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Editors' Note

The *JOURNAL OF ANCIENT CIVILIZATIONS (JAC)* is published annually in two fascicles by the Institute for the History of Ancient Civilizations (IHAC, Northeast Normal University, Changchun, Jilin Province, People's Republic of China).

The aim of *JAC* is to provide a forum for the discussion of various aspects of the cultural and historical processes in the Ancient Near Eastern and Mediterranean world, encompassing studies of individual civilizations as well as common elements, contacts and interactions among them (e.g. in such traditional fields as Assyriology, Hittitology, Egyptology, Classics, and Sinology among others). Hence, we publish the work of international scholars while also providing a showcase for the finest Chinese scholarship, and so welcome articles dealing with history, philology, art, archaeology and linguistics that are intended to illuminate the material culture and society of the ancient Near East, the Mediterranean region, and ancient China. Articles discussing other cultures will be considered for publication only if they are clearly relevant to the ancient Mediterranean world, the Near East and China. Information about new discoveries and current scholarly events is also welcome. Publishers are encouraged to send review copies of books in the relevant fields.

JAC is a double blind peer-reviewed journal. All submitted articles are first carefully read by at least two editors of *JAC*, who will give a feedback to the author. Articles (excluding book reviews or research reports) are afterwards reviewed anonymously by at least two referees in the specific field, appointed by the editorial board. In cases where the reviewers recommend changes in the manuscript, authors are requested to revise their articles. From time to time, we will publish a list of the referees to make the double blind peer-review process transparent and comprehensible.

The double blind peer-reviewed articles of this issue range from a reconstruction of a obelisk transportation scene from ancient Egypt to considerations of Trans-Saharan contacts of the Carthaginians, and to the study of the conceptual framework of an only fragmentary preserved early imperial *History of the Civil Wars*, written by Seneca the Elder. After the first part of the comprehensive research survey on Ancient Economy covering general developments and Greco-Roman times in *JAC* 32/1 (2017): 55–105, the second part includes survey-articles on sources and recent studies in the fields of the Ancient Near East and Egyptology. Additionally, we broaden the perspective with an article on the pre-modern economy in Ming / Qing China.

All communications, manuscripts, disks and books for review should be sent to the Assistant Editor, Journal of Ancient Civilizations, Institute for the History of Ancient Civilizations, Northeast Normal University, 130024 Changchun, Jilin Province, People's Republic of China (e-mail: jac@nenu.edu.cn), or to the Executive Director in Chief, Prof. Dr. Sven Günther, M.A. (e-mail: svenguenther@nenu.edu.cn or sveneca@aol.com).

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OVER THE WATER AND ACROSS THE DESERT –
TRANS-SAHARAN CONTACTS OF THE MEDITERRANEAN WORLD
IN THE 6TH AND 5TH CENTURY BC

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Introduction: Africa as perceived in antiquity, and the role of Carthage

Throughout mythical and historical times, Africa, or Libya as the Greeks said, proved to be a trusty companion of the ancient Mediterranean world. When Odysseus rounded the Peloponnese, he first came upon the North African coast; after stealing the Golden Fleece, Jason and his men are said to have crossed the ocean and then the continent with the Argo on their shoulders.¹ Pirates, mercenaries and merchants had plied the route to Egypt from time immemorial; seafarers from the late Archaic epoch onwards reached Africa's western coasts through the Strait of Gibraltar and the East coast from the Red Sea; in the following centuries, contacts were established as far inland as Nubia and the kingdom of Meroe.

However, the sea captains', mercenaries' and merchants' familiarity with Africa was restricted to an exceedingly small part of the actual continent. And especially lacking from their knowledge was the fascination the Greeks and Romans had not only for the distant East, but also for the North and West of the *oikoumenê*, the known world: Africa as a whole could compete neither with the abundant fecundity and immeasurable riches of the East (India) nor with the formidable menace of the North, nor again with the remoteness and mystery of the West. Politically and culturally, the continent had always had lesser significance than Asia and Europe.² Now and again an attempt was made to sail round it, but only in order to link the European and Asiatic waters by an alternative, southern route. With the exception of Egypt and Nubia, the African continent was never an object of research or an arena for power politics and expansionism. For this reason, ancient geographers never arrived at an even approximately realistic idea of how far the continent had extended to the South, whereas they had an astonishingly accurate idea of Eurasia from the 1st century AD onwards.³ Libya also played a role, although a subordinate one compared to Asia or the northern latitudes of the *oikoumenê*, in

¹ Pind. *Pyth.* 4.20–21.

² Zimmermann 1999, 67–73.

³ Cf. Pol. 3.38.1; Bianchetti 1990; Schmal 2002, 270.

discussions about the influence of climate and environment on the development of human characteristics. Speculations about another land beyond the torrid zone, the Antipodes or *terra australis*, unlike the Hyperboreans' land of marvels or the islands of paradise of the far West and the East, remained restricted to a tight circle of specialized geographers and philosophers.⁴

The reason for this comparative lack of interest in Africa is, to begin with, due to geographical, ecological and political factors. The ancients knew that its northern shores, washed by the Mediterranean, were followed by a hostile desert zone, and as deserts were taken to be a natural symbol of the end of the world, there was little readiness to penetrate further South. The theory that a torrid zone existed there that was impossible for men to cross is a manifestation of this perception that is still taught – and thereby reinforced – in the modern era. On the other hand, until the Arab expansion of the 7th century AD, there were never any substantial attacks on the Mediterranean world issuing from Africa, such as were constantly, almost in paranoiac way, expected from the endless expanses of the North. Why concern oneself, then, with the interior of the continent or seek to pre-empt attacks? Africa has no analogous people to the Amazons or the ogre nations Gog and Magog,⁵ while the “holy” Ethiopians of epic come over as a somewhat pale counterpart to the fascinating Hyperboreans of the far North.⁶ Thirdly – and this is connected to the previous – the Greek world, which is of course the source of most of our information about Africa, was spatially much further removed from the Saharan South than it was from Northern latitudes, as the Greeks continued to prefer to colonize the areas of the North and North-west coasts of the Mediterranean. The political horizon of Cyrene, the only significant Greek colony on African soil (except the very special case of Naucratis), retained its orientation towards the Mediterranean world and Egypt, while the Greek colonies in the West and the North had fluvial access to the interior via the Rhône and the Don and Dnieper. Contrastingly, not even the Nile itself often played a significant role as a corridor between the Mediterranean world and Sudanic Africa in antiquity.⁷ Thus, while

⁴ Hiatt 2011, 15–18; Schulz 2017, 213–214.

⁵ Cf. Jameson 1968, 71–84: the Romans did not see the Ethiopians as a serious threat, even after the expedition of Aelius Gallus against them under Augustus (*RGDA* 26). For some African “monsters:” Schmal 2002, 276.

⁶ On the Ethiopians and their special attitude to the sun, see MacLachlan 1992.

⁷ Masonen 2012, 168; Insoll 2003, 269; on trade routes in Sudan, cf. Shinnie 1991; summarized in Huss 1989, 10–11. Adam 1981 is much more optimistic, at least with regard to the pharaohs until c. 1200 BC, cf. also Adams 1977. The expeditions of the Old Kingdom into sub-Saharan Africa are not, in my view, proof of a corridor function; it is difficult to evaluate the recently reconstructed caravan route between the Kharga oasis and Darfur (Roe 2005–2006). Did a connection exist from there to the Lake Chad region and the Niger? For possible connections between the Middle Nile, Lake Chad and perhaps south-eastern Nigeria (Igbo-Ukwu) in the late first millennium AD cf. Sutton 1991 and 2001. On Greek advances to the South via the Nile: Préaux 1957.

we have ever more plentiful literary and archaeological evidence concerning long-distance Eurasian trade as far as China, we are still not even sure today if there was such a thing as trans-Saharan trade in pre-Islamic times.⁸

This general picture has, however, recently been disturbed by some perplexing data from pre-Roman times, data that at first appears so disparate that a number of ancient historians continue to view it with suspicion. Yet, on closer scrutiny, it fits in completely with the scenario sketched out above – because it directly and indirectly relates to a people who, by reason of their geographic location, explorational expertise, commercial ambition and also their traditional interest in the Southern reaches of the *oikoumenê*, were most disposed – not mentioning Egypt's rulers for a moment – to venture deeper into Africa from their Mediterranean base: namely, the Phoenicians or, more specifically, those from their most important colony, Carthage. Given the dominance of Greek and Roman sources, we know far too little about Carthaginian activities. But what we do know gives us good reason to pay attention to them, particularly since they are active in a period, in which we see developments on the sub-Saharan side, too – developments that, I contend, could at least have indirectly provided an additional stimulus for penetrating into the unknown from the North.

Sustained exploration and expansion in antiquity occurred wherever actors expected to find lucrative objects or contacts. It was impossible to come to an arrangement with personnel and paymasters to take expeditions into the void of the great unknown. Hence, contacts rarely came about by chance but instead within the context of experience and planning.⁹ Thus, in addition to the role of the driving forces within the Mediterranean world, the role of the sub-Saharan contact-points of Mediterranean exploration also needs to be clarified.

The political situation at the end of the 6th century BC and the *Periplus* of Hanno

From the second half of the 6th century BC onwards, Carthage began to push back against the influence of Greek colonies in the Western Mediterranean and to establish itself firmly on Corsica, Sardinia and Sicily.¹⁰ Their run of successes was halted in 480 BC when a Carthaginian invasion force suffered a disastrous defeat at Himera, and the Carthaginians were compelled to restrict their influence to the western tip of Sicily.¹¹

As is common in such situations, the defeated party seeks to replace what

⁸ The literature on this subject has become legion. Most recently summarized: Burstein 2015, 654 and Austen 2015, 662–674 (on antiquity).

⁹ Cf. Schulz 2017, 10–18.

¹⁰ Cf. Huss 1985, 59–65.

¹¹ Warmington 1981, 445 also on the re-orientation towards Africa following the defeat at Himera.

it has lost. In a similar constellation some 100 years earlier, Pharaoh Necho II intensified explorational activity in the Red Sea area, and as part of these efforts is said to have commissioned a sea captain from Tyre to sail along the African coast until his ship reached the Mediterranean from the West through the Strait of Gibraltar.¹² Carthage itself, after losing the first war against Rome, would find compensation in mineral- and mercenary-rich Spain. In view of such parallels, it does not seem improbable that the Carthaginians should have attempted something similar after Himera, setting their sights on a region that was already one of their favored spheres of interest outside the Mediterranean, namely, the Moroccan coast. Several colonies (Tingis, Lixos, Rusibis, Mogador) had been established there towards the end of the 6th century.¹³ Carthage's resumption of these activities was due to rivals like Massilia showing an interest in West African waters.¹⁴

References to these activities are found in an account of one of the most famous voyages of discovery and colonization in the ancient world, the *Periplus* of Hanno.¹⁵ Our knowledge derives to a great extent from a Greek manuscript preserved in Heidelberg. The unknown author (post 500 BC) viewed and selected original Punic documents and produced a relatively loose translation for a Greek audience.¹⁶ The first part goes back to a Punic inscription or tablet from the sanctuary of Baal Hammon in Carthage. If the translator used the term *periplus*, then it was because he wanted to make it clear to his Greek readers that it was an expedition report that had been officially commissioned, in this case by the Carthaginian government.¹⁷ Accordingly, the text names the leader and the official purpose of the expedition – to establish colonies beyond the Pillars of Hercules – at the beginning, which would have been unnecessary if it had been simply a navigational manual.¹⁸

The second part (from §7) reproduces a literary commentary or supplementary description that was probably written by Hanno himself. In it, he gives an account of the voyage continued southwards after the colonization process had

¹² Hdt. 4.42. Cf. Hennig 1944, 63–67; Law 1978, 95; Mitchell 2005, 174–175. New discussion of the whole subject with literature in Schulz 2017, 44–48.

¹³ Cf. Huss 1985, 70; Marzoli 2013.

¹⁴ Werner 1990, 72. Cf. Hands 1969, 85; Barceló 1989, 26–27; Law 1978, 121, 129, who sees a link to the expeditions of Himilco and Hanno (as I do). On the discussion about dating the expedition, see also older literature in Hennig 1944, 91. For a dating “rather later in the fifth century:” Ferguson 1969, 5.

¹⁵ Greek text with translation in German: Bayer 1993; with English translation: Schoff 2012.

¹⁶ Zimmermann 1999, 94.

¹⁷ Meyer 1998, 198–203.

¹⁸ The dedication to the gods, customary in Phoenician documents, is omitted. On the dating of the translation and authenticity: Geus 1994, 98–99.

been concluded. There has been endless debate about this second phase of the enterprise,¹⁹ and yet still today there are no truly persuasive arguments that cast doubt on the authenticity of the voyage, even despite the uncertainty regarding particular details. One argument that is commonly brought – that a return journey from a latitude near the Senegal River as far as Morocco would have been impossible without a South wind on the 850 km stretch from Cape Juby (southern Morocco, opposite the Canaries) to Cap Blanc against the prevailing North winds²⁰ – is no longer tenable.²¹ Phoenician fifty-oared sailing ships were capable of tacking against the wind;²² furthermore, coastal breezes could have been taken advantage of;²³ and even adamant critics concede that wherever headwinds and counter-currents could indeed have been too strong, there would always have been the option of hauling the boat over land with the help of local guides until more favourable conditions could be found further North.²⁴

The course and aim of Hanno's expedition – the journey on the Senegal River

The exact course and aim of Hanno's voyage are more difficult to evaluate. There is probably general agreement that the fleet, reduced after the colonization, went on to explore the coasts and waters in search of valuable raw materials, which Carthage was traditionally very interested in and without which the newly founded cities Karikon Teichos, Gytte, Akra, Melitta and Arambys would scarcely have been able to survive. Choice goods would have been vegetable and animal products, such as sedge (or reeds) as an incense substitute, exotic woods and ivory, as well as deer, lion and leopard skins.²⁵ Secondly, and most importantly, minerals like copper from Akjout in Mauretania (on the same geographical latitude as Arguin island), tin from the Jos Plateau in Nigeria,

¹⁹ Sceptical about authenticity: Bichler 2008, 185; Fage 2002, 47.

²⁰ E.g. Mauney 1970, 22, 91, 93; 1978, 296–297; Fage 2002, 47. Difficult conditions begin at Cap Blanc.

²¹ Picard 1992, 186–187. This against Mitchell 2005, 175, who only cites the outdated chapter of Mauney 1978 in the Cambridge History of Africa and ignores the new literature about nautical technology in antiquity; cf. Schulz 2017, 15–16, 156.

²² Lonis 1978; Werner 1990, 68, n. 78; Picard 1992, 186–187 (tacking); Delekat 1969, 34: "This technique was known to the Phoenicians; only they could not sail as hard against the wind as modern yachts," with older literature. On authenticity: Medas 2004, 143; Zimmermann 2007, 457. According to Austen (2012, 30) the *Periplus* is regarded today as a literary invention. However, the arguments – maritime technology and lack of archaeological evidence – do not apply to, or are irrelevant for, a journey of discovery.

²³ Medas 2004, 142 specifically on Hanno's journey.

²⁴ Mauney 1970, 93, 99. Cf. more sceptically Picard 1992, 187–188.

²⁵ Ps.-Skyl. *Periplus* 112.7; Blomquist 1985, 57–59. Other hides and also slaves were procured here; cf. Cunliffe 2001, 302.

and above all gold were preferred.²⁶ The last new settlement mentioned in the *Periplus*, Kerne, possibly in the bay of Rio Oro, soon became a centre of the gold trade; a Greek author describes the inhabitants as very rich in gold. Herodotus confirms that the Carthaginians acquired gold on the West African coast.²⁷

There are two reasons why it is unlikely that the aim of the expedition was confined to this. First, the already sparse references to merchandise taper off as the *Periplus* continues, and topographic data predominates. Secondly, no captain simply strikes out into the unknown; he has to give his superiors and his crew realistic-seeming destinations or aims. If we accept the traditional and most plausible interpretation that Hanno got as far as the Gulf of Biafra, it seems reasonable to suppose he was open to the possibility of circumnavigating Africa and turned back the moment he realized that the Libyan coast did not continue in a more or less straight line eastwards as far as the Erythraean Sea (Red Sea/ Indian Ocean), as one believed at that time, but instead extended further South. The plausibility of this interpretation depends, of course, on one's position on the circumnavigation of Africa that Herodotus says Phoenician seafarers had undertaken, from East to West, about 100 years earlier.²⁸ If one takes that circumnavigation seriously, it would probably make sense to repeat the venture from the West.

We are on somewhat safer ground when it comes to a phase of Hanno's expedition that is of great importance in answering the question of explorations of the interior. This is the journey, described in paragraphs 9 and 10 of the *Periplus*, along two big rivers after the founding of the colony of Kerne. From Kerne – so the account goes – “we passed a big river called *Chremetes* (or *Chretes*) and reached a lake with three islands.” After a further day's journey across the lake and skirting “very high mountains inhabited by savage people” they came to another lake “full of hippopotamuses and crocodiles.” From there they sailed back to Kerne.

The most convincing interpretation continues to be the one that claims Hanno sailed up the Senegal River, or a northern branch of it,²⁹ for one day, and then sailed back to the coast along a southern branch.³⁰ If this is correct, what did Hanno want in Senegal, and why did he travel upstream for one day? Since he had Berber interpreters on board, it can be assumed he was in search of gold on the Senegalese gold route. Furthermore, it is likely that he was trying to make contact with the iron producing settlements of Walaldé in the middle reaches of

²⁶ Vivenza 1980, 108; Huss 1989, 4. The gold trade on the Senegal River: Ferguson 1969, 7.

²⁷ Hdt. 4.196; Palaiph. 31; cf. Law 1967, 188; 1978, 138–139; Snowden 1970, 106.

²⁸ Hdt. 4.42.

²⁹ Huss 1985, 81; Schulz 2017, 160. Localization of Kerne: Vivenza 1980, 108–109.

³⁰ E.g. Huss 1989, 81.

the Senegal River that probably had links to the Atlantic coast and Morocco.³¹ But there is another aspect to this that may seem far-fetched, although only at first sight.

If Hanno reached the mouth of the Senegal, then he was probably following on from an exploration that had been begun a few decades earlier by Euthymenes of Massilia.³² He, like Hanno, had sailed down the Moroccan coast and come to the mouth of a big river and a lake. It is generally assumed today that the river was the Senegal.³³ Euthymenes reported that he encountered animals there that resembled wildlife of the Nile.³⁴ This tallies with the observation in the *Periplus* of Hanno that the river the Carthaginians sailed down was full of crocodiles and hippopotamuses. The presence of these animals and the freshwater led Euthymenes to conclude that the river was the Nile. Thus, he probably founded the theory that the flooding of the Nile was caused by the river's wind-related (Etesian) inflow and outflow on its West African upper reaches in the Okeanos. At any rate, there seems to have been discussions regarding the course and sources of the Nile dating back to the end of the 6th century, debates which the Greeks of Massilia took part in and the Carthaginians knew about.³⁵

There were two competing theories: one assumed the Nile followed an easterly course and joined the Indus; the other held that it flowed westwards and debouched into the Okeanos (Atlantic). The debate was able to assume political, strategic and indeed ideological dimensions. Within about the same period of time in which Hanno's expedition may be dated, the Persian king Darius dispatched a fleet to find out where the Indus emptied into the sea – and by “sea” there is no doubt that what was meant was the Okeanos, which, according to age-old belief, fed all rivers.³⁶ Against this backdrop he added that the Indus, like the Nile, was home to crocodiles. This rather objectively unnecessary observation indicates that Darius wanted to test the (“eastern”) Indus–Nile hypothesis and to clarify whether the south-eastern extremes of the Persian empire (Egypt/Ethiopia) could be linked with India via the Indus/Nile. Just how strong such

³¹ Killick 2004.

³² If we apply the passages in Avienus' *ora maritima* and in Pseudo-Skylax to Euthymenes; cf. Fabre 1992, 15; Hennig 1944, 80–85; Roller 2006, 16–18. More sceptical: Honigmann 1926, 160–161.

³³ Huss 1989, 12. Fabre 1992, 14; Roller 2006, 17–18.

³⁴ *Sen. nat. quaest.* 4.2.22.

³⁵ Sources in Hennig 1944, 80; cf. Carpenter 1966, 101. Euthymenes confused the Etesian winds here with the Kerne trade winds; cf. Werner 1993, 14. The link to the discussion of the Nile question is the most important clue for dating Euthymenes' voyage; Hennig 1944, 83. In my view, the arguments for an early dating in the first half of the 6th century – “probably before the Carthaginian Hanno” – with Huss 1989, 12, Mourre 1964, 135 and Fabre 1992, 13 against Zimmermann 1999, 77, n. 291 and Werner 1993, 14, n. 30 are sufficient.

³⁶ *Hdt.* 4.44; Okeanos rivers: Lloyd 1976, 100–101.

considerations were at the service of interests of sovereignty is shown by the fact that about 100 years later, the Persian king Artaxerxes III Ochus (390–338 BC) sought to bring the rebellious Egyptians to reason by diverting the upper course of the Indus (!).³⁷ Xerxes, c. 470 BC, had sent a Persian officer through the Strait of Gibraltar in the opposite direction, reportedly with the mission of discovering whether it was possible to sail round Libya from the West.³⁸ Perhaps he, too, was looking for the mouth of the river that Euthymenes and Hanno had mentioned in their accounts.

Trans-Saharan caravan roads

Another perspective offers additional indications of possible connections. If the Carthaginians were not only interested in the coastline of Libya but also in waterways into the interior, and if they were aware of discussions about macro-level fluvial routes, what is to say that they did not also want to explore land routes? There is the – admittedly very late – reference to a certain Mago, who is said to have crossed the desert three times.³⁹ While it is not known which desert is meant and there are no clues as to date, from the Carthaginian point of view, it could only have been the Sahara or the adjoining desert zones.⁴⁰ At any rate, the fact that this information was recorded and passed on means that contemporaries did not regard it as entirely implausible.

In fact, it was possible to cross the Sahara as early as the 3rd millennium BC by way of the semi-arid zones of the Hoggar and Tibesti massif, especially in winter when the air was cooler and waterholes had been filled with summer rain. French researchers, analyzing the dispersal pattern of petroglyphs, reconstructed a network of roads leading to Goa on the Niger Bend on two major routes from Morocco and Tripoli (the latter skirting the Hoggar mountains) as well as to Lake Chad from Leptis Magna (see map).⁴¹ Even though this theory is rightly viewed with scepticism today, ecological conditions, knowledge of the trans-Saharan road network and means of transport adapted to the natural environment did enable at least sporadic exchange of goods between agricultural and herding zones on the northern periphery of the desert, the Nile in the East as well as the

³⁷ Sources and interpretation in Geus 2003, 239–240. Another thirty years later, Alexander departed for the East, convinced the Indus and the Nile were connected.

³⁸ Hdt. 4.43; Hennig 1944, 133–137; Ferguson 1969, 8–9. As far as Cameroon: Asheri and Corcella 2007, 613; Roller 2006, 21. As far as southern Morocco: Mauny 1978, 296.

³⁹ Athen. 2.44e.

⁴⁰ Mauny 1970, 120; Geus 1994, 179–180; Ferguson 1969, 8; Huss 1989, 7. Law 1967, 188 and 1978, 127 only permit Mago to reach Fezzan.

⁴¹ Mauny 1970, 60–61. Cf. Mitchell 2005, 188.

Lake Chad area and the Niger river system in the South.⁴²

It is of major significance that at the same time the Carthaginians were intensifying their efforts to explore the West African coast and the Libyan desert, at the beginning of the sub-Saharan Iron Age, urban settlement structures had begun to emerge in the Lake Chad region in the form of the Sao culture (at the edge of the *firki* marsh districts) and the settlement of Zilum. The expansion of the Berber might also have led to a restructuring of the proto-urban culture of the Tichitt in south-eastern Mauretania in the middle of the 1st millennium BC.⁴³ The settlements of Walaldé in the middle reaches of the Senegal have also been dated back to this time.

News of iron-producing cultures, together with the southward migration of the Berber (the “Lixites” in Hanno), were probably important factors spurring at least sporadic trans-Saharan trade⁴⁴ – in semi-precious stones, for example (amazonite, carnelian). Herodotus indicates that such trade was known of in the Mediterranean region. He divided North Africa into three zones: the inhabited coast; further inland, the area of wild animals; and still further South, the waterless desert. Between the second and third zone, a hilly sand desert extended from Thebes in Egypt to the Pillars of Hercules.⁴⁵ There were salt hills with freshwater springs in this desert, approximately ten days apart.⁴⁶ Tribes lived around these hills: heading East to West, the Ammonians lived a ten days’ journey from Thebes; another ten days of travel led to an unknown tribe at the oasis of Augila. After these tribes came the Garamantes, followed by the Atarantes and then, after yet another ten-day trek, the Atlantes, who lived around a salt hill with a spring.⁴⁷

The indicated distance of a ten days’ journey each corresponds, as has been

⁴² Mattingly 2011, 50–58; 2015, 779 on early trans-Saharan trade. MacDonald 1998 and 2011, 74–75, 80. Sceptics (e.g. Austen 2012, 39) proceed from an immanent critique and are of the opinion that, given the absence or paucity of textual and also archaeological evidence, they can conclude there was no trans-Saharan trade. It is only natural, given the nature of the matter, that Herodotus is not explicit, but instead roundabout and allusive on the issue of slaves and gold being part of this trade. It is naïve to object that there are no remains of animal fur from Saharan trade (Swanson 1975, 597); cf. Mauney 1970, 81.

⁴³ On Tichitt and Berber: Burstein 2015, 648; MacDonald 2011, 72–74; MacDonald 2015, with p. 508 on trade with the North; 1998, 91–92 assumes original chiefdoms on the middle reaches of the Niger as above. On the urban cultures of Lake Chad: Lange 2010a, 104–107; 2010b, 49–55, 59–60; Breunig 2006. Contacts of Assyrian merchants or refugees with the Chad area via Nubia: Lange 2011a; 2011b, 23–27.

⁴⁴ Cf. Sutton 1983; Liverani 2000b, 43.

⁴⁵ Hdt. 2.32.4; cf. Lloyd 1976, 133–135. Asheri and Corcella 2007, 261 speak here of four zones (desert + sandhills). Hdt. 2.32 and 4.181 can be divided into three zones without difficulty.

⁴⁶ Lloyd 1976, 136.

⁴⁷ Hdt. 4.181–185.

shown by M. Liverani,⁴⁸ to what it generally took a camel caravan to travel between two oases also in later times. The oases are described in Herodotus as salt hills with freshwater springs; the reference to salt may reflect vague knowledge of one of the most important commodities of the Sahara.⁴⁹ Some of the oases can be identified on the basis of the stated distances and information from a later date (Arab period). The easternmost was the oasis of Siwa, around 560 km west of the Nile, which was followed by the oasis Herodotus explicitly named Augila (modern Awjila or rather, the oasis group Aujila (Jalo) in the Libyan desert).⁵⁰ From there it was a ten days' journey to the Garamantes, who had settled around Zinkekra in the Wadi al-Ajal and had cultivated wheat, barley, grapes and date palms with the aid of a sophisticated irrigation system since c. 500 BC. The oasis, which Herodotus describes as a "salt hill with a spring and many fruit-bearing palms," (cf. above) probably lay to the East of modern Sebha/Sabha (most likely Fuqaha). When he says that the Garamantes "cover the salt with earth and sow cereals in it,"⁵¹ he is recording a widespread practice among oases inhabitants of neutralizing the salinity of the soil by gathering fresh alluvial earth from the wadis and stagnant water and strewing it on the ground. A further ten days' journey brought one to an oasis in the territory of the Atarantes, perhaps the oasis of Ghat at the south-east end of the Wadi Tanizzuft, the oasis of Aïr (Asben) or another locality south of the Tibesti mountains and Hoggar massif.⁵² The last stop Herodotus can name is a salt hill in the land of the Atlantes, whose people are obviously not the inhabitants of the Atlas Mountains, which lie much too far away to the North-west; what he must have meant is the Hoggar massif.⁵³ From there, the route continues in ten-day-long treks from oasis to oasis, whose names and inhabitants Herodotus does not know.

The "expedition" of the Nasamones

Even if the identifications of location based on Herodotus' information are uncertain in their detail and fail to exclude other possibilities, they do however correspond to the most likely historical and geographical context of the time. Of course we do not know the *exact* course of the routes, but we can in any case, following Herodotus' indications, confirm that there were such connections from one oasis to the next through the Sahara along the Hoggar and Tibesti

⁴⁸ Liverani 2000a; cf. 2000b, 41 with further literature.

⁴⁹ Liverani 2000a, 508; oases: *ibid.*, 499–502.

⁵⁰ Law 1967, 183.

⁵¹ Hdt. 4.183.

⁵² Cf. Carpenter 1966, 128–129; Desanges 1978, 182; oasis of Ghat: Liverani 2000a, 502; 2000b, 39.

⁵³ Hdt. 4.183–184; cf. Law 1967, 182–185.

massif in the 5th century BC. But to what areas did this caravan route provide access, and was the route connected in any way to Carthaginian exploration policy? Herodotus also gives some clues to these questions in the form of a tale that he heard in Cyrene. This story is part of a larger argumentation context in which Herodotus comments on the geography of the world and the seas and also broaches the question of the sources of the Nile. Herodotus uses his information here, as he did on other occasions, as evidence to substantiate his conception of the world in refutation of contrary views. Details may therefore be implausible or mistaken,⁵⁴ but that does not detract from the credibility of the story in its essentials – not least because the story, far from going against the historical context of the period, actually fits meaningfully into it.⁵⁵

Herodotus says that Greeks from Cyrene, while visiting the oracle of Ammon at Siwa, a centre of the caravan trade, had heard the following from the Ammonian king. Some time earlier, five sons of chieftains of the tribe of the Nasamones (on Libya's Mediterranean coast) had been elected by lot "to journey into the Libyan desert to see if they could advance any farther and see any more than all those who had crossed the desert previously."⁵⁶ Well supplied with water and food, they set off southwards and entered the "zone of the wild animals and thereafter the desert, always travelling in a westerly direction." Since the Nasamones – as Herodotus records at another point⁵⁷ – regularly went to the Augila oasis for date harvest, the young men no doubt headed there first, from where they were able to join the caravan road coming from Egypt. Accordingly, they followed the watering hole stations that Herodotus listed as being reachable in ten-day-long treks in his list of peoples and oases. Coinciding with the course of trans-Saharan caravan roads we know of from later sources, the Nasamones must have headed South-west from Augila and reached the Fezzan Depression.⁵⁸ Fezzan was (and still is) one of the most fertile parts of the Sahara and one of the main hubs in the caravan network. Herodotus was presumably so familiar with this region and its population "south of the Nasamones"⁵⁹ because a second caravan road, still known in the modern era, led from the Garamantes in Fezzan northwards to the coast into the land of the "lotus eaters," i.e. Eastern Tripolitania. That journey took 30 days to complete, according to Herodotus. In 1869, the first European to

⁵⁴ Lloyd 1976, 137.

⁵⁵ Hennig 1944, 127–132; Carpenter 1966, 111–113; Lloyd 1976, 137–139; Huss 1989, 7 (with literature); Pritchett 1993, 979–980 and Asheri 2007, 261–262. Sceptical view in Bichler 2008, 182–183.

⁵⁶ Hdt. 2.32.

⁵⁷ Hdt. 4.182.

⁵⁸ Cf. Huss 1989, 7–8.

⁵⁹ Hdt. 4.174.

undertake the journey, Gustav Nachtigall, reached Murzuk in Fezzan in exactly 30 days.⁶⁰

If the proposed considerations are correct, then the Nasamones travelled along the Bornu Route, which was used by merchants as late as the 19th century, on their way from Tripoli to central Africa. There is much to indicate that the Nasamones also proceeded south-west, crossing the plateau between the Hoggar and Tibesti mountains and arriving in a zone for which Herodotus was unable to give any names, and which it was possible to traverse in the usual ten-day stretches. “Meanwhile,” as Herodotus continues,⁶¹ “they were met by little people, smaller than a medium-sized man; they seized them and dragged them away. But the Nasamones could not understand their language, nor could they understand what the Nasamones said.”

The “little men” are generally interpreted as Pygmies, who in antiquity may have lived further North than they do today.⁶² But they could also have been from Negroid tribes who are of smaller stature than the Berber.⁶³ “They led them across great swamps and finally they came to a city (*polis*) where all the people were as small as their guides, and black. A great river flowed past this city, from west to east, and in it crocodiles could be seen.”⁶⁴ Some scholars have presumed the “city” to be a settlement near Lake Chad in the Bodélé Depression; the shore of Lake Chad could indeed have easily been seen as a river. This would mean they had reached the area of the settlement of Zilum.⁶⁵ A second interpretation, which better fits the pattern of ten-day-long treks, identifies the city with Negroid inhabitants of small stature as Tombouze, a settlement predecessor of Timbuktu founded in c. 500 BC.⁶⁶ The big swamps would, accordingly, have been the lakes and marshes formed by the Niger.⁶⁷ The caravan road used by the Nasamones would then approximately correspond to the Cairo-Timbuktu route of the Middle Ages.

⁶⁰ Hdt. 4.183; Law 1967, 187; Liverani 2000a, 512; Carpenter 1966, 117–118.

⁶¹ Hdt. 2.33.

⁶² Mauny 1970, 120; Asheri and Corcella 2007, 262. Sataspes encountered them, too; Roller 2006, 21. On the topos of the Pygmies and the contradistinction to the Ethiopians, cf. Bichler 2000, 41.

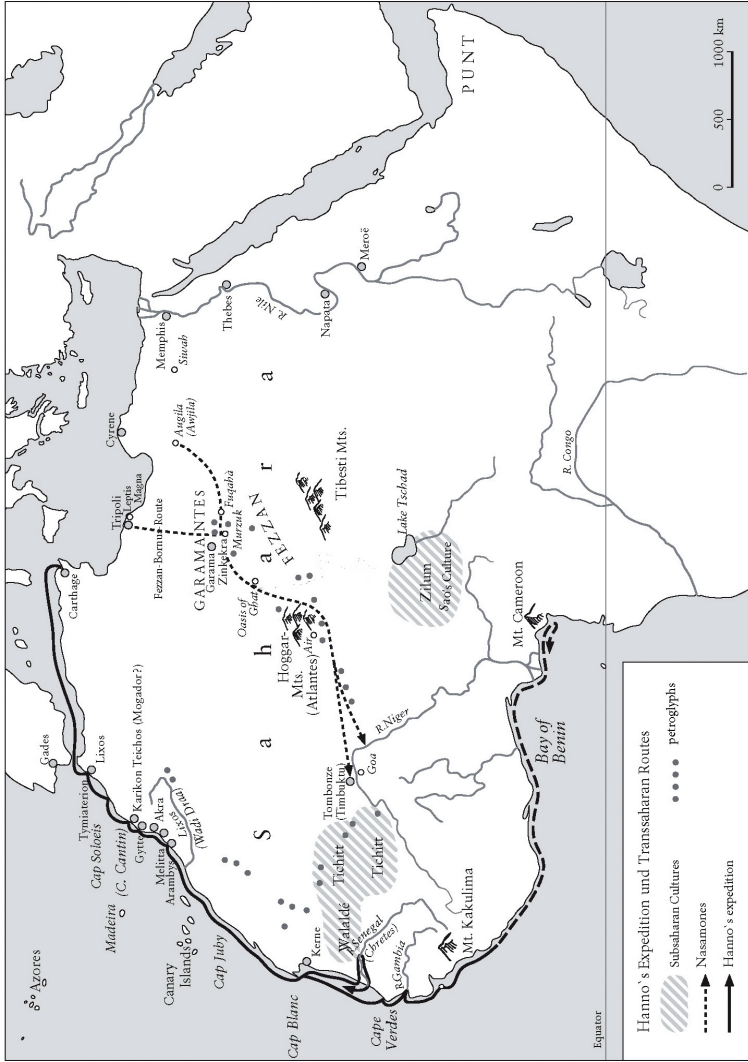
⁶³ Cf. Law 1967, 186.

⁶⁴ Hdt. 2.32.

⁶⁵ Carpenter 1966, 128–132; Cary and Warmington 1966, 348–349; Bodélé Depression: Asheri and Corcella 2007, 262; Nachtigall 1881, 77–80.

⁶⁶ On the predecessor settlements of Timbuktu, cf. Park 2011, esp. 30–40; “... it is now clear that Timbuktu’s prehistoric urbanism was far greater than it ever was during the historic period.” Cf. Huss 1989, 7; Windberg 1936, 199.

⁶⁷ Cf. Law 1967, 185; Liverani 2000a, 503; Huss 1989, 12; Mattingly 2011, 50. Among sceptical voices, cf. e.g. Honigsmann 1926, 158.



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The nexus alluded to by the ancient authors extends still further. Herodotus says explicitly that the big river the Nasamones reached was infested with crocodiles and flowed from West to East. Although this description fits the Niger, Herodotus had a different waterway in mind: namely, the trans-Saharan Nile, the search for which was known from the *periploi* of Euthymenes and Hanno, and whose waters, according to Euthymenes, were pushed inland from the Atlantic when ocean winds blew, causing it to flow eastwards. And indeed, when the Nasamones returned, the Ammonian king declared the big river to be the Nile. Herodotus adopts this identification⁶⁸ because he is convinced of the parallel, mirror-image course of the Nile and the Danube.⁶⁹ The error was not his alone: the possibility of the Niger and the Nile being connected was still being debated at the beginning of the 19th century.

This does not, however, exhaust the connections between the Nasamonian expedition and Hanno's voyage. Hanno travelled up the Senegal for at least one day. The headwaters of the Senegal in the gold-rich district of Bambuk are only a few kilometres away from the Upper Niger. Early Arabic geographers assumed that the Senegal and the Niger joined to form one river flowing from West to East; they called it the "Western Nile" or the "Nile of the Blacks."⁷⁰ A much-used caravan road ran from Lake Chad up the Niger to Timbuktu and then South-west to the Senegal River. The Upper Niger is where the gold deposits of North-west Africa are concentrated. Finding gold or at least localizing the principal goldfields was without doubt one of the motives of Hanno's expedition. In the early Middle Ages the Senegal was called the "River of Gold."⁷¹

Salt, the second eminently important commodity on the caravan routes, is also connected to Hanno's expedition. References in the *Periplus* to the lagoons on the African West coast and in the Senegal River region could point to an interest in saline water and salt production.⁷² That would be consistent with Herodotus's descriptions of the oases on the caravan road as being places with "lumps of salt in hills and cold freshwater springs," and also consistent with the salt mines on the road south-west from Fezzan.⁷³

And there is a third link that at least indirectly connects the Nasamones' expedition with Hanno's voyage. According to Herodotus, the Garamentes living

⁶⁸ The Nile's connection with the Okeanos is mentioned in Hdt. 2.21.

⁶⁹ Hdt. 2.33.2–34.2; Zimmermann 1999, 92, n. 377; Desanges 1978, 181–182. Crocodiles also lived in other rivers in the Sahara, which today have dried up: *ibid.*, 182.

⁷⁰ Hrbek 1992, 306–308.

⁷¹ The quest for gold: Liverani 2000a, 513; Law 1980, 188–189; Senegal: Ferguson 1969, 7.

⁷² Cf. Blomquist 1984, 57–58. Liverani 2000b, 41; Michell 2005, 143 for the importance of salt in pre-Islamic trans-Saharan connections.

⁷³ Hdt. 4.181–185; Law 1967, 182–185.

in Fezzan used to hunt “troglodytic (cave-dwelling) Ethiopians,” “the most fleet-footed people;” today the inhabitants of the Tibesti oasis are still considered to be exceptionally good runners.⁷⁴ Hanno, too, had heard that in the mountain gorges west of the River Lixos troglodytes dwelled “who, according to the Lixites, run faster than horses.”⁷⁵ It appears that the authors use the term to designate the same ethnicity, which suggests a connection between the West African coastal strip, specifically, the river system that flows into the Atlantic there and the trans-Saharan caravan roads that terminate at the Niger and Lake Chad. It is likely that the Garamantes carried out raids in the cave dwellers’ territory, selling some of their captives as slaves and keeping others for themselves. Skeletal finds suggest that a Black African population helped build the irrigation system and may have been put to work in farming.⁷⁶

In light of all this, it seems more than probable that the Carthaginians had at least some vague knowledge of the Niger route described by Herodotus.⁷⁷ Much of Herodotus’ information about West Africa (and the Niger?) evidently came from Carthaginian sources.⁷⁸ The Carthaginians possessed colonies not only on the West African coast but also in Tripolitania.⁷⁹ Leptis Magna was the starting point of the aforementioned thirty-day-long caravan route to Fezzan, continuing on to Lake Chad and the Niger. Libyan inscriptions suggest a Phoenician presence in Fezzan.⁸⁰ The Carthaginians were active as slave hunters and traders. Perhaps they used their far-reaching network of ties, notably with the Garamantes, to procure black auxiliaries for their armies (who are mentioned in the 5th century) and to supply Mediterranean societies with slaves. The fact that there is no explicit mention of this in the sources is not necessarily surprising. We encounter the same phenomenon in the much more voluminous literature of the 15th century AD on the topic of the slave trade carried on by the Portuguese. At any rate, from the 6th century BC onwards, Negroid slaves occur as a motif in the fine arts in the Mediterranean region and are a familiar feature of urban cultures.⁸¹

⁷⁴ Hdt. 4.183. Cf. Asheri and Corcella 2007, 706.

⁷⁵ Hanno *Periplus* § 7. On the troglodyte topos, cf. Bichler 2000, 40.

⁷⁶ Law 1967, 183; Liverani 2000a, 508. Skeletal finds and irrigation: Austen 2012, 35; slaves in agriculture and irrigation: Wilson 2006 and Fentress 2011, 69. “A limited slave trade” across the Sahara: MacDonald 2015, 508, with Mattingly 2011.

⁷⁷ Huss 1989, 7; Zimmermann 2007, 47. The Carthaginians must have believed the story: Cary and Warmington 1966, 349.

⁷⁸ Hdt. 4.43; 195–196; Berger 1903, 231.

⁷⁹ Cf. Law 1978, 127; 1989, 187.

⁸⁰ Austen 2012, 40. Inscriptions: Lange 2004, 15; Rouillard 1995. Lange 2004, 15–19 even assumes Phoenician–Carthaginian influences on the societies of Lake Chad.

⁸¹ Law 1978, 127; Lange 2004, 16–19; Snowden 1970, 24–26, with illustrations; Fentress 2011,

Conclusion – the limits of long-distance exploration in the ancient world

The sources and their historical, political and environmental context suggest at least indirect ties linking Carthage and other North African ethnicities with the Iron Age cultures of the Senegal–Niger system and Lake Chad. With this, however, a line was drawn that would not be crossed for the remainder of antiquity.⁸² The interests of the Persians and Ptolemies, like those of their predecessors, did not extend beyond Meroe, and concentrated increasingly on the lucrative links with India and Arabia.⁸³ Carthage's African ambitions were absorbed by the struggles for survival with Rome in the western Mediterranean in the 3rd and 2nd centuries BC.

After having provincialized the North African territory, Rome itself was not prepared to take possession of the trans-Saharan legacy of its former wartime enemy. This was due to the fact that Roman foreign policy and military operations were focused on the North and the East of the *oikoumenê*. Meanwhile, Rome continued to act defensively in North Africa, primarily concerned that the grain supply to Italy ran smoothly. Maritime expeditions down the coast of West Africa reached at the highest the latitude of the Canaries; occasional land expeditions by army commanders or merchants via the known routes led as far as to the northern part of Lake Chad (Agysimba?) and to Meroe, but they never went beyond the area explored in the 5th century.⁸⁴ Since the supply of African products by the Garamantes and the Kingdom of Meroe for the most part ran smoothly, there was simply no reason to penetrate any further, particularly given that demand for gold from the African interior was not nearly so strong as it was, for example, in the 15th century AD before the voyages of discovery by the Portuguese and Italians. Expeditions to new lands for the simple purpose of (geographic or ethnographic) research independent of commercial or political/military objectives was alien to long-distance exploration as practised by Rome and Carthage, as was – needless to say – any missionary activity among foreign peoples.

66–67. The Carthaginians' black auxiliaries: Frontin. *strat.* 1.11.18; Fentress 2011, 68. On Carthage and the Berber: Bullard 2001.

⁸² Cf. the refreshingly sober remarks by Honigmann 1926, 166, 170 (on the Ptolemaic expeditions), 171 (on Eratosthenes), 178–180 (on Strabo and the Roman expeditions), 186 (on Ptolemy). Esp. 180: The Sahara was known only as far as the 26th parallel North. Imperial-period exploration in the West never went further than Hanno's, if indeed it got that far (esp. 184). Recent researches: El-Sheikh 1992; Zayed 1981; Mitchell 2005, 141 and 170, n. 3: "Herodotus' (II 32–33) account of a group of Nasamonian nobles from north-eastern Libya who reached a crocodile-inhabited eastward-flowing river (inescapably the Niger) marks the limit, in antiquity and distance, of Classical exploration." No followers of Hanno: Bridges 2007, 9–10. Cf. the archaeological arguments in Magnavita 2013.

⁸³ On early trans-Saharan routes from Egypt now: Roe 2005–2006, 119–129 and the provocative suggestions in Sutton 1991, 2001.

⁸⁴ Cf. Salama 1981, 517.

On the other hand, in the sub-Saharan region, there was an absence of stable political entities that, like Meroe in Nubia or later Axum in the East, were interested in long-term contacts with the North and with whom economic and political ties had already existed for some time. This is certainly the main reason why Africa, in the Mediterranean world of antiquity, never became so powerful a magnet for explorers and adventurers as the Far East and the North-west did. The few isolated, spectacular ventures that did occur stood out all the more against this background and continued to cast a light that shone far into future: in the 15th century AD, Henry the Navigator is said to have been encouraged in his efforts to find sea routes around Africa by the knowledge “that Hanno the Carthaginian captain sailed along the African coast to a point almost below the line of the equator.”⁸⁵

Bibliography

Adam, S. 1981.

“The Importance of Nubia: A Link between Central Africa and the Mediterranean.” In: G. Mokhtar (ed.), *Unesco General History of Africa*. vol. II: *Ancient Civilizations of Africa*. Berkeley: Heinemann, 226–243.

Adams, W. 1977.

Nubia Corridor to Africa. London: Penguin Press.

Arnaud, P. 2005.

Les routes de la navigation antique: itinéraires en Méditerranée. Paris: Edition Errance.

Asheri, A. B. and Corcella, A. 2007.

A Commentary on Herodotus Books I–IV. Oxford: Oxford University Press.

Austen, R. A. 2012.

Die Sahara. Tausend Jahre Austausch von Ideen und Waren. Berlin: Wagenbach.

——— 2015.

“Regional Study: Trans-Saharan Trade.” In: C. Benjamin (ed.), *The Cambridge World History*. vol. IV: *A World with States, Empires, and Networks, 1200 BCE – 900 CE*. Cambridge: Cambridge University Press, 662–686.

Barcelo, P. 1989.

“Zur karthagischen Überseepolitik im VI. und V. Jahrhundert v. Chr.” *Gymnasium* 86: 13–37.

⁸⁵ De Góis 1984, 53–54.

Bayer, K. 1993.

“Der Fahrtbericht des Hanno.” In: G. Winkler (ed.), *C. Plinius Secundus d.Ä., Naturkunde. Buch V. Lateinisch-deutsch.* Munich: Artemis und Winkler Verlag, 337–345.

Berger, E. H. 1903.

Geschichte der wissenschaftlichen Erdkunde der Griechen. Leipzig: Veith.

Beresford, J. 2013.

The Ancient Sailing Season. Mnemosyne Supplements 351. Leiden: Brill.

Bianchetti, S. 1990.

“L’idea di Africa da Annone a Plinio.” In: A. Mastino (ed.), *L’Africa Romana. Atti del VII convegno di studio su “L’Africa romana,” Sassari, 15–17 dicembre 1989.* vol. 1. Sassari: Edizioni Gallizi, 871–878.

Bichler, R. 2011.

“Die Fahrt zu den Grenzen der Erde. Von Herodot zur Alexander-Historiographie.” *Gymnasium* 118: 315–344.

——— **2008.**

“An den Grenzen zur Phantastik. Antike Fahrtberichte und ihre Beglaubigungsstrategien.” In: id., *Historiographie – Ethnographie – Utopie. Gesammelte Schriften.* Teil 2: *Studien zur Utopie und der Imagination fremder Welten.* Ed. by R. Rollinger. *Philippika* 18/2. Wiesbaden: Harrassowitz, 173–192.

——— **2000.**

Herodots Welt. Der Aufbau der Historie am Bild der fremden Länder und Völker, ihrer Zivilisation und ihrer Geschichte. Antike in der Moderne. Berlin: Akademie Verlag.

Blomquist, J. 1984–1986.

“Reflections of Carthaginian Commercial Activity in Hanno’s Periplus.” *Orientalia Suecana* 33–34: 53–62.

Breuning, P. (ed.). 2006.

“(G)anz ohne Eisen: Große Siedlungen aus der Mitte des 1. Jahrtausends BC im Tschadbecken von Nordost-Nigeria.” In: H. P. Wotzka (ed.), *Grundlegungen.* Tübingen: Narr Francke Attempto, 255–270.

Breuning, P. and Neumann, K. 2002.

“Continuity or Discontinuity? The 1st Millennium BC-crisis in West African Prehistory.” In: T. Lenssen-Erz (ed.), *Tides of the Desert. Contributions to the Archaeology and Environmental History of Africa in Honour of R. Kuper.* Cologne: Heinrich Barth Institut, 491–503.

Bridges, R. 2007.

“The Berberes Africa. Exploration.” In: D. Buisseret (ed.), *The Oxford Companion to World Exploration.* Oxford: Oxford University Press, 8–20.

Bullard, R. G. 2001.

“The Berberes of the Maghreb and Ancient Carthage.” In: E. M. Yamauchi (ed.), *Africa and Africans in Antiquity*. Michigan: Michigan University Press, 180–209.

Burstein, S. 2015.

“Africa: States, Empires, and Connections.” In: C. Benjamin (ed.), *The Cambridge World History*. vol. IV: *A World with States, Empires, and Networks, 1200 BCE – 900 CE*. Cambridge: Cambridge University Press, 631–661.

Camps, C. 1993.

“Chars, Rupestre.” *Encyclopédie Berbère* 12: 1877–1899.

Carpenter, C. 1966.

Beyond the Pillars of Hercules. London: Methuan.

Cary, M. and Warmington, E. H. 1966.

Die Entdeckungen der Antike. Zurich: Kindler.

De Góis, D. 1984.

“Chronica do Principe D. Joao, o Secundo do nominee (1567). Übersetzung des Kapitels: ‘Über die Beweggründe...’.” In: E. Schmitt (ed.), *Die großen Entdeckungen. Dokumente zur Geschichte der europäischen Expansion*. vol. 2. Munich: C.H. Beck, 52–54.

Delekat, L. 1969.

Phönizier in Amerika. Bonner Biblische Beiträge 32. Bonn: P. Hanstein.

Desanges, J. 1978.

Recherches sur l'activité des méditerranéens aux confins de l'Afrique. Rome: L'Erma di Bretschneider.

El-Sheikh, H. A. 1992.

“Roman Expeditions to the Upper Nile.” In: G. Pugliese Carratelli (ed.), *Roma e l'Egitto nell'antichità classica*. Cairo, 6–9 febbraio 1989. *Atti del I Congresso Internazionale Italo-Egiziano*. Istituto Italiano di Cultura per la R.A.E. a Cura di G. Pugliese Carratelli. Rome: Istituto poligrafico e Zecca dello Stato, Libreria dello Stato, 157–160.

Fabre, D. 2004.

Seafaring in Ancient Egypt. London: Periplus Publishing London Ltd.

Fabre, P. 1992.

“Les grecs à la découverte de l'Atlantique.” *Revue des études anciennes* 94: 11–21.

Fage, J. D. 2002.

A History of Africa. 4th ed. London & New York: Routledge.

Fentress, E. 2011.

“Slavers on Chariots.” In: A. Dowler and E. R. Galwin (eds.), *Money, Trade and Trade Routes in Pre-Islamic North Africa*. London: British Museum Research Publication, 65–71.

Ferguson, J. 1969.

“Classical Contacts with West Africa” In: L. A. Thompson and J. Ferguson (eds.), *Africa in Classical Antiquity. Nine Studies*. Ibadan: University Press, 1–25.

Gado, B. 1988.

“Hypothèses de contacts entre la vallée moyenne du Nil et la région du fleuve Niger.” *Libya antica. Histoire générale de l’Afrique, étude et documents* 11: 203–250.

Garrard, T. F. 1982.

“Myth and Metrology. The Early Trans-Saharan Gold Trade.” *The Journal of African History* 23: 443–461.

Gautier, E. F. 1935.

“Anciennes voies du commerces transsahariens.” *Geografiska Annaler* 17: 550–562.

Gelsdorf, F. 1994.

“Antike Schifffahrtsrouten im Mittelmeer.” In: G. Hellenkemper Salies, H.-H. von Prittwitz und Gaffron and G. Bauchhenß (eds.), *Das Wrack. Der antike Schiffsfund von Mahdia*. vol. 2. Cologne: Rheinland-Verlag GmbH, 751–758.

Geus, K. 1994.

Prosopographie der literarisch bezeugten Karthager. Leuven: Orientalia Lovaniensia Analect.

——— **2003.**

“Space and Geography.” In: A. Erskine (ed.), *A Companion to the Hellenistic World*. Oxford: Wiley-Blackwell, 232–245.

Göttlicher, A. 2006.

Seefahrt in der Antike. Das Schiffswesen bei Herodot. Darmstadt: Wissenschaftliche Buchgesellschaft.

Hands, A. R. 1969.

“The Consolidation of Carthaginian Power in the Fifth Century B.C.” In: L. A. Thompson and J. Ferguson (eds.), *Africa in Classical Antiquity. Nine Studies*. Ibadan: University Press, 81–98.

Harris, W. V. and Iara, K. (eds.). 2011.

Maritime Technology in the Ancient Economy. Ship-Design and Navigation. Journal of Roman Archaeology Supplementary Series. Portsmouth, RI: Journal of Roman Archaeology.

Heine, P. 1983.

“Transsaharahandelswege in antiker und frühislamischer Zeit.” *Münstersche Beiträge zur antiken Handelsgeschichte* 2/1: 92–98.

Hennig, R. 1944.

Terrae incognitae. Eine Zusammenstellung und kritische Bewertung der wichtigsten vorcolumbischen Entdeckungsreisen an Hand der darüber vorliegenden Originalberichte. Altertum bis Ptolemäus. 2nd ed. Leiden: Brill.

Hiatt, A. 2001.

“Terra Australis and the Idea of the Antipodes.” In: A. M. Scott et al. (eds.), *European Perceptions of Terra Australis*. Farnham: Ashgate, 9–43.

Höckmann, O. 1985.

Antike Seefahrt. Munich: C.H. Beck.

Honigmann, E. 1926.

“Libye.” *Paulys Realencyclopädie der Classischen Altertumswissenschaft* XIII/1: 149–202.

Hrbek, I. (ed.). 1992.

Africa from the Seventh to the Eleventh century. General History of Africa. Abridged ed. vol. 3. Berkeley: University of California Press.

Huss, W. 1985.

Geschichte der Karthager. Munich: C.H. Beck.

——— **1989.**

“Die antike Mittelmeerwelt und Innerafrika bis zum Ende der Herrschaft der Karthager und der Ptolemaier.” In: H. Duchhardt (ed.), *Afrika: Entdeckung und Erforschung eines Kontinents*. Bayreuther Historische Kolloquien 3. Cologne: Böhlau, 1–29.

Jameson, S. 1968.

“Chronology of the Campaigns of Aelius Gallus and C. Petronius.” *Journal of Roman Studies* 58: 71–84.

Killick, D. 2004.

“Review Essay: What Do We Know About African Iron Working?” *Journal of African Archaeology* 2: 97–112.

Köster, A. 1923.

Das antike Seewesen. Berlin: Schoetz & Parrhysius.

Krings, V. (ed.). 1995.

La civilisation phénicienne et punique. Manuel de recherche. Leiden: Brill.

Lange, D. 2004.

“Westafrica and the Classical World – Neglected Contexts.” In: *Afrika im Kontext. Weltbezüge in Geschichte und Gegenwart. 19. internationale Tagung, 2.6.–5.6.2004, Universität Hannover*. Hanover: Hannover University, 1–20.

——— **2010a.**

“Afrika südlich der Sahara. Von den Sakralstaaten zu den Großreichen.” In: J. Fried and E. D. Hohl (eds.), *WBG Weltgeschichte*. vol. 3. Darmstadt: Wissenschaftliche Buchgesellschaft, 103–116.

——— **2010b.**

“The Emergence of Social Complexity in the Southern Chad Basin toward 500 BC: Archaeological and Other Evidence.” *Borno Museum Society Newsletter*: 68–71.

——— **2011a.**

“Abwanderung der assyrischen Tamakarui nach Nubien, Darfur und ins Tschadgebiet.” In: B. Nowak et al. (eds.), *Europejczycy Afrykanie Inni: Studia ofiarowane Profesorowi M. Tymowskiemu*. Warsaw: Wydawnictwo Uniwersytetu Warszawskiego, 199–266.

——— **2011b.**

“The Founding of Kanem by Assyrian Refugees ca. 600 BCE: Documentary, Linguistic, and Archaeological Evidence.” *Working Papers in African Studies* 265: 44pp.

Law, R. C. C. 1967.

“The Garamantes and Trans-Saharan Enterprise in Classical Times.” *The Journal of African History* 8: 181–200.

——— **1978.**

“North Africa in the Period of Phoenician and Greek Colonization, c. 800–323 BC.” In: J. D. Fage (ed.), *The Cambridge History of Africa*. vol. 2: *From c. 500 BC to AD 1050*. Cambridge et al.: Cambridge University Press, 87–147.

Law, R. 1980.

The Horse in West African History. The Role of the Horse in Societies of Pre-colonial Africa. London: International African Institute.

Lhote, H. 1982.

Les chars rupestres sahariens. Des Syrtes au Niger, par le pays des Garamantes et des Atlantes. Toulouse: Editions des Hesperides.

Liverani, M. 2000a.

“The Libyan Caravan Road in Herodotus IV.181–189.” *Journal of the Economic and Social History of the Orient* 43/4: 496–520.

——— **2000b.**

“Looking for the Southern Frontier of the Garamantes.” *Sahara* 12: 31–44.

Lloyd, A. B. 1976.

Herodotus Book II. Commentary 1–98. Leiden: Brill.

Lonis, R. 1978.

“Les conditions de la navigation sur la cote atlantique de l’Afrique dans l’antiquité. Le problème du retour.” In: *Afrique noire et monde méditerranéen dans L’antiquité. Colloque de Dakar, 19–24 janvier 1976*. Dakar: Nouvelles Editions africaines, 147–162.

MacDonald, K. C. 2011.

“A View from the South. Sub-Saharan Evidence for Contacts between North Africa, Mauretania and the Niger 1000 BC – AD 700.” In: A. Dowler and E. R. Galwin (eds.), *Money, Trade and Trade Routes in Pre-Islamic North Africa*. British Museum Research Publication 176. London: British Museum Press, 72–82.

——— **1998.**

“Before the Empire of Ghana. Pastoralism and the Origins of Cultural Complexity in the Sahel.” In: G. Connah (ed.), *Transformations in Africa. Essays on Africa's Later Past*. London: Bloomsbury, 71–103.

——— **2015.**

“The Tichitt Tradition in the West African Sahel.” In: G. Barker and C. Goucher (eds.), *The Cambridge World History*. vol. II: *A World with Agriculture, 12,000 BCE – 500 CE*. Cambridge: Cambridge University Press, 499–513.

MacLachlan, B. 1992.

“Feasting with the Ethiopians: Life on the Frings.” *Quaderni urbinati di cultura classica* n.s. 40/1: 15–33.

Magnavita, C. 2006.

“Zilum. A Mid-first Millennium BC Fortified Settlement near Lake Chad.” *Journal of African Archaeology* 4: 153–170.

Magnavita, S. 2013.

“Initial Encounter: Seeking Traces of Ancient Trade Connections between West Africa and the Wider World.” In: *Afriques. Débates, méthodes et terrains d'histoire* 4: 1–16, accessed online: <http://afriques.revues.org/1145> (24.04.2017).

Magnavita S. et al. (eds.). 2009.

Crossroads / Carrefour Sahel: Cultural and Technological Developments in First Millennium BC/AD West Africa. Journal of African Archaeology Monograph Series 2. Frankfurt am Main: Africa Magna Verlag.

Marzoli, D. 2013.

“Neugründungen im phönizischen Westen: Los Castillejos de Alcorrín, Morro de Mezquitilla und Mogador.” *Africa Antiqua* 2: 29–64.

Masonen, P. 1997.

“Trans-Saharan Trade and the West African Discovery of the Mediterranean World.” In: M. Sabour and K. S. Vikor (eds.), *Ethnic Encounter and Cultural Change. Papers from the Third Nordic Conference on Middle Eastern Studies*. Nordic Society for Middle Eastern Studies. Bergen & London: C. Hurst & Co., 116–142.

——— **2012.**

“The Sahara as Highway for Trade and Knowledge.” In: S. A. Alcock, J. Brodel and R. J. A. Talbert (eds.), *Highways, Byways, and Road Systems in the Pre-Modern World*. Oxford: Wiley-Blackwell, 168–184.

Mattingly, D. J. 1998.

“Before the Empire of Ghana: Pastoralism and the Origin of Cultural Complexity in the Sahel.” In: G. Connah (ed.), *Transformations in Africa: Essays on Africa's Later Past*. London: Bloomsbury, 71–103.

——— **2003–2007.**

The Archeology of Fazzan. 2 vols. London: Society for Libyan Studies.

——— **2011.**

“The Garamantes of Fazzan. An Early Libyan State with Trans-Saharan Connections.” In: A. Dowler and E. R. Galwin (eds.), *Money, Trade and Trade Routes in Pre-Islamic North Africa*. British Museum Research Publication 176. London: British Museum Research Publication, 49–60.

——— **2015.**

“Transsaharahandel.” In: A.-M. Wittke (ed.), *Frühgeschichte der Mittelmeerkulturen. Historisch-archäologisches Handbuch*. Der Neue Pauly Supplemente 19. Stuttgart & Weimar: J.B. Metzler, 779–783.

Mattingly, D. J. and Wilson, A. I. 2010.

“Concluding Thoughts: Made in Fazzan?” In: D. Mattingly (ed.), *The Archaeology of Fazzan III*. Archaeology of Fazzan: Society for Libyan Studies Monograph 8. London: Society for Libyan Studies, 523–530.

Mauny, R. 1947.

“Une route préhistorique à travers le Sahara occidental.” *Bulletin de l’Institut Français d’Afrique Noire* 9: 341–357.

——— **1970.**

Les siècles obscures de l’Afrique noire. Histoire et Archéologie. Nancy: Fayard.

——— **1978.**

“Trans-Saharan Contacts and the Iron Age in West Africa.” In: J. D. Fage (ed.), *The Cambridge History of Africa*. vol. 2: *From c. 500 BC to AD 1050*. Cambridge: Cambridge University Press, 272–341.

McCall, D. E. 1999.

“Herodotos on the Garamantes. A Problem in Protohistory.” In: *History in Africa* 26: 197–217.

McGrail, S. 2001.

Boats of the World. From the Stone Age to Medieval Times. Oxford: Oxford University Press.

McIntosh, R. J. 2015.

Ancient Middle Niger: Urbanism and Self-Organizing Landscape. Cambridge: Cambridge University Press.

Medas, S. 2004.

De rebus nauticis: L’arte della navigazione nel mondo antico. Rome: L’Erma di Bretschneider.

Meijer, F. 1986.

A History of Seafaring in the Classical World. London & Sydney: Croom Helm.

Meyer, D. 1998.

“Hellenistische Geographie zwischen Wissenschaft und Literatur. Timosthenes von Rhodos und der griechische Periplus.” In: W. Kullmann et al. (eds.), *Gat-*

tungen wissenschaftlicher Literatur in der Antike. Scripta Oralia 95. Tübingen: Gunter Narr Verlag, 193–215.

Mitchell, P. 2005.

African Connections. Archaeological Perspectives on Africa and the Wider World. Walnut Creek: Altamira Press.

Morton, J. 2001.

The Role of the Physical Environment in Ancient Greek Seafaring. Leiden: Brill.

Mourre, C. 1964.

“Euthyménès de Marseille.” *Revue d’Études ligures* 1: 133–139.

Munson, P. 1980.

“Archaeology and the Prehistoric Origins of the Ghana Empire.” *Journal of African History* 21: 457–466.

Nachtigall, G. 1881.

Sahara und Sudan. vol. 2. Berlin: Weidmann.

Oikonomodes, V. A. N. and Miller, M. C. (eds.). 1995.

Hanno the Carthaginian, Periplus. 2nd ed. Chicago: Ares.

Park, D. P. 2011.

Climate Change, Human Response, and the Origins of Urbanism at Timbuktu: Archaeological Investigations into the Prehistoric Urbanism of the Timbuktu Region of the Niger Bend, Mali, West Africa. Ann Arbor: Yale University Press.

Picard, G. C. 1982.

“Les navigations de Carthage vers l’ouest.” In: H. G. Niemeyer (ed.), *Phönizier im Westen*. Madrider Beiträge 8. Mainz: Philipp von Zabern, 167–173.

——— **1992.**

“Der Periplus des Hanno.” In: W. Huss (ed.), *Karthago*. Wege der Forschung 654. Darmstadt: Wissenschaftliche Buchgesellschaft, 182–192.

Ponce, G. F. J. 2009.

Periplógrafos griegos I. Época Arcaica y Clásica I. Periplo di Hanón y Autores de los Siglos VI y V a.C. Zaragoza: Prensas Universitarias de Zaragoza.

Préaux, C. 1975.

“Les grecs à la découverte de l’Afrique par l’Égypte.” *Chronique d’Égypte* 64: 284–312.

Proto H. and Beltrami, G. M. 2004.

“Sul periplo d’Africa voluto dal Faraone Nekao.” In: M. Khanoussi (ed.), *L’Africa romana XV: ai Confini dell’impero: contatti, scambi, conflitti*. Rome: Carocci, 959–972.

Ramin, J. 1976.

Le Périple d’Hannon. The Periplus of Hanno. British Archaeological Reports Supplement Series 3. London: British Archaeological Reports.

Roe, A. 2005–2006.

“The Old Darb al Arbein Caravan Route and Kharga Oasis in Antiquity.” *Journal of the American Research Center in Egypt* 42: 119–129.

Roller, D. W. 2006.

Through the Pillars of Herakles. Greco-Roman Exploration of the Atlantic. London: Routledge.

Rouillard, P. 1995.

“Meroe.” In: V. Krings (ed.), *La civilisation phénicienne et punique. Manuel de recherche.* Leiden: Brill, 776–844.

Salama, P. 1981.

“The Sahara in Classical Antiquity.” In: G. Mokhtar (ed.), *Unesco General History of Africa.* vol. II: *Ancient Civilizations of Africa.* Berkeley: Heinemann, 513–532.

Schmal, S. 2002.

“Geliebte oder Hinterhof? Anmerkungen zum republikanischen und augusteischen Afrikabild.” In: C. Ulf and R. Rollinger (eds.), *Geschlechter – Frauen – Fremde Ethnien. In antiker Ethnographie, Theorie und Realität.* Innsbruck: Studien-Verlag, 269–311.

Schmidt, A. 2005.

“Métaux.” In: R. M. A. Bedaux et al. (eds.), *Recherches archéologiques à Dia dans le delta intérieur du Niger (Mali). Bilan des saisons de fouilles 1998–2003.* Research School of Asian, African, and Amerindian Studies University Leiden. Leiden: CNWS Publications, 257–262.

Schoff, W. H. 1912.

The Periplus of Hanno, with Translation and Commentary. Philadelphia: Longmans, Green and Co.

Schulz, R. 2017.

Abenteurer der Ferne. Die großen Entdeckungsfahrten und das Weltwissen der Antike. 2nd ed. Stuttgart: Klett-Cotta.

Seel, O. (ed.). 1961.

Antike Entdeckungsfahrten. Zwei Reiseberichte. Zurich: Artemis.

Segert, S. 1996.

“Phoenician Background of Hanno’s Periplus.” *Mélanges de l’Université Saint-Joseph* 45: 501–518.

Shinnie, P. 1991.

“Trade Routes of the Ancient Sudan 3000 B.C. – A.D. 350.” In: W. Davies (ed.), *Egypt and Africa: Nubia from Prehistory to Islam.* London: British Museum Press, 49–53.

Shipley, G. 2011.

Pseudo-Skylax’s Periplus. The Circumnavigation of the Inhabited World. Bristol: Phoenix Press.

Sirks, B. 2002.

“Sailing in the Off-Season with Reduced Financial Risk.” In: J.-J. Aubert and B. Sirks (eds.), *Speculum Iuris. Roman Law as a Reflection of Social and Economic Life in Antiquity*. Ann Arbor, MI: University of Michigan Press, 134–150.

Snowden, F. M. 1970.

Blacks in Antiquity. Ethiopians in the Greco-Roman Experience. Cambridge, MA: Belknap Press.

Sommer, M. 2011.

“Trans-Saharan Long-Distance Trade and the Helleno-Punic Mediterranean.” In: A. Dowler and E. R. Galwin (eds.), *Money, Trade and Trade Routes in Pre-Islamic North Africa*. British Museum Research Publication 176. London: British Museum Press, 61–64.

Sutton, J. E. G. 1983.

“West African Metals and the Ancient Mediterranean.” *Oxford Journal of Archaeology* 2: 181–188.

——— **1991.**

“The International Factor at Igbo-Ukwu.” *African Archaeological Review* 9: 145–160.

——— **2001.**

“Igbo-Ukwu and the Nile.” *African Archaeological Review* 18: 49–62.

Swanson, J. T. 1975.

“The Myth of Transsaharan Trade during the Roman Era.” *International Journal of African Historical Studies* 8: 582–600.

Thompson, L. A. 1969.

“Eastern Africa and the Graeco-Roman World (to A.D. 641).” In: L. A. Thompson and J. Fergusson (eds.), *Africa in Classical Antiquity. Nine Studies*. Ibadan: University Press, 26–61.

Vian, F. 1988.

“Les retours des Argonautes de la progrès des connaissances géographiques.” *Revue des études latines* 64: 13–15.

Vivenza, G. 1980.

“Altre considerazioni sul Periplo di Annone.” *Economia e storia* 1: 101–110.

Warmington, B. H. 1981.

“The Carthaginian Period.” In: G. Mokhtar (ed.), *Unesco General History of Africa*. vol. II: *Ancient Civilizations of Africa*. Berkeley: Heinemann, 441–464.

Warnecke, H. 2002.

“Zur Phänomenologie und zum Verlauf antiker Überseewege.” In: E. Olshausen (ed.), *Zu Wasser und zu Land – Verkehrswege in der antiken Welt*. Stuttgarter Kolloquium zur Historischen Geographie des Altertums 7. Stuttgart: Franz Steiner, 93–107.

Werner, R. 1990.

“Zur Geschichte der vorderorientalisch-phönikischen und mykenisch-griechischen Handels- und Kolonisationsfahrten im Spiegel der Epos- und Periplusliteratur.” In: *Orientalisch-Ägäische Einflüsse in der europäischen Bronzezeit*. Römisch-Germanisches Zentralmuseum Monographien 15. Bonn: Habelt, 47–77.

——— **1993.**

“Zum Afrikabild der Antike.” In: K. Dietz, D. Hennig and H. Kaletsch (eds.), *Klassisches Altertum, Spätantike und Frühes Christentum. Festschrift A. Lippold*. Würzburg: Selbstverlag des Seminars für Alte Geschichte der Universität Würzburg, 1–36.

Whitewright, J. 2012.

“The Potential Performance of Ancient Mediterranean Sailing Rigs.” *International Journal of Nautical Archaeology* 40/1: 2–17.

Windberg, F. 1936.

“Niger.” *Paulys Realencyclopädie der Classischen Altertumswissenschaft* XVII/1: 190–199.

Wilson, A. 2006.

“The Spread of Foggara-Based Irrigation in the Ancient Sahara.” In: D. Mattingly et al. (eds.), *The Libyan Desert. Natural Resources and Cultural Heritage*. London: Society for Libyan Studies, 205–216.

Zimmermann, K. 1999.

Libyen. Das Land südlich des Mittelmeers im Weltbild der Griechen. Munich: C.H. Beck.

——— **2007.**

“Die Raumwahrnehmung bei den Karthagern.” In: M. Rathmann (ed.), *Raumwahrnehmung und Raumerfassung in der Antike*. Internationales Kolloquium Bonn 23.–25.2.2005. Mainz: Philipp von Zabern, 41–50.

ABSTRACTS

Michael STEPHENS (Monash University)

SOME THOUGHTS ON A RECENTLY DISCOVERED OBELISK TRANSPORTATION SCENE (pp. 131–146)

The discovery at Gebel el Silsila in 2015 of a scene depicting the transport of obelisks by watercraft provided the opportunity to reconsider the means and hull type that could be employed for this task, other than the lighter depicted in Hatshepsut's temple at Deir el Bahari. Although seriously damaged, it was clear that the Gebel el Silsila craft was a different hull type to the Hatshepsut lighter.

In this article, I advance concepts regarding the Gebel el Silsila scene. These include the sizes of the obelisks aboard, their means of stowage, some proposals as to the size of the hull and an attempt to deduce the hull type itself. As this is the only known depiction of obelisk transportation, other than the Hatshepsut scene, it is hoped that this paper will provoke additional examination, research and rigorous debate into this depiction of obelisk transportation.

Raimund SCHULZ (University of Bielefeld)

OVER THE WATER AND ACROSS THE DESERT – TRANS-SAHARAN CONTACTS OF THE MEDITERRANEAN WORLD IN THE 6TH AND 5TH CENTURY BC (pp. 147–174)

After presenting the picture of Africa in Mediterranean minds of antiquity, this paper seeks by way of a combined interpretation of the periplus of Hanno and Herodotus' logos on the Nasamonians to investigate Carthaginian and Greek knowledge about the trans-Saharan routes and contacts of the 6th and 5th century BC. Further comparison with recent archaeological discoveries from the Iron Age in Senegal, the Niger Bend and Lake Chad illustrate that these sites were the destination of travellers from the North and that universal geographical theses concerning the course of the river Nile provided fundamental patterns of explanation and orientation for ancient explorers. Finally, it is considered why any further explorations both of the Inner African hinterland and the western seaway around the African continent were suspended in Antiquity.

Jack W. G. SCHROPP (Universität Innsbruck)

KAISER TIBERIUS IM BÜRGERKRIEG: ZU EINEM FRAGMENT SENECAS BEI SUET. *TIB.* 73,2 (pp. 175–184)

This paper aims at re-examining the arguments concerning the problems with a Senecan fragment in Suetonius' *Life of Tiberius* (73.2). A closer analysis of the biography sheds new light on the inclusion of the fragment and suggests that it was selected due to the civil war-theme that runs throughout Tiberius' life.

RESEARCH SURVEY: THE ANCIENT ECONOMY – NEW STUDIES AND APPROACHES

Ancient Economy is a highly competitive as well as innovative field in modern ancient studies. The survey, divided up in two parts (the first part in *JAC* 32/1 (2017): 55–105), presents new theoretical and methodological approaches, models and recent studies that have emerged in the last years. In part 2, Hans Neumann shows recent trends in the study of Near Eastern Economies. Heidi Köpp-Junk provides an overview of the Egyptian economy before the Greco-Roman times. Additionally, the article of Yifeng Zhao analyzes important patterns of the economy during the Ming / Qing Dynasty.

Hans NEUMANN (Altorientalistik, Universität Münster)

DAS ALTE VORDERASIEN (pp. 185–210)

Heidi KÖPP-JUNK (Ägyptologie, Universität Trier)

ZUR ÖKONOMIE ÄGYPTENS BIS ZUM ENDE DES NEUEN REICHES (pp. 211–228)

Yifeng ZHAO (Institute for the Study of Asian Civilizations, NENU, Changchun)

THE FORMATION AND FEATURES OF THE MING / QING IMPERIAL AGRO-MERCANTILE SOCIETY (pp. 229–255)

A majority of contemporary Chinese historians focus on the so-called Capitalist sprouts to analyze the historical trends and potentials of late imperial China until late twentieth century. Some Western historians, on the other hand, proposed several alternative approaches to overcome the obvious Eurocentric nature of these Capitalist sprouts approaches. Following a brief discussion of the problems with both approaches, this article argues that in terms of social structural and

historical trends, late imperial China during the Ming and early Qing period should be taken as an imperial agro-mercantile society with unique structural features and potentials. To present such a hypothesis, this article, first of all, identifies the major novelties as well as irreversible and structural changes in the economic sector during the Ming and early Qing period to confirm that late imperial China was a society with significant development, rather than stagnation. Secondly, it points out that when profound changes were happening, mainly in the economic sector, the imperial rule was enhanced rather than being weakened or disintegrated by these changes in economy. Thirdly, the paper highlights the main features of the agro-mercantile society indicating that this is a changing society profoundly different from the contemporary West in terms of structure and potentials.