynthiers Kallisthenes über Alexander der Grosse," *Philologus* 74 (1917) 25–27, pointed out that Strabo probably criticized Posidonius at 17.1.5, p.790 (= *FGrHist* II A, 87 F 79) for treating Callisthenes as a reliable eyewitness instead of dismissing him as a derivative *literatur*, a charge very similar to that leveled by him at Posidonius earlier over the latter's accepting the stories about Eudoxus of Cyzicus (Strabo 2.3.4–5, pp. 98–102). This interpretation is strengthened by the phrase Strabo uses to introduce Posidonius' quotation of Callisthenes *μηδὲ τοιούτῳ δεῖσθαι μαρτύρων*, since at 2.3.4, p.98 Posidonius is quoted as rejecting purely literary accounts of purported circumnavigations of Africa because they were *ἀμάρτυρα*. This indicates that *μαρτύρων* at 17.1.5, p.790 reflects Posidonius' characterization of Callisthenes' evidence as being that of an eyewitness.

⁴⁴ Ps.-Callisth. 3.18–24. Pfister, *op.cit.* (*supra* n.8) 49–50.

⁴⁵ Arr. *Anab.* 6.1.2–5. Nearchus, *FGrHist* II B, 133 F 20.

⁴⁶ In his letter to Darius III after Issus, Alexander described himself as *τῆς Ἀσίας ἀπάσης κύριος* and demanded to be addressed as *βασιλεὺς τῆς Ἀσίας* (Arr. *Anab.* 2.14.8–9). W. W. Tarn noted (*The Greeks in Bactria and India* [Cambridge 1938] 153 n.1) that 'Asia' in the fourth century generally meant the Persian Empire rather than the continent of Asia. That Alexander, however, limited his claims to only that part of Asia controlled by the Persians is unlikely in view of the reference to 'all Asia' in Arr. *Anab.* 2.14.8 and again in 4.15.5–6, and the attempt by the early Alexander historians to prove that he had reached the boundaries of the continent of Asia (*cf.* Pearson, *op.cit.* [*supra* n.13] 13–16).

⁴⁷ Hecataeus of Miletus, *FGrHist* I A, 1 F 302. Arist. *Mete.* 1.13, 350b11–14, seems to suggest that the sources of the Nile were to be found somewhere in the continent of Africa. His student Dicaearchus, however, seems to have followed the opinion of Hecataeus (Fritz Wehrli, ed. *Die Schule des Aristoteles I, Dikaiarchos*² [Basel 1967] fr.113 and p.79). If Alexander made inquiries in Egypt, he also is likely to have found merit in Hecataeus' view since the

daries of Asia, that is, the Tanais River⁴⁸ and Ocean,⁴⁹ it is likely that he would have been personally sympathetic to the idea of sending a small party to explore the Nile valley south of Syene. Furthermore, the state of affairs in Nubia had been of critical importance since the beginning of Egyptian history.⁵⁰ As the new ruler of Egypt Alexander could not avoid that reality, especially in view of the instability of the southern frontier during the last decade of Persian rule in Egypt. Not only had Nectanebo II found refuge in Nubia at the time of Artaxerxes III's reconquest of Egypt in 343/2 (Diodorus 16.51.1), but in the winter of 338, barely six years before Alexander's invasion, a Nubian chieftain named Chabbash usurped the throne of Egypt and ruled part of the country for three years before being expelled by the forces of Darius III.⁵¹ Alexander's decision to continue the traditional Egyptian practice of garrisoning Syene shows that he was aware of the potential problems that might arise on Egypt's southern frontier. In these circumstances, while the need to bring about a decisive battle with Darius as soon as possible would have prevented Alexander from visiting Nubia in person,⁵² there was every reason for him to indulge his interest in the Nile by dispatching a small party to collect data on the geography of the upper Nile valley and, at the same time, intelligence concerning the kingdom of Meroe.⁵³

Finally, there are two pieces of evidence bearing on this question

Greeks tended to interpret the Egyptian notion that the Nile flowed from the underground waters called Nun (Posener, *op.cit.* [*supra* n.7] 190) as meaning that it came from Ocean (Diod. 1.37.6; Burton, *op.cit.* [*supra* n.35] 128, 138).

⁴⁸ Plut. *Alex.* 45.4. Polycleitus, *FGrHist* II B, 128 F 7. Pearson, *op.cit.* (*supra* n.13) 75–77.

⁴⁹ Arr. *Anab.* 5.26.3. While Arr. 5.26 contains elements that are post-Alexandrian (cf. J. R. Hamilton, *Plutarch, Alexander: A Commentary* [Oxford 1969] 170–71), Green, *op.cit.* (*supra* n.12) 403–05, has advanced strong reasons for accepting as authentic the goal of reaching Ocean.

⁵⁰ Campaigns in Nubia are recorded as early as the First Dynasty (A. J. Arkell, *A History of the Sudan from the Earliest Times to 1821*² [London 1961] 39–40).

⁵¹ For Chabbash see Kienitz, *op.cit.* (*supra* n.37) 185–89. He is unlikely to have been directly supported by Meroe in view of the defeat inflicted on him by the contemporary Meroitic king Nastasen (Fritz Hintze, *Studien zur meroitische Chronologie und zu den Opfertafeln aus den Pyramiden von Meroe*, *AbhBerlin* 1959 Nr. 2, pp.17–20).

⁵² Curt.Ruf. 4.8.3–4: *Cupido haud iniusta quidem, ceterum intempestiva incesserat non interiora modo Aegypti, sed etiam Aethiopiam invisere. . . . Sed imminens bellum, cuius multo maior superat moles, otiosae peregrinationi tempora exemerat.* Note, however, the critical comments on this passage by Victor Ehrenberg, *Alexander and the Greeks*, transl. Ruth von Velsen (Oxford 1938) 54–55.

⁵³ For a similar exploratory expedition to the Scythians see Curt.Ruf. 7.6.12 and Arr. *Anab.* 4.1.1–2.

whose implications previously have not been properly evaluated. First, new and precise geographical data about the Sudan is attested in the fragments of the Alexander historians. According to Strabo, Aristobulus observed that the Nile flooded because of rains in the south of Ethiopia but was puzzled by the lack of rain in the area between the Thebais and the regions around Meroe.⁵⁴ That the area around Meroe marked the northern limit of the rains is correct. Today the rains do not occur above 18 degrees north latitude, that is, beyond a point about half-way between Meroe and Napata.⁵⁵ The accuracy of Aristobulus' report in contrast to the vagueness of fourth-century information about the Sudan in general suggests that it was based on observation and not hearsay.⁵⁶ Second and most important is the fact with which this article began. The debate over the causes of the Nile flood ended abruptly in the third quarter of the fourth century. After Ephorus no scholar advanced a new explanation for the flood⁵⁷ because observers, whose trustworthiness Aristotle considered beyond question, confirmed the validity of the old theory that it was caused by extremely heavy summer rains south of Egypt. Those eyewitnesses are a fact, and the sources know of only one group of candidates for that honor, the explorers sent by Alexander whose exploits, according to Seneca, were chronicled by Callisthenes.⁵⁸

Ultimately, the abundant and accurate body of information about Nubia gathered by the explorers and officials of the third-century Ptolemies deprived the work of Alexander's party of all but anti-

⁵⁴ Strabo 15.1.17–19, pp.691–93 = *FGrHist* II B, 139 F 35.19. It is less clear if the comparison of the sitings of settlements in Egypt and Ethiopia which Strabo credits to both Nearchus and Aristobulus in the same passage (F 35.18) was based on explorers' reports or was an extension to Ethiopia of Hdt. 2.97.1, as suggested by Pearson, *op.cit.* (*supra* n.13) 122.

⁵⁵ Bonneau, *op.cit.* (*supra* n.2) 18. Emil Ludwig. *The Nile: The Life Story of a River*, transl. Mary H. Lindsay (New York 1937) 177. P. L. Shinnie, *Meroe* (New York 1967) 18–19.

⁵⁶ Note the use of *φάσις* in Aristagoras, *FGrHist* III C1, 608 F 10, with its suggestion that Aristagoras relied on data collected in Egypt for the Ethiopian material in his *Aegyptiaca*.

⁵⁷ *καινοτάτην* at Diod. 1.39.7 refers to *αίτιαν*, not Ephorus, as was recognized by Burton, *op.cit.* (*supra* n.35) 22. Her interpretation of it as 'most novel', however, is dubious. Within the context of the debate about the Nile flood it was the 'most recent' explanation in the sense of being the last new one offered. After Aristotle the Nile flood and its causes became merely a literary *topos*. For this aspect of its history see Brigitte Postl, *Die Bedeutung des Nil in der römischen Literatur* (Diss. Wien 40, 1970).

⁵⁸ The suggestion by Pfister, *op.cit.* (*supra* n.8) 50, that Callisthenes' eyewitnesses were Egyptians is an unnecessary complication without support in the sources. Moreover, the fact that Eudoxus treated the accounts of his Egyptian informants only as theories (*supra*

quarian interest.⁵⁹ By enabling Aristotle to close the book on the problem of the Nile flood, however, they earned for themselves and their master a significant place in the history of Greek geographical thought. In the history of the relations between the Mediterranean civilizations and Nubia, on the other hand, the results of their achievements seem to have been at best ephemeral. The very fact of their observations of the summer rains indicates that sometime during the summer of 331 they reached the vicinity of Meroe. If the tradition that Ethiopian ambassadors greeted Alexander at Babylon in 324 is correct,⁶⁰ then it is tempting to suggest that they visited Meroe itself and established communications between that kingdom and the new Macedonian masters of Egypt which lasted at least until the end of Alexander's reign. If so, however, the contact so dramatically established was soon broken. Relations worsened until the invasion of Nubia by Ptolemy II in the 270's opened Meroe to the outside world once more,⁶¹ this time for the rest of antiquity.⁶²

CALIFORNIA STATE UNIVERSITY, LOS ANGELES
January, 1976

n.7) makes it unlikely that Callisthenes would have accorded the unsupported statements of Egyptians the status of eyewitness reports or that Aristotle would have accepted them as such.

⁵⁹ This was pointed out by Immisch, *op.cit.* (*supra* n.41) 20.

⁶⁰ Arr. *Anab.* 7.15.4. It is accepted by Fox, *op.cit.* (*supra* n.12) 448.

⁶¹ Bevan, *op.cit.* (*supra* n.35) 77. Diod. 1.37.5. The date of the expedition is established by the reference to Ptolemy's having made conquests in Ethiopia at Theoc. *Id.* 17.87. *Idyll* 17 was composed sometime between 278 and 270 (A. S. F. Gow, ed. *Theocritus*, II [Cambridge 1952] 326).

⁶² I should like to thank Professors T. S. Brown, M. H. Chambers, J. Evans and B. Löfstedt for their advice.