



Sicily: A Frontier in the Centre of the Sea?

Matthew Harpster 

ABSTRACT

As part of the Ancient Maritime Dynamics project, this study uses a new interpretive methodology to model the creation and use of maritime places in the western-Mediterranean basin. In turn, the results of this modelling suggest that the waters around the island of Sicily acted as a frontier, distinguishing a distinct zone of activity in the western Mediterranean as well as a western maritime community that segregated itself from other sailors and merchants elsewhere in the sea.

ARTICLE HISTORY

Received 11 July 2018
Accepted 18 January 2019

KEYWORDS

Sicily; Frontier; Maritime archaeology; Shipwrecks; Mobility

Introduction

Efforts to understand and to model movement in the Antique Mediterranean Sea have a long history that can be roughly divided into two approaches. One approach relies upon the extensive and varied corpus of textual sources – sacred, secular, public and private. Information from authors such as Pliny the Elder, Orosius and Procopius provide origins, destinations and the time travelled, enabling scholars to recreate both the route described and the approximate speed of the ship. This methodology has enabled Henry Omerod, Lionel Casson, Pascal Arnaud, Michael McCormick, Jean-Marie Kowalski and others to gradually recreate a life at sea.¹ For example, based upon this approach vessels apparently travelled at three to eight knots, and while it may have taken two to three days to sail with the wind from Cyprus to Alexandria, it could take more than six days to travel back.²

Whereas this textual approach has been in use since at least the nineteenth century – James Smith used passages in *Acts* to model St Luke's voyages in 1848 – the alternative approach, which relies on material data as a proxy for movement, is understandably younger; a large corpus of carefully-quantified data from a secure context is necessary for such analysis.³ An early application, for example, is Michael Fulford's 1980 study of the four tons of ceramics from the excavations in Carthage, which modelled the scale

CONTACT Matthew Harpster  mharpster@ku.edu.tr  Department of Archaeology and History of Art, College of Social Sciences and Humanities, Koç University, Istanbul, Turkey

¹Henry Omerod, *Piracy in the Ancient World: An Essay in Mediterranean History* (Liverpool: Argonaut Press, 1924); E. Saint-Denis, "La vitesse des navires anciens", *Revue Archéologique* 6 (1941): 121–38; Lionel Casson, "Speed under Sail of Ancient Ships", *Transactions and Proceedings of the American Philological Association* 82 (1951): 136–48; Pascal Arnaud, *Les routes de la navigation antique* (Paris: Errance, 2005); Michael McCormick, *Origins of the European Economy: Communications and Commerce, A.D. 300–900* (Cambridge: Cambridge University Press, 2005); Jean-Marie Kowalski, *Navigation et Géographie dans l'Antiquité Gréco-Romaine* (Paris: Picard, 2012).

²Casson, "Speed", 145.

³James Smith, *The Voyage and Shipwreck of St Paul; with Dissertations on the Sources of the Writings of St Luke and the Ships and Navigations of the Ancients* (London: Longman, Brown, Green, Longmans, and Roberts, 1848), pp. xxi, 208–9.

and scope of trade to and from the port between AD 400 and 700.⁴ Simon Keay, too, adopted this approach in 1984 for his analysis of trade activity in late-Roman era *Tarraconensis*, as have many other scholars, for many sites and corpora, over the past decades.⁵ An advantage to this approach, as Fulford has argued, is that textual data only generate intermittent and qualitative generalisations about activity and movement, but systematic studies of large collections of ceramics can produce more nuanced models.⁶

Maritime archaeology in the Mediterranean, which provides unique access and insights into past maritime activity, is gradually engaging in the dialogue between these two approaches. When the academic practice of maritime archaeology was young, in the 1960s and 1970s, many of its scholars relied on the narratives created by textual sources to contextualise their finds from the sea. Sites on the seafloor became not just “Greek” or “Muslim”, but even parts of significant historic events such as Sulla’s sack of Athens in the first century BC.⁷ As the corpus of maritime archaeological data studied and excavated in the Mediterranean has steadily grown, however, an efflorescence of interpretative tools has enabled scholars to generate diachronic and centennial models of movement based upon the material record.⁸ Much like Fulford or Keay, then, maritime archaeologists are becoming equally capable of generating nuanced models of maritime activity using only archaeological data. This is particularly important for three reasons. First, many of the models of maritime movement built from terrestrial material data could only project maritime activity as the transfer of people, ideas or goods over the sea, not necessarily illuminating life upon the sea itself. Second, this use of maritime archaeological data demonstrates the gradual maturation of maritime archaeology,

⁴Michael Fulford, “Carthage: Overseas Trade and the Political Economy, c. AD 400–700”, *Reading Medieval Studies* 6 (1980): 68–80, p. 68.

⁵Simon Keay, *Late Roman Amphorae in the Western Mediterranean: A Typological and Economic Study. The Catalan Evidence*, volumes I–II [British Archaeological Reports, International Series, volume CXCVI] (Oxford: British Archaeological Reports, 1984). See also Samuel Wolff, “Maritime Trade at Punic Carthage”, PhD Thesis, University of Chicago, 1986; Paul Arthur and Eliezer Oren, “The North Sinai Survey and the Evidence of Transport Amphorae for Roman and Byzantine Trading Patterns”, *Journal of Roman Archaeology* 44 (1998): 193–212; Sean Kingsley, “Specialized Production and Long-Distance Trade in Byzantine Palestine”, PhD Thesis, University of Oxford, 1999; Mark Lawall, “Consuming the West in the East: Amphorae of the Western Mediterranean in the Aegean before 86 BC”, in *Old Pottery in a New Century: Innovating Perspectives on Roman Pottery Studies*, ed. Daniele Malfitana, Jeroen Poblome and John Lund [Atti del Convegno Internazionale di Studi Catania, 22–24 Aprile 2004] (Catania: Bretschneider, 2006), pp. 265–86; Victoria Leitch, “Reconstructing History through Pottery: The Contribution of Roman N African Cookwares”, *Journal of Roman Archaeology* 26 (2013): 281–306; and Roberta Tomber, “Quantitative Approaches to the Investigation of Long-Distance Exchange”, *Journal of Roman Archaeology* 6 (1993): 142–66 for her meta-study.

⁶Fulford, “Carthage”; Michael Fulford, “Economic Interdependence among Urban Communities of the Roman Mediterranean”, *World Archaeology* 19 (1987): 58–75, p. 59.

⁷Matthew Harpster, “Shipwreck Identity, Methodology, and Nautical Archaeology”, *Journal of Archaeological Method and Theory* 20 (2013): 588–622.

⁸André Hesnard and André Tchernia, “La cargaison, l’origine et la date de l’épave”, in *L’épave romaine de la Madrague de Giens*, ed. André Tchernia, Patrice Pomey, and André Hesnard (Paris: CNRS, 1978), pp. 13–7; Anthony Parker, “Shipwrecks and Ancient Trade in the Mediterranean”, *Archaeological Review from Cambridge* 3 (1984), 99–113; Anthony Parker, *Ancient Shipwrecks of the Mediterranean and Roman Provinces* [British Archaeological Reports, International Series, volume DLXXX] (Oxford: British Archaeological Reports, 1992); Javier Nieto, “Cargamento principal y cargamento secundario”, *Cahiers d’Histoire 33 Navires et Commerces de la Méditerranée Antique, Hommage à Jean Rougé* (1988): 379–95; Xavier Nieto, “Le commerce de cabotage et de redistribution”, in *La Navigation dans l’Antiquité*, ed. Patrice Pomey (Paris: Édisud, 1997), pp. 146–59; Sean Kingsley, “Mapping Trade by Shipwrecks”, in *Byzantine Trade, 4th–12th Centuries*, ed. Maria Mango [Society for the Promotion of Byzantine Studies Publications, volume XII] (Aldershot: Ashgate, 2009), pp. 31–6; Michel Bonifay and André Tchernia, “Les réseaux de la céramique africaine (1er–Ve siècles)”, in *Rome, Portus and the Mediterranean*, ed. Simon Keay (Rome: British School at Rome, 2012), pp. 315–33; Giulia Boetto, “Les épaves comme sources pour l’étude de la navigation et des routes commerciales: Une approche méthodologique”, in Keay, *Rome, Portus and the Mediterranean*, pp. 153–73; Justin Leidwanger, “From Time Capsules to Networks: New Lights on Roman Shipwrecks in the Maritime Economy”, *American Journal of Archaeology* 121 (2017): 595–619.

because its practitioners are now able to generate models and theories about the past independent of other disciplines. Third, these models argue that within Antiquity, there was a structure and order to the sea itself. The sea was not an anarchic space but an inhabited place, with cognitive and cultural topographies equivalent to those of the land. Within the context of this study, it is this last reason that is most important, as this article hopes to add a new component in two ways: first, by demonstrating a new approach to modelling maritime places within this topography and, second, by focusing on an apparent frontier present along the Sicilian coastline and seemingly essential to the structure of the Mediterranean maritime landscape.

Modelling communities and places in the Antique Mediterranean

Integral to this new approach are two characteristics loosely adopted and adapted from other types of archaeology. The first is the catchment basin, a component of Site Catchment Analysis (SCA) more commonly applied in prehistoric investigations. Originally tested on various Epipaleolithic-era settlements in the Levant by Claudio Vita-Finzi and Eric Higgs, SCA defines the catchment basin as the space commonly containing the sources of items in an assemblage and, thus, the area within which people were moving around to collect and carry items back to their settlement for use.⁹ Importantly, a catchment basin has no preconceived chronological boundaries, and could represent the area used for one month, one season or many years.

Adapting the catchment basin for underwater assemblages, however, requires a slight reversal of perspective. The sources of items within the assemblage are still necessary to define the limits of the catchment basin, but movement in this basin is no longer representative of people radiating through the area. Instead, as the assemblage on the seafloor represents the point at which movement stopped, often the movement of a ship, the resulting catchment polygon represents the most likely area in which that activity may have taken place. Like a catchment basin on land, the polygon contains no chronological component to propose what items were collected first or last, or how long the ship may have been in use, nor does it contain any vectors. The polygon only represents the most likely area in which the ship may have been operating before the material was deposited on the seafloor.

This polygon contains a human component, however. As ships and their activities do not progress independently of people's interests and needs, a polygon can represent the movements and mobility of people and be an expression of those people as well. A single polygon can represent how people were interacting with the sea, becoming a discrete portion of a sea's cultural topography. Nevertheless, a single polygon reveals little. Instead, as in previous studies by Sean Kingsley and Giulia Boetto, much more information emerges with the compilation of a large dataset.

⁹Claudio Vita-Finzi and Eric Higgs, "Prehistoric Economy in the Mount Carmel Area of Palestine: Site Catchment Analysis", *Proceedings of the Prehistoric Society* 36 (1970): 1–37. For more recent variations, see Eleazer Hunt, "Site-Catchment Analyses with the Use of GIS: Investigating the Settlement Patterns of Horticulturalists", *World Archaeology* 24 (1992): 283–309; Kenneth Kvamme, "Directions and Developments in Geographical Information Systems", *Journal of Archaeological Research* 7 (1999): 153–201; J. Brett Hill, "Land Use and an Archaeological Perspective on Socio-Natural Studies in the Wadi Al-Hasa, West-Central Jordan", *American Antiquity* 69 (2004): 389–412; C. Michael Barton, Isaac Ullah, and Helen Mitasova, "Computational Modeling and Neolithic Socioecological Dynamics: A Case Study from Southwest Asia", *American Antiquity* 75 (2010): 364–86.



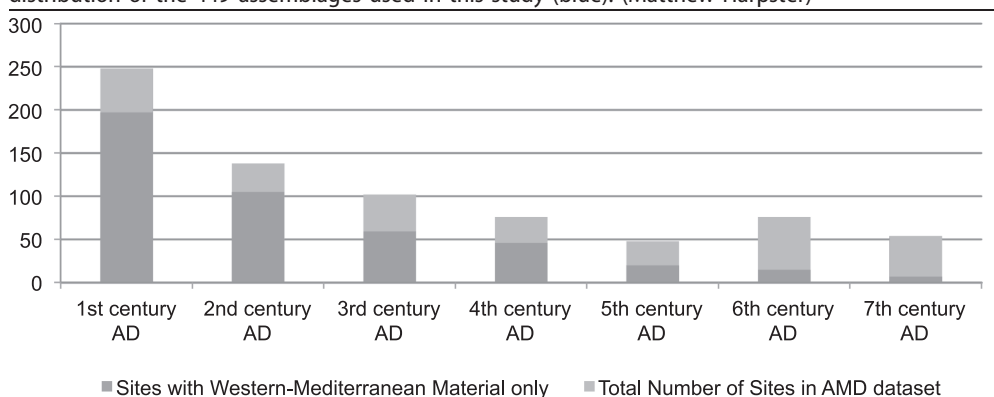
Figure 1. The 449 mobility polygons representing an equivalent number of submerged assemblages, and generated with a variation of Site Catchment Analysis. (Matthew Harpster)

In this study, focusing on the island of Sicily from the first to the seventh centuries AD, 449 assemblages from the total Ancient Maritime Dynamics (AMD) dataset of approximately 1,100 were analysed to create an equivalent set of polygons (see Figure 1 and Table 1). Importantly, these are assemblages containing only material from the western Mediterranean. Information about these sites came from both primary and secondary sources. A large percentage of the data came from A.J. Parker's 1992 catalogue, *Greek and Roman Shipwrecks in the Mediterranean and Roman Provinces*, while a collection of 12 journals and 13 other publications produced after 1990 were sources of more recent information. The polygons representing the activities of each assemblage, in turn, were generated in ArcGIS 10.4 by joining the location of the assemblage and the source(s) of items in that assemblage.¹⁰

Just as the concept of a catchment basin was used to generate this projection of polygons, concepts within Social Network Analysis (SNA) may be used to understand the polygons. By using a collection of nodes that could represent an individual or a group of people and plotting the links (or edges) that can represent a tangible or intangible unit shared between them, SNA can model the relationships and hierarchy within the set of nodes. In general, a higher concentration of links and their associated nodes may be interpreted as a social unit within the broader network, a unit that could be defined by similarities in cuisine, religion or educational background. Thus, it is through the collation of a large body of nodes and links that patterns within the corpus emerge. However, if applied archaeologically, when tracing intangible links between nodes may be difficult and intermittent, perceived relations more commonly rely upon the presence, absence or distribution of material data.¹¹ Thus, a relationship is often assumed from the presence of similar material culture, or similar material characteristics, but social networks among

¹⁰Details of the methodology used to compile this dataset, and a discussion of the accuracy of the dataset, will be made available in an upcoming study.

¹¹Carl Knappett, "Introduction: Why Networks?", in *Network Analysis in Archaeology*, ed. Carl Knappett (Oxford: Oxford University Press, 2013), pp. 2–15, esp. 8; John Terrell, "Social Network Analysis and the Practice of History", in *ibid.*, pp. 17–42, esp. 20.

Table 1. The centennial distribution of assemblages in the AMD dataset (green), compared with the distribution of the 449 assemblages used in this study (blue). (Matthew Harpster)

this set of nodes may still be assessed through the varying density of links and their strengths.

Like nodes and links, these polygons can be used to posit the presence of social groups or communities of people. The use of a different relational space is required, however. Rather than a space of distribution, one that gauges relations based upon the sharing of units among nodes, relationships among these polygons are based upon the movement each represents. This requires a relational space that gauges mobility. As polygons are superimposed, the similarity or dissimilarity of the movements represented can gauge the strength of the relationship between the polygons. A greater overlap demonstrates a greater similarity in activity, and thus a stronger relationship, while the density of the projected polygons can represent the commonality of the activities and human experiences within the entire corpus. In Figure 2, for example, the varying densities of this study's mobility polygons were measured and colour-coded in ArcGIS to represent activity in the western Mediterranean Sea in the first century AD.¹² Darker areas on the map represent a higher density of polygons, whereas lighter colours represent lower density. The uneven results suggest that certain areas of the western Mediterranean basin, such as the waters between Cartagena, Marseille and Corsica, were used more than others.

As these polygons are projected in geo-referenced space, however, these loci of mobility may also represent the generation of a place at sea. As Jo Lee and Timothy Ingold and others have argued, place is not only an origin or a destination, but also an area of movement: through the entanglement of journeys, a place can be made.¹³ This is an approach that draws upon the use of a ship as a shared experience. Seafaring, after all, is a journey across an environment that is often portrayed as antagonistic both physically and

¹²The Count Overlapping Polygons tool was used to generate a join count between the projected polygons, then the IDW (Inverse Distance Weighting) tool generated the raster, using the join count as the Z coordinate in the IDW.

¹³Jo Lee and Timothy Ingold, "Fieldwork on Foot: Perceiving, Routing, Socializing", in *Locating the Field: Space, Place and Context in Anthropology*, ed. Peter Collins and Simon Coleman (Oxford: Berg, 2006), pp. 67–85; Jason Ur, "Emergent Landscapes of Movement in Early Bronze Age Northern Mesopotamia", in *Landscapes of Movement: Trails, Paths, and Roads in Anthropological Perspective*, ed. James Snead, Clark Erickson, and J. Andrew Darling (Philadelphia: University of Pennsylvania Press, 2009), pp. 180–203; Jim Leary, "Past Mobility: An Introduction", in *Past Mobilities: Archaeological Approaches to Movement and Mobility*, ed. Jim Leary (Aldershot: Ashgate, 2014), pp. 1–21; Gavin Lucas, "Moving On: A Conversation with Chris Whitmore", in *Of Rocks and Water: Towards an Archaeology of Place*, ed. Omer Harmanşah (Oxford: Oxford University Press, 2014), pp. 242–5.



Figure 2. The varying densities of the 197 mobility polygons representing activity in the first century AD. The darker colours represent a higher density of polygons. (Matthew Harpster)

spiritually, and the ship is the most common vehicle for these experiences.¹⁴ As a ship is a tool for structuring the surrounding space, this is an approach that also draws upon perceptions of the human creation of a landscape – in this case, how these repeated activities and experiences transform a space into a meaningful place within people’s landscape of the sea.¹⁵

Sicily and its waters as a frontier

More significant than the apparent growth and presence of these maritime places within the western-Mediterranean basin, however, is the relative isolation of activity within the basin itself until the sixth century AD. As suggested in Figure 2 and reiterated in Figures 3 to 8, the highest concentrations of activity projected by these assemblages occur within a space bounded by Gibraltar to the west and Sicily to the east.

To understand why this is significant, it is important to reiterate how the 449 assemblages within this study’s dataset were chosen: although each is a site containing only material originating within the western Mediterranean region, they are not sites only

¹⁴Ignaz Goldziher, *Muslim Studies 2* (London: Allen and Unwin, 1971), pp. 283–4; Noel Robertson, “The Ritual Background of the Erysichthon Story”, *American Journal of Philology* 105 (1984): 369–408, pp. 378–80; Boniface Ramsey, *The Sermons of St Maximus of Turin* (New York: Newman Press, 1989), pp. 89–91; Nicholas Wyatt, *Myths of Power: A Study of Royal Myth and Ideology in Ugaritic and Biblical Tradition* (Münster: Ugarit-Verlag, 1996), p. 127; Christopher Connery, “There Was No More Sea: The Supersession of the Ocean, from the Bible to Cyberspace”, *Journal of Historical Geography* 32 (2006): 494–511, p. 499.

¹⁵Timothy Darvill, “Pathways to a Panoramic Past: A Brief History of Landscape Archaeology in Europe”, in *Handbook of Landscape Archaeology*, ed. Bruno Davis and Julian Thomas [World Archaeological Congress Research Handbooks in Archaeology, volume I] (Walnut Creek, CA: Left Coast Press, 2010), pp. 60–76.

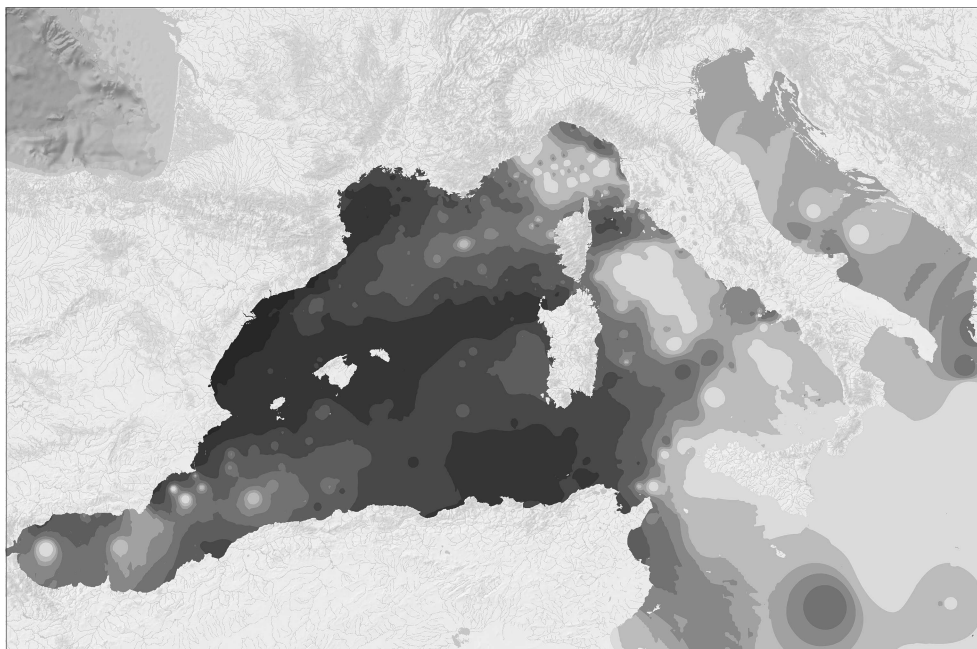


Figure 3. The varying densities of the 105 mobility polygons representing activity in the second century AD. The darker colours represent a higher density of polygons. (Matthew Harpster)

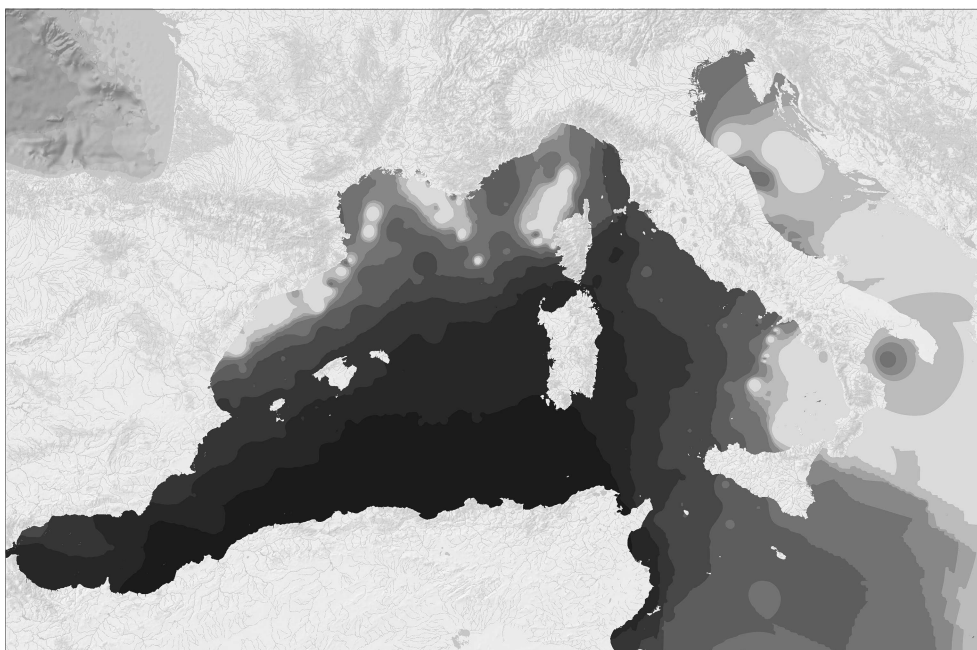


Figure 4. The varying densities of the 59 mobility polygons representing activity in the third century AD. The darker colours represent a higher density of polygons. (Matthew Harpster)

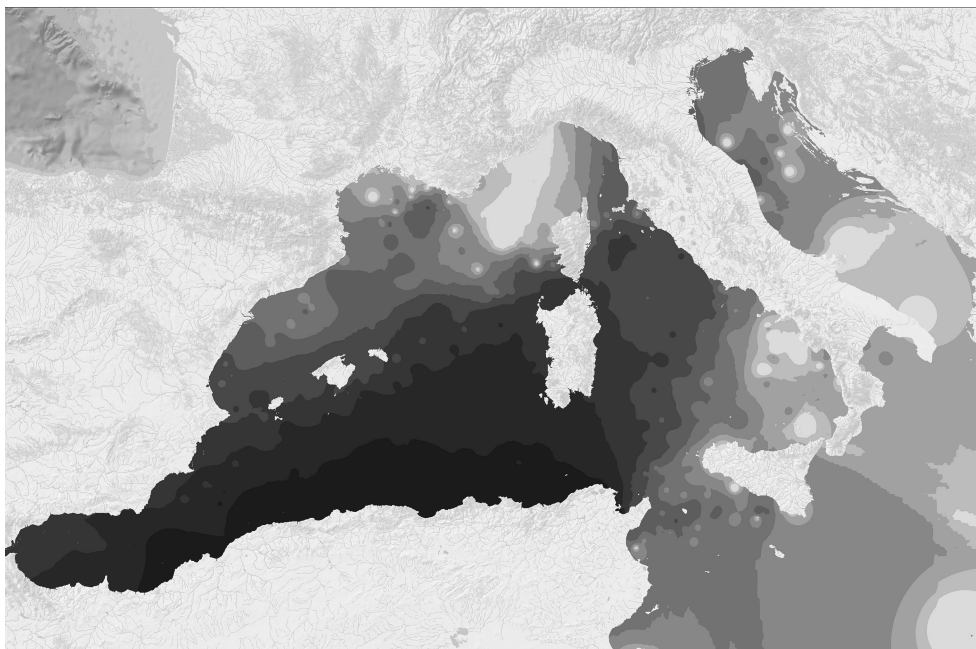


Figure 5. The varying densities of the 46 mobility polygons representing activity in the fourth century AD. The darker colours represent a higher density of polygons. (Matthew Harpster)

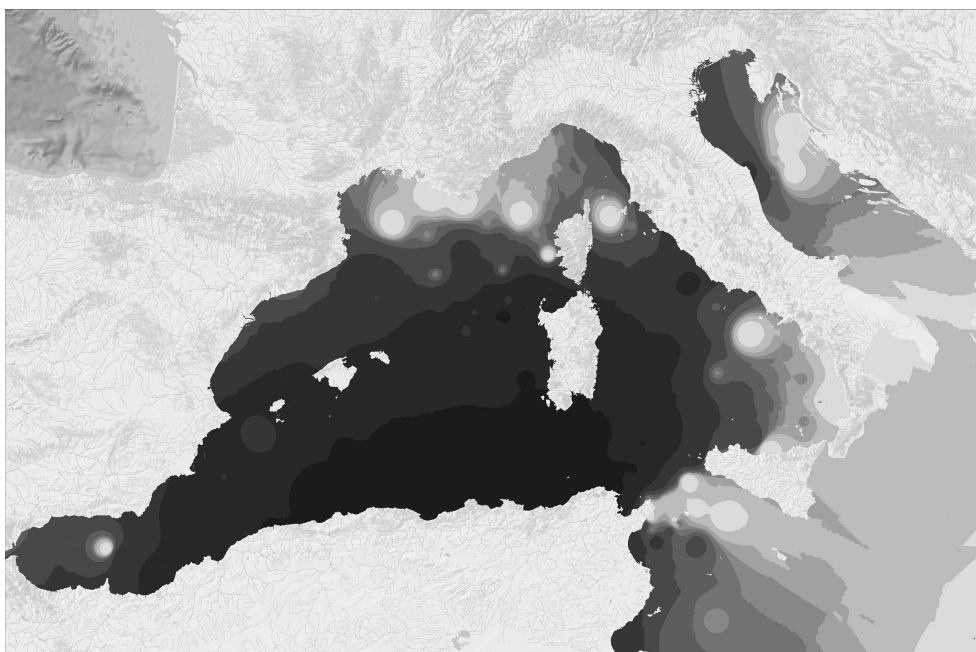


Figure 6. The varying densities of the 20 mobility polygons representing activity in the fifth century AD. The darker colours represent a higher density of polygons. (Matthew Harpster)



Figure 7. The varying densities of the 15 mobility polygons representing activity in the sixth century AD. The darker colours represent a higher density of polygons. (Matthew Harpster)

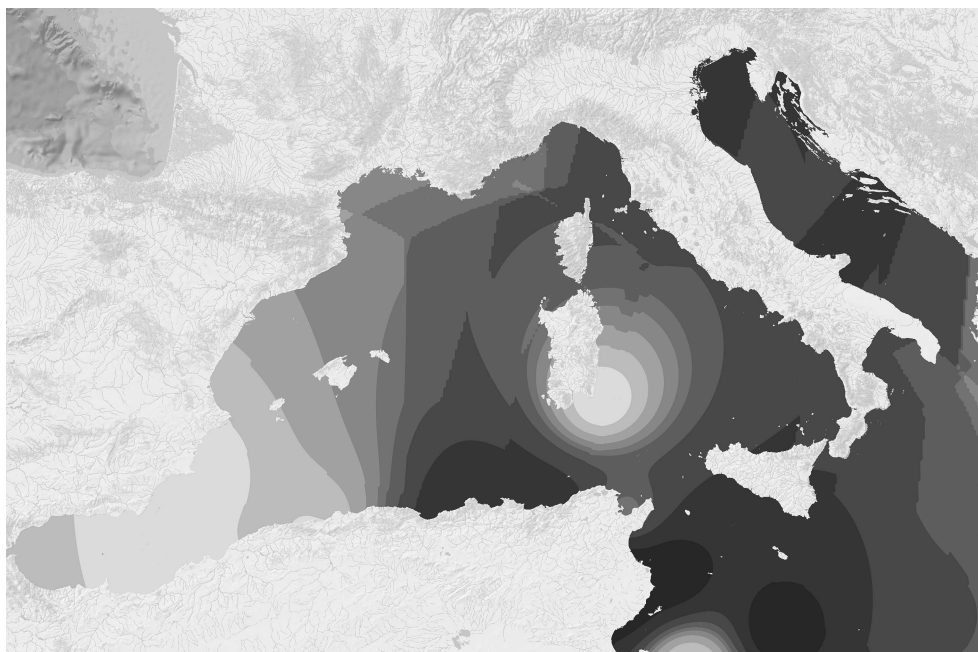


Figure 8. The varying densities of the 7 mobility polygons representing activity in the seventh century AD. The darker colours represent a higher density of polygons. (Matthew Harpster)

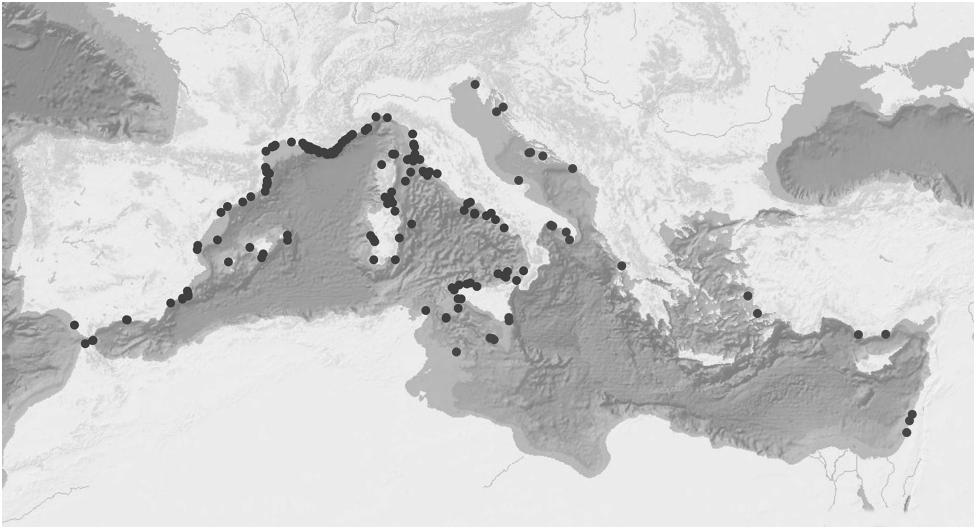


Figure 9. The distribution of the 449 submerged assemblages used in this study and containing only western-Mediterranean material. Red points are those assemblages outside the western-Mediterranean basin. (Matthew Harpster)

found in the western Mediterranean region. Of the 449 assemblages in this study's dataset, only 36 are found outside the western-Mediterranean basin, when there was no technological or environmental impediment limiting their dispersal (Figure 9). Moreover, although the entire northern coast of Africa has a substantially lower number of recorded sites for environmental and socio-political reasons, there is no substantial modern bias towards the recording or finding of sites either east or west. Within the entire AMD dataset, there are approximately 457 assemblages east of Italy and Sicily; the 36 within this study are the examples containing only western-Mediterranean material. This suggests that there may be a frontier along the eastern coast of Sicily, or emanating from the island itself, and that this frontier was both a physical and social construct. One element was Sicily, a landmass apparently representing the edge of a western maritime community's landscape and signalling entry into this place, while serving as a temporal landmark. According to Smith's analysis of St Luke's voyage from Rhegium to Puteoli in *Acts*, it only required a day to sail from Sicily to Naples. The other element of this construct, however, was the city of Rome. As the city's perceived power waned after the fifth century AD, so did this frontier's impermeability. Coupled with the continual growth of Constantinople farther east, the erosion of this frontier was perhaps inevitable.¹⁶

The spatial patterns formed by this set of archaeological data could be a coincidence. Alternatively, they could be representing how the muted community of seafarers in Antiquity structured their world, a mental topography of the sea otherwise unknown in Antiquity. Other evidence, however, suggests something else again. An examination of

¹⁶See Chris Wickham, "Marx, Sherlock Holmes, and Late Roman Commerce", in Wickham, *Land and Power: Studies in Italian and European Social History, 400–1200* (London: British School at Rome), pp. 77–98, esp. 93–6, which argues that the activity in the western Mediterranean was tied to a strong government.

geographies of the Mediterranean Sea written by Eratosthenes, Polybius, Strabo, Pliny the Elder, Pomponius Mela, Appian, Orosius and Isidore of Seville reveals that these authors present approximately 110 toponyms for maritime features. Common elements such as the Aegean Sea or the Gulf of Issus appear, as do unique places such as the Gulf at Bubassius, mentioned only by Pomponius Mela. Within these eight geographies, however, the maritime features contiguous with Sicily, and enveloping this frontier, are particularly prevalent and robust. The Sicilian Sea east of the island, for example, is the only maritime toponym that is found in all eight narratives, and always referred to as a “sea” (*pelagos*, *thalassa*, *thalatta*, or *mare*).¹⁷ Moreover, the Tyrrhenian and Libyan seas, contiguous to the north and south, appear in seven of the eight narratives and, again, are consistently referred to as a “sea”.¹⁸

This is not an example of simply copying an earlier work, as later texts do not always emulate their predecessors. Strabo and Polybius were critical of Eratosthenes’s knowledge, for example.¹⁹ Equally, the geographic content of each work does not increase in a cumulative fashion. Strabo, Pomponius Mela and Pliny the Elder could write of places along the coast of Asia Minor only after the region had been enveloped by the growing Roman Empire in the first century AD, yet Appian, Orosius and Isidore of Seville mention few of these sites. Lastly, Pomponius Mela is the only author among them who wrote a text meant to be a geography.²⁰ For the other seven authors, the landscape they presented was a backdrop for the events they wrote of – the triumph of Rome or Christianity, for example.²¹ The reiteration of the Sicilian, Tyrrhenian and Libyan Seas as seas in these works, cutting across the authors’ varying cultural, religious and personal dynamics, and in an apparent spatial coordination with the frontier proposed by the modelling, seems much more than a coincidence. Instead, it strongly suggests that this frontier near Sicily was not only a construct embedded in the Mediterranean maritime community for generations, but also one codified in formal geographies of the sea.

¹⁷For Eratosthenes, see Strabo, *Geography*, ed. and trans. Horace Leonard Jones, volumes I–VIII [Loeb Classical Library, volumes XLIX, L, CLXXXII, CXCVI, CXXI, CXXIII, CXLI and CCLXVII] (Cambridge, MA: Harvard University Press, 1917–1932), I: 178–87, 200–13. Also Polybius, *The Histories*, 2nd edn, ed. and trans. W.R. Paton, rev. F.W. Walbank and Christian Habicht, volumes I–VI [Loeb Classical Library, volumes CXXVIII, CXXVII, CXXXVIII and CLIX–CLXI] (Cambridge, MA: Harvard University Press, 2010–2012), I: 298–303, esp. 298–9; Strabo, *Geography*, I: 472–7, II: 302–7, III: 54–63; Pliny the Elder, *Natural History*, ed. and trans. H. Rackham and D. Eichholz, volumes I–X [Loeb Classical Library, volumes CCCXXX, CCCLII, CCCLXX, CCCLXXI, CCCXCII–CCCXCIV, CCCXVIII and CCCXCIX] (Cambridge, MA: Harvard University Press, 1938–1962), II: 62–71, 142–3, 200–03, III: 348–51; Pomponius Mela, *Geography: De situ orbis A.D. 43*, trans. Paul Berry [Studies in Classics, volume III] (Lewiston, NY: Mellen, 1997), p. 75; Appian, *Roman History*, ed. and trans. Horace White, volumes I–IV [Loeb Classical Library, volumes II–V] (Cambridge, MA: Harvard University Press, 1912–1913), I: 8–9; A. Merrills, *History and Geography in Late Antiquity* (Cambridge: Cambridge University Press, 2005), pp. 313–20; Isidore of Seville, *The Etymologies*, trans. Stephen A. Barney et al. (Cambridge: Cambridge University Press, 2006), p. 292.

¹⁸For the Tyrrhenian Sea, see Eratosthenes (in Strabo, *Geography*, I: 200–13); Polybius, *Histories*, I: 298–9; Strabo, *Geography*, I: 470–1, 492–3; Pliny, *Natural History*, I: 332–5, II: 68–71, 78–81; Appian, *Roman History*, I: 4–7; Merrills, *History and Geography*, 313–20, 313, 317; Isidore, *Etymologies*, 291, 294. For the Libyan Sea, see Polybius, *Histories*, II: 530–1; Strabo, *Geography*, I: 470–1, VI: 372–5; Pliny, *Natural History*, II: 218–35; Appian, *Roman History*, I: 8–9; Pomponius Mela, *Geography*, 11; Merrills, *History and Geography*, 313–20, 319; Isidore, *Etymologies*, 292.

¹⁹Eratosthenes’ *Geography. Fragments Collected and Translated, with Commentary and Additional Material*, trans. Duane Roller (Princeton, NJ: Princeton University Press, 2010), pp. 30–3.

²⁰Pomponius Mela, *Description of the World*, trans. Frank E. Romer (Ann Arbor: University of Michigan, 1998), pp. 4–9.

²¹Daniela Dueck, *Strabo of Amasia: A Greek Man of Letters in Augustan Rome* (London: Routledge, 2000), pp. 107, 110; Trevor Murphy, *Pliny the Elder’s Natural History: The Empire in the Encyclopedia* (Oxford: Oxford University Press, 2004), pp. 5, 130; William Koelsch, “Squinting Back at Strabo”, *Geographical Review* 94 (2004): 502–18; Merrills, *History and Geography*, 37–9.

A frontier of activity and a frontier of communities

Nevertheless, this frontier near Sicily may be a reminder that frontiers are primarily social constructs. This example in the sea undoubtedly has a strong association with the physicality of the island itself, but its presence and role as a boundary to activity and movement is nevertheless dependent upon its recognition by an observer. Like a cultural signifier, this frontier cannot exist without an individual to give it meaning. A communal memory centuries long was thus required to maintain this frontier's integrity and purpose despite other changes around it. Other frontiers, in association with the environment or otherwise, and perhaps elsewhere in this collection of essays, may have similarly long histories and be laden with cultural and personal meaning.

Equally, the maintenance of this frontier may have been one element of a broader social process segregating the place and people in the western basin from the rest of the region. Among the preserved mosaics that may have advertised the services of *navicularii* and *negotiatores* at the Piazzale delle Corporazioni at Ostia, a locus of imports, trade and commerce during the early Roman Empire, fourteen mention the home cities of the individuals in question. Among them, western-Mediterranean origins predominate. Eight individuals originate west of Carthage, four are from Libya, but only one comes from Alexandria.²² Gravestones of *navicularii* and *naukleroi* across the Mediterranean region reiterate this division, as *navicularii* born around the western basin were buried in the same region, whereas *naukleroi* from farther east were more peripatetic.²³ Repeatedly, then, this Sicilian frontier becomes a pivot around which coarse pairings may be made now, and perhaps were made in the past. After all, the material data seems to contain communal efforts to reiterate and to reinforce a social and a spatial distinction. Just as the maritime archaeological modelling is proposing a contrast between the "localized", homogeneous activity to the west and the inter-regional tumult of activity to the east, the human creation and reiteration of this frontier establishes a personal contrast as well. One was either part of the maritime community west of Sicily, or one was just a visitor.

Conclusions

As part of the ongoing AMD project, this study began as an effort to determine whether and how the large corpus of maritime archaeological data within the Mediterranean Sea could generate a narrative of maritime activity in Antiquity independent from other sources of data. Thus, it began as a test of the methodology employed to interpret that data, the explanatory potential of the maritime archaeological corpus, and a test of the other narratives of maritime activity already present within scholarship. Encouragingly, what is emerging is not discontinuity but synchronicity. The broad results of this study's analysis are reinforced by discrete collections of mosaics and gravestones and the geographies of various authors, as well as general historical patterns; as the city of

²²Candace Rice, "Mercantile Specialization and Trading Communities: Economic Strategies in Roman Maritime Trade", in *Urban Craftsmen and Traders in the Roman World*, ed. Andrew Wilson and Miko Flohr (Oxford: Oxford University Press, 2016), pp. 97–114, esp. 106–7.

²³Thomas Schmidts, "Between East and West in the Roman Empire: Skippers and Shipowners from the Eastern Mediterranean", in *Between Continents*, ed. N. Günsenin [Proceedings of the XIth Symposium on Boat and Ship Archaeology, Istanbul 2009] (Istanbul: Ege Yayınları, 2012), pp. 149–56. See also Kingsley's study ("Mapping"), which finds a similar spatial division in activity.

Rome declined, for example, so did the strength of this frontier. This study's analysis, then, adds depth to this narrative in two ways. First, it suggests that the muted maritime community conducting everyday, low commerce through the Mediterranean perceived and reinforced this frontier as well. This was not merely an administrative or political boundary, but a communal one that seems to have transcended class and social status. Second, even if tied to the persistence of Rome, this frontier still relied upon the sea's natural geography for its presence. Indeed, it is not surprising to identify Sicily as a possible signifier of a spatial and communal boundary. As the largest island of the Mediterranean Sea, its size made it a significant landmark to individuals travelling through the region; with Mount Etna on the eastern coast and Cape Eryx to the west, Sicily was nearly impossible to miss. The island's strategic position was equally hard to ignore, and its continual vicissitudes between empires are indicative of its recognised value. It was part of the Roman Empire until the fifth century AD and its conquest by the Vandal King Gaiseric (r. 428–477), yet it was relinquished to the Ostrogoths within 30 years. Under the general Belisarius, however, the late Roman or Byzantine Empire gained control again in the sixth century, only to slowly lose that stability through the ongoing incursions and piecemeal conquests of the Muslims from the eighth century onwards. By AD 965 and the fall of Rametta, the Arab conquest of Sicily was complete, yet their control too was lost within 100 years following the arrival of the Normans.


The initial results of this study, however, suggest that the social or communal role conferred on Sicily by the surrounding community may have been as important as the island's political and military significance. Broadly, for example, Sicily could signal an individual's place in Mediterranean space, by being near to or far from the island. As evident from this study, however, it also seems that the island could confer a particular identity. Perhaps one was within their "own" waters in the western basin and a member of that community, or a stranger within "foreign" waters to the east.

By appending and expanding our present understanding of Sicily's role in the spatial and communal structure of the Mediterranean, these initial results suggest that the AMD project can have impacts beyond the discipline of maritime archaeology. In addition to modelling where people were moving, it seems we can begin to investigate a variety of questions related to why these patterns emerge. Do only islands such as Crete or Rhodes create such maritime frontiers, or can the Hellespont and the Strait at Gibraltar do the same? How might a maritime frontier emerge and disappear? Do these frontiers transcend cultural boundaries, or are they politically or socially particular? It is hoped that through the emergence and collection of more data, particularly from the sixth and seventh centuries, and additional modelling of these zones of activity, many more of these social and communal patterns of life can be illustrated, and a better understanding of this Mediterranean maritime community can arise.

Disclosure statement

No potential conflict of interest was reported by the authors.

ORCID

Matthew Harpster  <http://orcid.org/0000-0002-2571-2413>