'Where are the proxenoi?'

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'WHERE ARE THE *PROXENOI*?' SOCIAL NETWORK ANALYSIS, CONNECTIVITY AND THE GREEK *POLEIS*[*]

'WHERE ARE THE *PROXENOI*?'[1]

When an Athenian inspector (*episkopos*) calls at the political community to which he has been sent by the Athenian authorities, this is the question he immediately asks. Although the event is fictional and the political community is Aristophanes' fantastical bird utopia, Cloudcuckooland, the question of this functionary of the fifth-century Athenian Empire nonetheless tells us a great deal about the importance of *proxenoi* (singular: *proxenos*) in mediating relations between Greek *poleis*. The assumption of the inspector is that there will be citizens of Cloudcuckooland on hand and ready to provide him, as an Athenian, with local knowledge and practical aid in engaging with the civic authorities, either because they have already been appointed *proxenoi* by the Athenians or because they hope to be granted this status (*proxenia*) in the future.

Proxenoi were local citizens who facilitated interactions at both formal diplomatic and private levels for the citizens of particular external states because they derived prestige in their own community from this formal connection, not to mention specific

[1] 'ποῦ πρόξενοι;' Aristophanes, *Birds*, 1021.

privileges when they visited granting communities.[2] *Proxenoi* are frequently attested hosting and formally introducing embassies and, while the precise services they performed for visiting private citizens are typically described only generically, it is probable that they could be expected to provide local expertise as well as legal and personal assistance when difficulties such as contractual disputes arose.[3] The proposal to grant proxeny to a foreign individual was the most routine item relating to external affairs on the agenda of *polis* assemblies, and, in and of itself, tells us little about the warmth of relations between the two communities. However, partly because it was personal and low key, proxeny enabled political communities to maintain and facilitate links with a wide range of other states within the densely fragmented world of the Greek *poleis*, at least until the end of the Hellenistic period (*c*.27 BC). And because grants of proxeny assert both the occurrence of past services performed by the *proxenos* and the expectation of future occasions for such services, if we can identify where a political community had *proxenoi*, we can reconstruct its history of interactions and horizons.

The assumption of the Athenian inspector, that Athenian *proxenoi* were ubiquitous and would be on hand even in the newly founded *polis* of Cloudcuckooland, is the assumption of a citizen of the pre-eminent imperialist power of the Aegean basin in this period, the many-tentacled Athenian Empire. It is, in fact, supported by the substantial evidence that survives of the late fifth-century Athenian network of *proxenoi*, when the Athenians developed the innovative practice of enhancing the honour conveyed by grants of proxeny by having them inscribed on individual stone *stelai*, which were dedicated on the Acropolis.[4]

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[2] Key works on proxeny: William Mack, *Proxeny and Polis: Institutional Networks in the Ancient Greek World* (Oxford, 2015); Christian Marek, *Die Proxenie* (Frankfurt am Main, 1984); Fritz Gschnitzer, 'Proxenos', *Realencyclopädie der classischen Altertumswissenschaft*, suppl. XIII (1973), col. 629–730; Paul Monceaux, *Les Proxénies grecques* (Paris, 1886). For an overview, see William Mack, 'Proxeny (*proxenos*)', *Oxford Classical Dictionary Online*.

[3] Mack, *Proxeny and Polis*, 27–43.

[4] For edition and commentary on these texts, see Michael Walbank *Athenian Proxenies of the Fifth Century BC* (Toronto, 1978); and Heinz A. Reiter, *Athen und die Poleis des Delisch-Attischen Seebundes* (Regensburg, 1991). On the dates assigned to Athenian inscriptions of the fifth century — many of which have recently been revised downwards — see Peter Rhodes, 'After the Three-Bar

Another kind of inscribed document from Karthaia enables us to answer the same question — 'Where are the *proxenoi*?' — from the very different perspective of a minor city-state on the Cycladic island of Keos. The document in question is a catalogue listing all eighty-six *proxenoi* recognized by the Karthaians when the list was inscribed in the 350s BC, fifty years after the dissolution of the Athenian Empire. Its reconstruction yields a striking picture of the Karthaians' contacts, incorporating Central Greece and the Eastern Peloponnese and the Hellespont, but, significantly, not Northern Greece or coastal Asia Minor (Map 1).[5] This list also allows us to get a sense of the different kinds of contact that resulted in a network by creating contexts in which the services of *proxenoi* and would-be *proxenoi* were helpful, from lower-frequency, higher-intensity official contacts to higher-frequency, lower-intensity private interactions. Thus, the large group of fifteen *proxenoi* at Athens includes a one-off grant to five Athenians who led a military expedition to Keos as well as a more gradual accretion reflecting the importance of Athens as a political and economic centre for the Karthaians.[6] The isolated concentration of sixteen *proxenoi* around the Hellespont (Map 1, region vi), conversely, is most plausibly explained in terms of established patterns of long-distance trade, carried out by Karthaians. In this way proxeny lists can provide a detailed, composite map of the Karthaians' interactions, combining two of Braudel's historical levels, *histoire événementielle* (the specific events of political history) and *conjuncture* (patterns of socio-economic contact over a generation).[7]

This article seeks to answer the question — 'Where are the *proxenoi*?' — from a third perspective, that of the network of

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Greek states as a whole. Instead of reconstructing the proxeny networks of individual communities on the basis of individual lists, as I did in a recent monograph, this article applies Social Network Analysis to the full corpus of extant proxeny decrees inscribed by granting communities, which have been collected and presented in the open-access database *Proxeny Networks of the Ancient World* (http://proxenies.csad.ox.ac.uk). I show that by identifying where the *proxenoi* were in this substantial dataset — that is, how many grants were made to the citizens of particular *poleis* and by how many different city-states — we can identify important structural properties of the network of Greek city-states.

The Greek grants of proxeny represent an important test case for the application of Social Network Analysis to historical archives. This is because proxeny, and the inscriptional record which attests it, are highly culturally specific, and quite far removed from the kinds of relationships and datasets that Social Network Analysis has been developed to explore. As this article demonstrates, through a close dialogue between recent developments in Social Network Analysis and the particularities of this ancient relational dataset, it is possible to identify the ways in which the structure of the surviving dataset reflects the original distribution of proxeny grants. And, because of the particularities of the institutionalized relationship in question, this advances our understanding of the underlying historical phenomenon, the network of Greek city-states, by transforming the basis of our knowledge.

Network perspectives have already played an important role in ancient history and in particular the study of the ancient Greek state system, as part of a wider move away from Athenocentric historical narratives.[8] By focusing on relationships ('links')

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[8] See, in general, Irad Malkin, Christy Constantakopoulou and Katerina Panagopoulou (eds.), *Greek and Roman Networks in the Mediterranean* (London, 2009); Madalina Dana and Ivana Savalli-Lestrade (eds.), *La Cité interconnectée dans le monde gréco-romain, IVe siècle a.C. – IVe siècle p.C.* (Bordeaux, 2019). Religious networks: Ian Rutherford, *State Pilgrims and Sacred Observers in Ancient Greece: A Study of Theōriā and Theōroi* (Cambridge, 2013); Christy Constantakopoulou, *Aegean Interactions: Delos and its Networks in the Third Century* (Oxford, 2017). Network approaches in archaeology: Carl Knappett (ed.), *An Archaeology of Interaction: Network Perspectives on Material Culture and Society* (Oxford, 2011); Tom Brughmans, Anna Collar and Fiona Coward (eds.), *The Connected Past: Challenges to Network Studies in Archaeology and History* (Oxford, 2016).
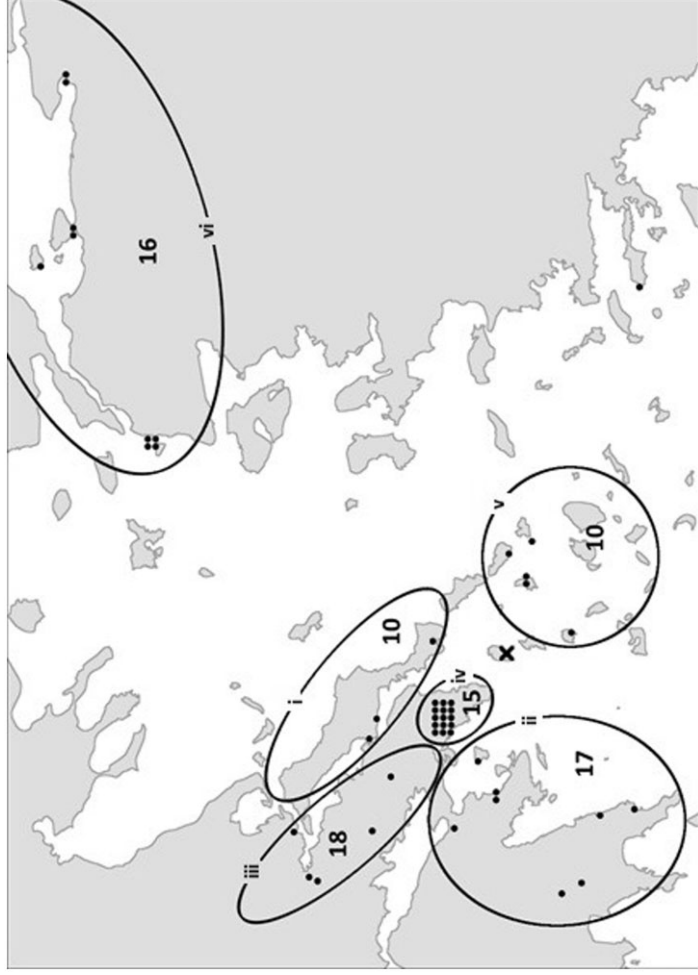
MAP 1
THE PROXENY NETWORK OF KARTHAIA

Karthaia is marked with a cross while dots denote *proxenoi* located with certainty. Lines delineate regional grouping on the stone and arabic numerals the probable number of *proxenoi* in each region (i, Euboea; ii, Eastern Peloponnese; iii, Central Greece; iv, Athens; v, Cyclades; vi, Hellespont/Propontis).

between states ('nodes'), two influential studies have offered models for explaining the linguistic and cultural homogeneity of the Greek world despite its fragmentation into more than a thousand potentially autonomous city-states.[9] John Ma's classic article in this journal applies peer polity interaction theory to interstate discourse to reveal a Hellenistic world (*c*.330–27 BC) structured by competitive emulation rather than top-down diffusion. In this model, a stable system of state actors engaged in a range of formalized reciprocal gestures, including sending and receiving religious delegations, to recognize each other as peer polities, as 'structurally homologous, autonomous states of the same size'.[10] Irad Malkin's book, by contrast, engages with network theory, in particular the so-called 'social physics', to explain the formation of a shared Greek identity through processes of overseas settlement in the Archaic period (*c*.650–479 BC). In Malkin's account, co-operation in distant middle-grounds, including Naukratis in Egypt and the new communities of Sicily, fostered the creation of 'random' links between groups. This reduced distances within the wider network and resulted in the creation of a 'small world' in which every node was linked to every other node by a short sequence of links.[11] Both studies seek to explore the 'mental maps' that structured the ancient Greek world and both identify ways in which distance within them could be determined more by the existence of symbolic ties than by geography.

The network models proposed by Ma and Malkin have real explanatory power, but are based in analysis of specific episodes or texts. As a consequence, they are heavily dependent on the ways in which political communities chose, quite self-consciously, to represent their relations with other states. The application of quantitative Social Network Analysis to the proxeny grants allows us to test these models and their assumptions by providing a new picture of the Greek world in the late Classical and Hellenistic periods (especially *c*.350–150 BC) based on the accumulated decisions taken by a wide range of

[9] John Ma, 'Peer Polity Interaction in the Hellenistic Age', *Past and Present*, no. 180 (Aug. 2003). Irad Malkin, *A Small Greek World: Networks in the Ancient Mediterranean* (Oxford, 2011).
[10] Ma, 'Peer Polity Interaction in the Hellenistic Age', 23.
[11] Malkin, *Small Greek World*, 206.

communities about whether or not to make proxeny grants to other states.

This picture, I argue, gives us a more accurate representation of contemporary mental maps and, in particular, of perceptions of connectivity, because it reflects a broader range of interactions, including mundane patterns of economic interaction between communities as well as the more marked interstate exchanges that the material considered by Ma and Malkin documents. It also allows us to see how particular communities were judged by the wider network, and how that contrasts with the ways in which they may have sought to represent themselves and their motivations. This comparison results in some striking differences. In place of a community of equipollent peer polities, the proxeny dataset allows us to trace a hugely unequal hierarchy of states in which religious motivations for travel appear to be much less significant in driving connectivity than other factors. More importantly, as a consequence of the fact that this analysis allows us to systematically characterize how each of the city-states stood in the wider network, Social Network Analysis of the proxeny dataset provides a new approach to mapping the complex political geography of the Greek world. As a result, we can differentiate systematically between more and less well-connected *poleis* and explore the reasons why.

In this article I first explore the structure of the record of proxeny grants and recent work on measuring indegree centrality in incomplete relational datasets, to argue that the clear, hierarchical structure that emerges from this analysis is highly unlikely to be distorted by the nature of the sample of material that survives (section I). I then establish a framework for interpreting this hierarchy in terms of eight connectivity bands and demonstrate the robustness of this way of differentiating between different communities (section II). In the longest section, I explore how, by reading this hierarchy against the other kinds of quantitative and non-quantitative evidence we have for the Greek *poleis*, we can identify the most important factors of politics, economics and geography that determined connectivity in this network, and map the shape and practical limits of the Greek world in the Hellenistic period (section III). Finally, I highlight the differences that this approach makes to our

understanding of the network of Greek states, by comparing it directly with the picture that emerges from the texts that have hitherto been central to discussions of interstate connections (section IV).

I

PROXENY INSCRIPTIONS AND INDEGREE CENTRALITY

Some 3,596 published attestations of proxeny have been collected in the research database, *Proxeny Networks of the Ancient World* (Data Appendix 1).[12] This makes it exceptionally rich for an ancient dataset documenting interstate relations. It is also idiosyncratic, by comparison with relational datasets from other historical periods, because it largely consists of monumental inscriptions, produced to perform a specific honorific function. In these cases particular communities took the decision to enhance the honour for the recipient by commissioning a stone stele recording the grant for display in a sanctuary (2,453 extant grants) or by systematically inscribing the name of each new *proxenos* in a monumental list (805 grants).[13] Not all communities that granted proxeny ever inscribed grants in this way, and those that did, did so to widely varying degrees. Nonetheless, we are left with a record to which a substantial number of political communities contributed

[12] The purpose of the database is to collect all certain or probable grants of proxeny rather than individual *proxenoi*. Consequently, texts that possibly but not probably included grants of proxeny are excluded (on the probabilistic scale of attestation, see <http://proxenies.csad.ox.ac.uk/evidence>). To facilitate quantitative comparison, proxeny decrees for groups from the same *polis* (typically either families or groups of official representatives) are counted as single grants. In incorporating material from catalogues or chronological lists of *proxenoi*, groups of individuals from the same *polis* have been assumed to be the recipients of a single group grant unless evidence for separate grants survives (for example, different hands for particular entries). For analysis of these documents, see Mack, *Proxeny and Polis*, 286–342. In compiling the database, Christian Marek's catalogue in *Die Proxenie* was invaluable, but all texts were re-evaluated according to different criteria and all corpora, published before and since, were systematically checked.

[13] On the honorific functions of inscription, see: Stephen Lambert, 'What Was the Point of Inscribed Honorific Decrees in Classical Athens?', in Stephen D. Lambert (ed.), *Sociable Man: Essays on Ancient Greek Social Behaviour in Honour of Nick Fisher* (Swansea, 2011); Elizabeth A. Meyer, 'Inscriptions as Honors and the Athenian Epigraphic Habit', *Historia*, lxii (2013). On the religious significance of this practice, see William Mack, 'Vox Populi, Vox Deorum? Athenian Document Reliefs and the Theologies of Public Inscription', *Annual of the British School at Athens*, cxiii (2018).

(196). This article draws on a subset of 2,449 proxeny grants that meet two criteria: they were inscribed by granting communities; and they preserve the name of the *polis* to which the *proxenos* belonged (Data Appendix 2). Rough estimates of the number of proxeny grants that would have been made during the period 500–1 BC suggest that these 2,449 proxeny grants are likely to represent something in the order of 0.2 per cent of the original total.[14]

This degree of incompleteness poses challenges for Social Network Analysis, a discipline that was developed to explore contemporary human societies through active (and ideally complete) sampling of networks.[15] Recently, however, an important vein of scholarship has examined the validity of different kinds of network analysis under conditions of incomplete data.[16] In this article I focus on the most basic measurement of the position of actors within their wider network, known as degree centrality, which involves counting the number of links emanating from a particular community (outdegree centrality) or made to it (indegree centrality).[17]

Outdegree centrality — the number of proxeny grants a particular community made — is something that the surviving dataset is very unlikely to reflect accurately. A study by Costenbader and Valente examining modern social network datasets found that the accuracy of measurements of outdegree centrality degraded quickly as responses from fewer actors were considered.[18] This relates to the fact that typically actors in social networks are responsible for giving information on their links to other actors. As a result, randomly eliminating the contributions of particular actors (for example, their answers to a

[14] Mack, *Proxeny and Polis*, 14–15.

[15] Stanley Wasserman and Katherine Faust, *Social Network Analysis: Methods and Applications* (Cambridge, 1994), 30–5, 56–9. For the idea that less than full participation seriously affects network data, see Ronald S. Burt, 'Network Data from Archival Records', in Ronald S. Burt and Michael J. Minor (eds.), *Applied Network Analysis* (Beverly Hills, 1983); J. Galaskiewicz, 'Estimating Point Centrality using Different Network Sampling Techniques', *Social Networks*, xiii (1991).

[16] Elizabeth Costenbader and Thomas W. Valente, 'The Stability of Centrality Measures when Networks Are Sampled', *Social Networks*, xxv (2003). See Matthew A. Peeples *et al.*, 'Analytical Challenges for the Application of Social Network Analysis in Archaeology', in Brughmans, Collar and Coward (eds.), *Connected Past*, on applying resampling techniques to archaeological datasets.

[17] Wasserman and Faust, *Social Network Analysis*, 125–7.

[18] Costenbader and Valente, 'Stability of Centrality Measures'.

questionnaire) effectively removes them from the dataset and thus rapidly distorts the relative distribution of links from actors. We see the same problem of dependence on actors for information about their own outdegree centrality in the surviving sample of proxeny data. The huge variation in the number of grants that survive (Map 2) does not reflect the number of grants that were originally made but rather the fact that some communities did not, as far as we can see, choose to inscribe grants, while those that did, did so more or less frequently. Whereas 70 per cent of political communities attested granting in the dataset are represented by five grants or fewer, three rather minor *poleis* — Delphi, Delos and Oropos — chose to inscribe their grants on an extravagant scale and are responsible for more than a third of the dataset (970 of 2,449 grants). These three *poleis* made an exceptional investment in commemorating their proxeny decrees because their communal prestige was particularly dependent on their identification with the important Greek sanctuaries in which they erected these monuments and they were keen to highlight the extent of its connections.

By a quirk of network data, the same structural properties that render this material unsuitable for measuring outdegree centrality make it likely to constitute a reasonably representative sample for measuring relative indegree centrality (the number of proxeny grants to members of a particular community). Costenbader and Valente's study found that measurements of indegree centrality remained one of the two measurements most closely correlated to those for complete datasets.[19] This is because knowledge of a particular actor's indegree centrality depends not on their own participation in a survey (or a decision to regularly inscribe grants), but on the occurrence of links to them in a wider distributed dataset from all participating (inscribing) actors. For similar reasons, indegree centrality tends also to be treated as a much more revealing measurement than outdegree centrality in Social Network Analysis. In effect,

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[19] *Ibid*. The fact that Costenbader and Valente's study was based on real sociological datasets is crucial. A study examining the same question using networks generated with the Erdős–Renyi method (on which, see further below), found instead a steady decline of all measures of centrality as data is deleted: Stephen P. Borgatti, Kathleen M. Carley and David Krackhardt, 'On the Robustness of Centrality Measures under Conditions of Imperfect Data', *Social Networks*, xxviii (2006).
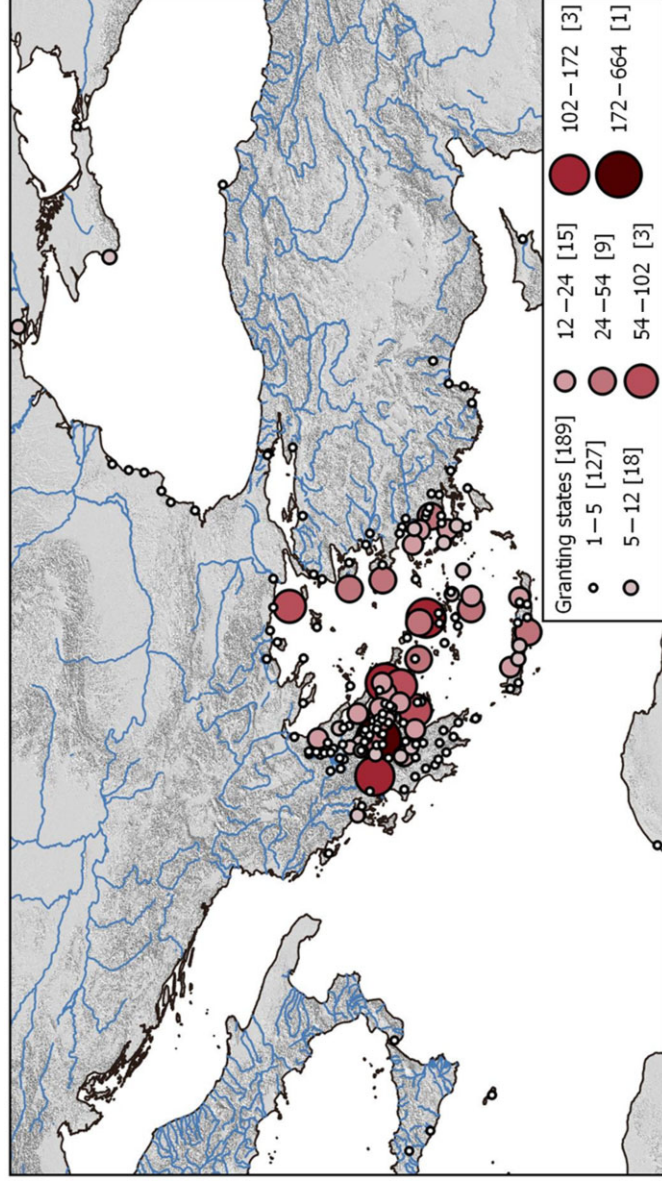
MAP 2

THE NUMBER OF SURVIVING GRANTS INSCRIBED BY EACH GRANTING AUTHORITY

Square brackets indicate the number of granting authorities in each category. Eight unlocated granting authorities are excluded.

indegree centrality is an indication of the judgement of the wider network on a particular actor.[20]

Using this material to derive a relative indication of indegree centrality involves one important assumption, namely that a grant of proxeny did indicate an interest, on the part of the granting community, in establishing a link with the political community to which the *proxenos* belonged rather than simply with the *proxenos* themselves. However, while we do possess a number of decrees that identify other contexts as important for particular grants, notably services at the court of a Hellenistic king, this does seem to have been an assumption that political communities themselves usually made in granting proxeny. Grants, with only a handful of exceptions, always identify the *proxenos* by giving, along with their name and patronym, an affiliation ('ethnic') that specified their membership of a political community, most frequently a city-state.[21]

The clear, polarized structure that emerges when we examine the distribution of grants to individuals at different *poleis* provides a strong validation of this assumption. The majority of communities in this dataset (244 of 442; 55%) are represented by only one or two grants of proxeny and collectively these account for only 13 per cent (324) of the total number of grants. This is less than the proportion of grants (16%; 381 grants) made to individuals at the top 1 per cent of communities (Athens, Rhodes, Rome and Chalkis).

When we plot the distribution of links to nodes within this dataset on a graph, a distinctive, 'long-tailed' pattern emerges (Figure 1). This inequality between a large number of nodes with minimal links and a few nodes with many links ('hubs') characterizes a kind of network structure identified in a highly influential paper by Albert-László Barabási and Réka Albert.[22] Barabási and Albert argued that a number of human and natural

[20] Wasserman and Faust, *Social Network Analysis*, 173–5, 200.

[21] Mack, *Proxeny and Polis*, 51–8.

[22] Albert-László Barabási and Réka Albert, 'Emergence of Scaling in Random Networks', *Science*, cclxxxvi, no. 5439 (1999). For an account of the earlier studies in sociology that identified similar patterns in human networks, albeit with much less impact on other disciplines, see John Scott, 'Social Physics and Social Networks', in John Scott and Peter J. Carrington (eds.), *The SAGE Handbook of Social Network Analysis* (London, 2014). Key works: Derek J. de Solla Price, 'Networks of Scientific Papers', *Science*, cxlix, no. 3683 (1965), and Derek de Solla Price, 'A General Theory of Bibliometric and Other Cumulative Advantage Processes', *Journal of the American Society for Information Science*, xxvii (1976).

FIGURE 1
INDEGREE DISTRIBUTION OF PROXENY GRANTS
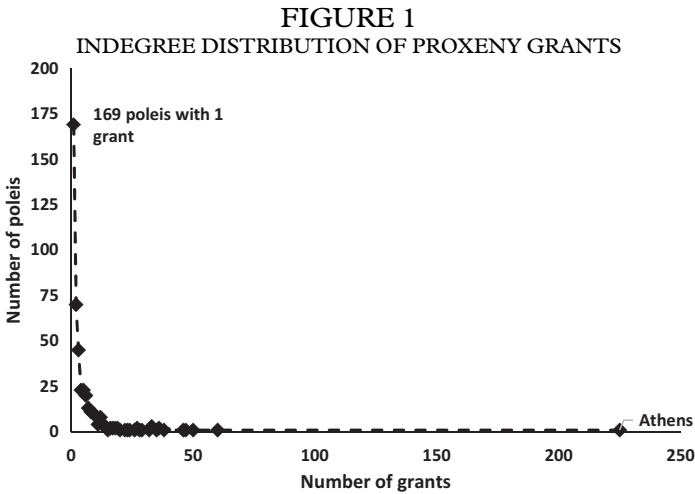
FIGURE 2
INDEGREE DISTRIBUTION OF PROXENY GRANTS PLOTTED AGAINST
LOGARITHMIC AXES
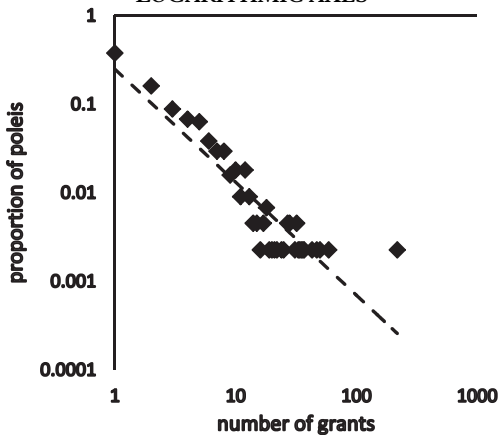
networks, dubbed by them 'scale-free networks', exhibit this kind of exponential distribution of links, following a long-tailed curve when plotted conventionally, but a straight line when plotted on logarithmic axes (as is the case with the proxeny data also, Figure 2).

The identification of many modern networks as scale-free has been contested on mathematical grounds.[23] Given that ties of proxeny, in practice, lasted for the lifespan of the *proxenos*, our dataset aggregating proxenies granted over more than five hundred years (albeit mostly concentrated over the period 350–150 BC) is unlikely to meet rigorous mathematical definitions for a scale-free network. What matters, however, is that the proxeny network, along with a range of other networks discussed by Barabási and Albert, do not obey the assumptions of the standard mathematical model of networks, developed by Paul Erdős and Alfréd Rényi.[24] Erdős and Rényi had assumed that links could be treated as having been distributed between nodes at random, an assumption that produces comparatively egalitarian networks in which the range defined by the most- and least-connected nodes is quite restricted. Barabási and Albert demonstrated that, to account for the exponential character of the inequalities in their networks, links could not be treated as having been formed at random, but in fact exhibit preferential attachment, which they modelled by connecting the probability of a new link being formed to an actor to the number of links they have already. In other words, 'the rich get richer'.[25]

We can illustrate this in relation to the proxeny data by comparing it with a series of networks generated with the Erdős–Rényi method with the same number of actors and a similar number of links.[26] If we compare the indegree distribution of proxeny grants (Figure 1), in which the node with the highest indegree centrality is Athens (which has 225 links), with a network of the same size generated with the Erdős–Rényi method (Figure 3), in which the maximum indegree centrality is only twenty-three, we can clearly see the difference. The random

[23] Duncan J. Watts, *Six Degrees: The Science of a Connected Age* (London, 2003), 111–14; Anna D. Broido and Aaron Clauset, 'Scale-Free Networks Are Rare', *Nature Communications*, x (2019), 1017.

[24] Paul Erdős and Alfréd Rényi, 'On Random Graphs I', *Publicationes Mathematicae*, vi (1959).

[25] Barabási and Albert, 'Emergence of Scaling in Random Networks', 511; Watts, *Six Degrees*, 104–11.

[26] A sample of fifty networks was generated in Gephi with the same number of nodes (442) and a similar total number of links (range, 2,092 to 2,520; average number of links, 2,422) using a 'wiring probability' of 0.025. The network represented in Figure 3 is the outlier of this sample being the node with the highest indegree centrality (23). For the other networks, the maximum was between 15 and 21 links, and 18 was the mean of these.

FIGURE 3
INDEGREE CENTRALITY OF RANDOMLY GENERATED NETWORK
WITH THE SAME NUMBER OF NODES (442) AND SIMILAR NUMBER
OF LINKS (2,449)
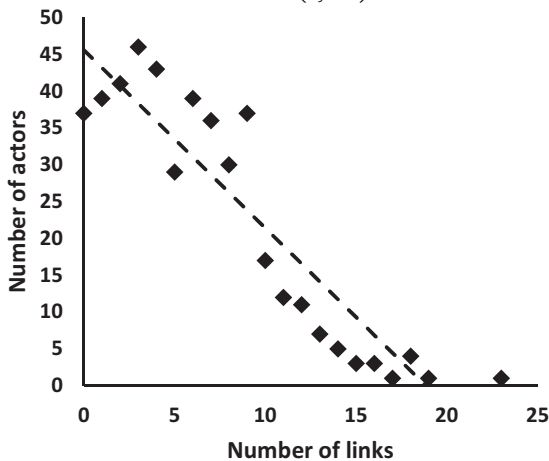
networks consistently exhibit a relatively even distribution of
links across nodes peaking at around twenty links to the most
connected node. What this contrast tells us, even without
looking at the identity of the nodes in question, is that the
structure visible in the proxeny dataset could not plausibly have
been generated either through the kind of random process of
network formation that underpins the Erdős–Rényi method, or
have arisen 'accidentally' because so much evidence has been
lost. Moreover, whereas the relatively flat network structure
generated by the Erdős–Rényi method would be rapidly eroded
as the surviving sample of data diminished, the big disparities we
see are exactly the kind of hierarchical structure that we would
expect to be reflected in even a very small sample of data.[27]

There is one historical process underlying the creation of this
dataset that might systematically bias it, namely if the decision to
inscribe a proxeny decree was itself an exceptional honour, and
thus more likely to be reserved for more important links.[28] In

[27] For the contrast, compare Costenbader and Valente, 'Stability of Centrality
Measures', with Borgatti, Carley and Krackhardt, 'On the Robustness of
Centrality Measures under Conditions of Imperfect Data'.
[28] Mack, *Proxeny and Polis*, 13–17.

this case, however, the likely effect would be to accentuate an existing hierarchy rather than to distort it, since selecting a grant for inscription would reflect a similar motivation to granting proxeny in the first place, namely to privilege particular connections. We can, moreover, test this possibility by comparing the overall proportion of grants to Athenians in the dataset with the proportion of grants made to Athenians within the most substantial sets of grants that survive from individual communities, where the inscription of grants was apparently routine. The high frequency of grants to Athenians in most cases suggests that the hierarchy that we see, extreme as it is, was not significantly exaggerated by selective processes of inscription.[29]

The structure that this long-tailed distribution indicates is, in itself, an important contribution to our knowledge of the Greek state network during the period in which the dataset is strongest, namely *c*.350–150 BC. While this dataset cannot directly provide evidence for the Archaic period that Malkin studied, it demonstrates that the processes of network consolidation that he posited for the late Archaic period were at least well entrenched by the late fourth century BC.[30] It also provides a crucial complement to the picture of peer polity interaction sketched by Ma. For all that the system of institutions that Ma explored was predicated on the understanding that interacting polities were peers, the effect of the choices communities made was to create a hierarchy in which actors were not peers in an important sense. This is because major hubs were treated by the wider network as being different in quality from the hugely more numerous minor nodes within it.

II

INTERPRETING CENTRALITY

To make this data useable, and identify the kinds of differences likely to be significant, we require a framework for comparing the position of different communities. Such a framework needs to take into account the fact that this dataset gives us two slightly

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[29] Overall, 9% of the total of 2,449 grants were made to Athenians compared with 9.8% (65 of 664) grants made at Delphi; 8.6% (13 of 151) at Delos; 39% (60 of 155) at Oropos; and 6.4% (11 of 172) by the Aitolian *koinon*. Epidauros provides an important contrast, where Athenians were the recipients of only 2% (2) of the 102 grants known.

[30] Malkin, *Small Greek World*, 40–1.

different measures of indegree centrality: the total number of proxeny grants made to members of a community ('weighted indegree centrality') and, because a community might make multiple grants, the number of different communities attested making grants ('indegree centrality'). In practice the two numbers are closely correlated, but they indicate two slightly different things, both of which are important for our purposes, specifically the number of communities that invested significance in a link with a particular community, and the amount of significance they invested in it. To take account of both variables, rather than ranking by indegree centrality, communities are ranked by multiplying these two numbers together, and this ranking is then divided into a series of hierarchical bands for the purpose of comparison (Table 1 and Data Appendix 3). Band 1 is the community with the highest number of *proxenoi* appointed there, Athens (225 *proxenoi* appointed by 46 communities), then band 2 is the rest of the top three (Rome and Rhodes; 46–60 *proxenoi* appointed by 22–24 communities), then the top ten (33–50 *proxenoi* appointed by 13–19 communities), top twenty-five, top fifty, top one hundred, top two hundred, with band 8 comprising the bottom 244 communities in this dataset at which only one or two *proxenoi* were appointed in our record.

Care is, inevitably, required in comparing communities that fall just above a line with those that fall just below it. Indeed, at the very bottom of the table, there is probably little difference between the 169 political communities that happen to be represented by a single grant and the perhaps five hundred other communities for which no grants survive at all. This framework as a whole, however, is very robust. If we test it by excluding the proxeny grants inscribed at Delphi, Delos and Oropos, which together account for more than a third of the total, very little changes. Only fifty-two political communities (12%) shift between bands as a result (mostly between bands 7 and 8) and only one of these shifts is by more than one band up or down. The fact that this hierarchy is not significantly skewed by the inclusion of these very large contributions means that it is unlikely to be altered in a significant way in the future, either by the publication of new grants or by the application of different criteria for counting them.

This framework allows us, systematically, to draw comparisons between the Greek political communities in terms of their centrality within the wider *polis* network. The question is,

however, how should 'centrality' itself be interpreted in this connection? In Social Network Analysis, centrality describes the way in which the human actors are placed in network diagrams according to their relationships with each other, and indegree centrality is typically translated in human terms, as indicating prestige, status or popularity.[31] By contrast, an archaeological understanding of centrality (or 'the central place') is likely to be rooted in the fixed topographic relationship of different sites to each other and focus on the (archaeologically attested) flow of material.[32] Both of these ways of understanding centrality highlight issues that are likely to be relevant to the network of Greek city-states, the concentration and movement of resources, and the importance of the choices that actors made in establishing links. At the same time they also raise difficulties with 'centrality' itself as a term of analysis for the network of Greek city-states. In particular, the network of Greek city-states cannot be understood without reference to their relative geographic positions, and, consequently, it does not make sense, even conceptually, to construct a diagram in which the location of communities in space is simply a function of their attested connections. Similarly, a strong focus on relative position in Cartesian space and the movement of goods rather than of people may be unhelpful in approaching networks expressed through relations with human agents (*proxenoi*).

In place of centrality, it is better to explore this hierarchy using a concept that has come to be used ever more widely in recent historical studies, namely connectivity. In *The Corrupting Sea*, the work most associated with popularizing this term, Peregrine Horden and Nicholas Purcell use connectivity specifically to describe the way in which micro-regions and regions cohere.[33]

[31] Wasserman and Faust, *Social Network Analysis*, 173–5, 200.

[32] Colin Renfrew, 'Alternative Models for Exchange and Spatial Distribution', in T. K. Earle and J. E. Ericson (eds.), *Exchange Systems in Prehistory* (New York, 1977), 85; Ray Rivers, Carl Knappett and Tim Evans, 'What Makes a Site Important? Centrality, Gateways, and Gravity', in Carl Knappett (ed.), *Network Analysis in Archaeology: New Approaches to Regional Interaction* (Oxford, 2013).

[33] Peregrine Horden and Nicholas Purcell, *The Corrupting Sea* (Oxford, 2000), 123; see also Nicholas Purcell, 'On the Significance of East and West in Today's "Hellenistic" History: Reflections on Symmetrical Worlds, Reflecting through World Symmetries', in Jonathan R. W. Prag and Josephine Crawley Quinn (eds.), *The Hellenistic West: Rethinking the Ancient Mediterranean* (Cambridge, 2013), 368: ' "connectivity" … must be understood as encompassing extractive and redistributive systems as well as the dynamics of movement of materials, people, and ideas'.

TABLE 1
THE HIERARCHY IN FULL FOR BANDS 1–4 AND IN SUMMARY FOR
BANDS 5–8

Band	Political community	Number of *proxenoi* (A)	Number of granting communities (B)	Product (A × B)	Absolute rank
1	Athens	225	46	(10,350)	1
2	Rhodes	60	22	(1,320)	2
2	Rome	46	24	(1,104)	3
3	Chalkis	50	17	(850)	4
3	Sparta	35	19	(665)	5
3	Larisa	33	19	(627)	6
3	Halikarnassos	36	17	(612)	7
3	Megara	47	13	(611)	8
3	Alexandria	38	16	(608)	9
3	Knidos	33	18	(594)	10
4	Byzantion	29	15	(435)	11
4	Thebes	36	12	(432)	12
4	Kos	26	14	(364)	13
4	Chios	32	11	(352)	14
4	Megalopolis	33	10	(330)	15
4	Corinth	27	12	(324)	16
4	Miletos	22	14	(308)	17
4	Sikyon	24	12	(288)	18
4	Argos	28	10	(280)	19
4	Kyrene	20	14	(280)	20
4	Messene	27	10	(270)	21
4	Syracuse	19	13	(247)	22
4	Ephesos	23	10	(230)	23
4	Samos	17	12	(204)	24
4	Kyzikos	19	10	(190)	25
5	e.g. Karystos, Aigina, Eretria, Delphi, Aigion, Pellene, Pheneos	*9–18*	*5–11*	*(70–180)*	26–49
6	e.g. Mantinea, Priene, Tegea, Plataia	*6–14*	*3–7*	*(28–63)*	50–102
7	e.g. Tyre, Kleitor, Delos, Oropos, Karthaia	*3–7*	*2–5*	*(6–25)*	103–200
8	e.g. Lebedos, Lousoi, Babylon, Carthage	*1–2*	*1–2*	*(1–4)*	201–443

The proxeny dataset, by contrast, provides us with a relative index of connectivity from the perspective of political communities. It reflects the degree to which particular communities were the focus of efforts to establish links and, albeit less directly, patterns of mobility between communities, specifically the movements of citizens to whom *proxenoi* provided assistance, who travelled to take part in public embassies or religious delegations, or to buy and sell goods and services. These different categories of interaction tend to be atomized by other collections of material, if they are reflected at all. The fact that proxeny functioned as a generalized networking institution means that it gives us a more holistic view of connectivity. As a consequence, it provides an opportunity to explore the way in which different kinds of political, economic, religious and geographical factors contributed to shaping the structural dynamics of the interstate network and patterns of mobility from the perspective of *poleis*.

III
EXPLAINING CONNECTIVITY

Identifying and explaining the factors responsible for this hierarchy requires an exercise in contextual reading. It involves exploring the extent to which the hierarchy in the proxeny dataset corresponds to other evidence we have characterizing these communities and their status in relation to each other. However, what is perhaps most interesting in this exercise is the apparent contradictions and anomalies that emerge. These allow us to explore the complex ways in which different factors contributed to shaping the niches that specific states occupied within the wider network, and also draw our attention to the particularities of the perspective that the proxeny dataset offers on this world.

The role of power in shaping this connectivity hierarchy is quickly apparent. Two of the highest-ranked communities, Rhodes and Rome, were the leading hegemonic city-states for the period from which the bulk of the proxeny material comes (*c*.350–150 BC) and this clearly did have an impact on the movement of people (especially official embassies) and the desire of political communities to forge connections with Rhodian and Roman elites. This reading gains further support when we explore how patterns of granting proxeny to particular

communities developed over time, something we arguably only have sufficient material to do for the best attested cases. By considering proxeny grants to the citizens of each of these states and the number of communities attested making them as proportions of the number of grants and of granting communities attested for each century, it is possible to see how the hierarchy of connectivity was dynamic, shifting over time in response to major trends in interstate influence (Table 2). The most obvious example is the sudden emergence of Rome as the focus for a very large proportion of the total number of grants at the start of the second century BC — at just the moment when Rome became the dominant power in the Mediterranean, overtaking Rhodes and Athens as the focus for grants from the largest number of different communities (sixteen, 14 per cent of the total, compared with fifteen, 13 per cent, for Athens).

When we look at the remarkable connectivity of Athens, however, it becomes clear how incomplete an explanation power is. Athens was the focus for more grants of proxeny than the next four most connected *poleis* combined and consistently attracted more grants from other communities than any other community until the first century BC (Table 2). Given that the application of network perspectives to the Greek world has, in part, been motivated by a desire to move beyond Athenocentrism, this is a particularly striking result. It does not mean that Athens was *the* centre of the Greek world, but rather enables us to meet the challenge of Athenocentrism by quantifying the degree to which Athens was more 'connected-to' than other *poleis* and allowing us to explore the reasons why.

The power and reach of Athens in the fourth century BC partially explains its extraordinary standing in the dataset for that period in which it was the focus of 13 per cent of all grants, made by 37 per cent of all attested granting *poleis*.[34] However, the persistence of Athens as the most connected hub in the network after the establishment of the Hellenistic kingdoms, into the third and second centuries BC, cannot be explained in quite the same way, given its chequered political history in this

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[34] The horizons of the Second Athenian League are best illustrated by the states that signed up (P. J. Rhodes and Robin Osborne, *Greek Historical Inscriptions, 404–323 BC* (Oxford, 2003), no. 22); the extent to which the Athenians were the recipients of proxeny decrees probably also reflects in part the uneven geographic distribution of granting states in this relatively early period.

period.[35] Instead, this highlights the role of other factors in determining Athens' connectivity, presumably its continuing importance as a centre for trade and exchange and probably also its 'soft' power as the key cultural reference point for wider processes of Hellenistic institutional convergence.[36]

Another challenge to a one-dimensional reading of this hierarchy as a reflection of interstate power is the invisibility of the two new state phenomena that redefined the power politics of the post-classical world, namely federal *koina* composed of multiple *poleis* (for example, the Aitolian or Achaian Leagues) and the Hellenistic kingdoms. In the case of federal *koina* especially, this reflects choices that have been made in this presentation of the data, to prioritize *polis* affiliations to the exclusion of non-*polis* affiliations. Thus, 131 grants that give a 'dual ethnic' for the recipient (a federal or other identity group alongside a *polis* of origin), are counted only as grants to *poleis* and a further 172 grants, which specify only a non-*polis* identity, are excluded completely. If we include these grants and prioritize federal instead of *polis* affiliation, major federal states emerge at the upper end of the connectivity hierarchy, though not necessarily as high as their political significance in the Hellenistic period might suggest.[37]

The invisibility of the Hellenistic kingdoms reflects a more fundamental bias in the dataset itself, in that association with these kingdoms did not confer identity on individual officers and functionaries in a comparable way to citizenship of a *polis* or *koinon*. Where proxeny was used to establish links to royal functionaries and courts (it was not considered appropriate for Hellenistic kings themselves), recipients were still identified in terms of their *polis* affiliation if they had been recruited from a city-state, or as a *Makedōn*, a member of the increasingly dispersed ethnic group to which most of the Hellenistic kings

[35] Christian Habicht, *Athens from Alexander to Anthony*, trans. Deborah Lucas Schneider (Cambridge, MA, 1997); Andrew J. Bayliss, *After Demosthenes: The Politics of Early Hellenistic Athens* (London, 2011).

[36] This is explored from a range of perspectives in Mirko Canevaro and Benjamin Gray (eds.), *The Hellenistic Reception of Classical Athenian Democracy and Political Thought* (Oxford, 2018).

[37] The Aitolian League (band 3, 40 grants from 17 communities); the Thessalian League (band 4, 29 grants from 17 communities); the Boiotian League (band 4, 38 grants from 8 communities); and the Achaian League (band 5, 15 grants from 10 communities).

TABLE 2
CHRONOLOGICAL DISTRIBUTION OF PROXENY GRANTS.
PERCENTAGES OMITTED FOR 500–400 BC BECAUSE OF THE SMALL
SAMPLE SIZE29%

	499–400 BC	399–300 BC	299–200 BC	199–100 BC	99–1 BC
Overall totals per century					
Number of grants	30	371	1319.5	614	106.5
Number of granting communities	10	64	118	117	31
Athens					
Proportion of grants		12.5%	10%	5.6%	9.4%
Proportion of granting communities		37.5%	17.8%	12.8%	9.7%
Rhodes					
Proportion of grants		1.5%	2.8%	2.6%	0.9%
Proportion of granting communities		10.9%	13.6%	11.1%	3.2%
Rome					
Proportion of grants		0	0.5%	3.7%	17.8%
Proportion of granting communities		0	3.4%	13.7%	

themselves belonged.[38] After Athenians, 'Macedonians' represent the largest single identity group within the proxeny dataset (band 2, 69 grants from 27 communities). Since this was an identity group not identified with a particular state (not even the kingdom of Macedon), but which reflects links to all of the kingdoms that constituted the most powerful actors in the Hellenistic world until the coming of Rome, the number of Macedonians is far less impressive than it initially appears. Overall, the proxeny dataset presents interstate interactions as occurring primarily between *polis* actors, or, at least, their citizens.

Given the fundamental importance attributed to economic interactions in promoting mobility, it makes sense to explore the role of the economic attributes of communities in shaping this connectivity hierarchy.[39] Ideally this would involve drawing systematic comparisons with other quantitative datasets on the populations and economic resources of these different

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[38] Mack, *Proxeny and Polis*, 54, 119; Argyro B. Tataki, *Macedonians Abroad: A Contribution to the Prosopography of Ancient Macedonia* (Athens, 1998).

[39] Nicholas Purcell, 'Mobility and the *Polis*', in Oswyn Murray and Simon Price (eds.), *The Greek City: From Homer to Alexander* (Oxford, 1990); Horden and Purcell, *Corrupting Sea*.

communities, but such datasets are rare and typically patchy. Even the so-called Athenian Tribute Lists, which allow us to compare the relative economic resources of a wide range of Greek states in the Athenian Empire, are of limited value because they cover a more restricted geographic area in an earlier period than the proxeny grants.[40] In the future it is possible that relative measures of the quantity of coinage minted by each community, based on the number of coin dies identified for each community, may provide a useful measure of economic performance over a similar time frame to the proxeny dataset. At present, for all its limitations, the most comprehensive general indication of the relative scale of different communities' economic resources is the set of estimates of territory size compiled for the Greek *poleis* under the aegis of the Copenhagen Polis Centre for the Archaic and Classical periods.[41]

Within this estimated territory dataset, as in the proxeny dataset, *poleis* are clearly differentiated in terms of the total area of their territory. Of the 635 *poleis* for which estimates were offered, some 60 per cent possessed a territory in the lowest categories (1, 25 square kilometres maximum, or 2, 25–100 square kilometres) while only 20 per cent possessed a territory in the highest two (4, 200–500 square kilometres, or 5, 500 square kilometres minimum).[42] When we compare territory size with our data for network connectivity, quite a marked relationship between very large territory size and high connectivity emerges. Thus, political communities with a high ranking for connectivity tend strongly to belong to one of the top two territory categories (200 square kilometres minimum). Of the top twenty-five *poleis* (Table 1, bands 1–4), no fewer than fifteen are estimated to have had a territory falling into the largest territory category (5, 500 square kilometres minimum), while six are estimated to have a territory in the second largest territory category (4, 200–500 square kilometres), and only two *poleis* are estimated to have had

[40] Lucia Nixon and Simon Price, 'The Size and Resources of Greek Cities', in Murray and Price (eds.), *Greek City*.

[41] For the limitations of territory as an indication of economic resources: *ibid.*, 148; and D. Graham J. Shipley, *The Early Hellenistic Peloponnese: Politics, Economies, and Networks, 338–197 BC* (Cambridge, 2018), 257.

[42] Mogens Herman Hansen, 'Territory and Size of Territory', in Mogens Herman Hansen and Thomas Heine Nielsen (eds.), *An Inventory of Archaic and Classical Poleis* (Oxford, 2004), 71 and 72 with a supplementary list of the thirteen *poleis* known to have had territories larger than 1,000 square kilometres.

a territory that was smaller (Larisa, 3, 100–200 square kilometres; Halikarnassos, 2, 25–100 square kilometres). Similarly, *poleis* that are relatively low in this connectivity hierarchy are much more likely to have had small territories. Of the 135 band 8 *poleis* (represented by a single proxeny grant) for which territorial estimates have been made, 110 fall in the lowest three territory categories and only nine had a territory judged to belong to the highest category. While correlation does not prove causation, the most plausible explanation of this relationship is that concentrations of population and resources increased the number of interactions, drawing in more people from a wider range of places more regularly to engage in exchange.

The relationship between connectivity and economic resources is further strengthened if we look more closely at some of the exceptions that test it. Of the nine *poleis* in band 8 that belong to the largest territory category, seven are *poleis* located in Sicily, Cyprus and the Black Sea. This highlights a regional bias of the proxeny dataset, at least in terms of the way it reflects direct economic interactions, as these were communities that fell outside the general areas of the Aegean and Mainland Greece where the vast majority of the proxeny decrees in this dataset were inscribed (Map 2).

Whereas explicit references to economic interactions are rare in the inscriptional record, networks and interactions associated with a shrine or that had an overtly religious function are extremely well documented and their analysis has occupied a central place in the study of ancient networks.[43] Evidence of festival networks frequently survives in the form of inscribed honours for visiting public delegations and lists of successful competitors, and in the Hellenistic period cities quite regularly documented their efforts to have the status of their sanctuary and festival widely recognized by other states.[44] From Delphi, in addition to an unparalleled record of grants of proxeny, we also

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[43] Ian Rutherford, 'Network Theory and Theoric Networks', in Malkin, Constantakopoulou and Panagopoulou (eds.), *Greek and Roman Networks in the Mediterranean*, 24–38, and Ian Rutherford, 'Towards a Typology of Sanctuary Networks: The Case of Roman Claros', in Dana and Savalli-Lestrade (eds.), *La Cité interconnectée dans le monde gréco-romain*.

[44] Rutherford, *State Pilgrims and Sacred Observers in Ancient Greece*, 17–22. An extensive collection of documents connected with delegations seeking one particular form of status is presented by Kent J. Rigsby, *Asylia: Territorial Inviolability in the Hellenistic World* (Berkeley, 1996).

have a lengthy inscription documenting a distinct and very large network of contacts called *theorodokoi* whose function was to receive the official Delphic delegation (*theoria*) formally announcing the Pythian games, and this institution is also attested elsewhere in the Greek world.[45] For Delos and Delphi inscribed inventories and financial accounts allow us, exceptionally, to get below this level of formal institutional links and trace the specific movements of private travellers as well as public delegations, and consequently to explore the extent of sanctuaries' catchments through the dedications and financial contributions visitors made.[46]

When we explore the significance of religious drivers of connectivity in the proxeny dataset by examining the position of Delphi and Delos, the results are surprisingly modest. Delphi, despite being the site of the most important oracular shrine in the Greek world and its second most important interstate festival, is in the fifth band (11 grants from 8 communities), while Delos, the major regional sanctuary of the central Aegean, is in the seventh (5 grants from 3 communities). There is a regional context that should be considered: Delphi is one of the better connected communities in central Greece, and Delos, despite its exiguous territory, is in the top third of central Aegean island *poleis*. Nonetheless, within the overall proxeny hierarchy, the size of this effect appears small, and it cannot be explained away completely by reference to the different nature of interactions that occurred at these sites. In particular, public religious delegations could encounter the same difficulties for which *proxenoi* were useful as other kinds of visitor, and, in fact, there is evidence that at sanctuary states *proxenoi* performed important religious services as well.[47] The implication is that

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[45] A. Plassart, 'Inscriptions de Delphes: la liste des Théorodoques', *Bulletin de Correspondance Hellénique*, xlv (1921); but see, for new readings on the text, Jacques Oulhen, *Les Théarodoques de Delphes* (Paris 10, unpublished Ph.D. thesis, 1992); Paula Perlman, *City and Sanctuary in Ancient Greece: The Theorodokia in the Peloponnese* (Göttingen, 2000).

[46] For analysis of the dedications at Delos, see Constantakopoulou, *Aegean Interactions*, 171–227; for contributions to the fund for rebuilding the temple of Apollo in Delphi, see Ian Rutherford, 'The Keian Theoria to Delphi: Neglected Data from the Accounts of the Delphic Naopoioi', *Zeitschrift fur Papyrologie und Epigraphik*, cxlvii (2004).

[47] The potential dangers faced by *theoroi*, nonetheless, are well documented, see Ian Rutherford, 'Theoric Crisis: The Dangers of Pilgrimage in Greek Religion and Society', *Studi e Materiali di Storia delle Religioni*, lxi (1995). On the

religion was much less significant as a factor in promoting connections between communities than its prominence in the epigraphic record might suggest.

In exploring the factors that contributed towards shaping connectivity in the Greek state network, we may want to make a distinction between the sorts of factors discussed so far, which motivated movements between communities, and the influence of the substrate on which these movements were made, namely the geography of the Mediterranean. We can most easily trace the influence of this substrate (or at least, of established habits of moving over it) by mapping the connectivity hierarchy that emerges from the proxeny dataset (Map 3; for more detailed maps, see Map Appendix).

Whereas Horden and Purcell, with their focus on the cohesion of micro-regions, visualize connectivity as a gradient, this map provides us with a view of connectivity that is best understood in terms of routes connecting communities.[48] Above all, the distribution of nodes of different sizes highlights the central importance of sea routes in facilitating the connectivity of communities. With the exception of Mainland Greece, the political communities that loom largest in this network tend to occupy coastal sites. Where inland city-states feature, as in the case of inland Asia Minor (Map 4), their connectivity tends, accordingly, to be significantly lower. The importance of particular routes of sea-based communication also seems to be underlined, for example, by the concentration of major hubs in the south-east (Halikarnassos, Kos, Knidos, Rhodes) at a junction of major routes along the coast of Asia Minor and across the Aegean, and also by the relative prominence of Byzantium, which functioned as the gateway to the Bosporus and Black Sea beyond.[49]

(n. 47 cont.)
additional functions that *proxenoi* were needed to perform, above all sacrifice, see Marek, *Die Proxenie*, 168–70, and Christiane Sourvinou-Inwood, 'What is *Polis* Religion?', in Murray and Price (eds.), *Greek City*, esp. 295–8.

[48] Nicholas Purcell, 'The Boundless Sea of Unlikeness? On Defining the Mediterranean', *Mediterranean Historical Review*, xviii (2004), 9–29. For a renewed emphasis on the role of states in shaping connectivity, see Hélène Roelens-Flouneau, *Dans les pas des voyageurs antiques: circuler en Asie Mineure à l'époque hellénistique (IVe s.av.n.è – Principat)* (Bonn, 2019).

[49] Thomas Russell, *Byzantium and the Bosporus: A Historical Study, from the Seventh Century BC until the Foundation of Constantinople* (Oxford, 2016).

We can also find examples, however, which highlight the complexities of the relationship between connectivity and geography, and clearly demonstrate that connectivity was not simply a function of sea-based connections. In the Peloponnese, many of the highest-ranking states are *poleis* of the interior, namely Megalopolis, Messene and, especially, Sparta (Map 5). Coastal city-states, particularly in the southern and western Peloponnese, are typically represented by a single grant of proxeny if at all, and it is notable that Gytheion, which Livy depicts as a thriving port town in *c*.150 BC, does not feature.[50] This arguably reflects the fact that connectivity in this region was shaped by the political dominance of Sparta over the south-eastern Peloponnese and dependent communities like Gytheion there, as well as the long-term investments that were made in road networks for transporting goods between the valleys controlled by Sparta and rival states at the heart of the Peloponnese.[51] By contrast, connectivity in the northern Peloponnese appears to have been more closely linked with sea routes, given the clear string of hubs along the coast, beginning at Corinth and including Sikyon, Pellene and Aigion. At least part of the reason for the prominence of these city-states, however, was probably their relationship with inland routes and resources. Sikyon appears to have been an important port for exporting timber from Arkadia,[52] while Pellene, it has been argued, served as a key market centre for the Arkadians.[53]

Here an apparently anomalous result invites us to examine these dynamics in more detail. This is the surprising prominence

[50] Livy, *The History of Rome*, 34.29.

[51] For the reconstruction of the Peloponnesian road network, see Yanis A. Pikoulas, Τὸ ὁδικὸ δίκτυο τῆς Λακωνικῆς (Athens, 2013); Yanis A. Pikoulas, 'The Road-Network of Arkadia', in Thomas Heine Nielsen and James Roy (eds.), *Defining Ancient Arkadia: Symposium, April 1–4, 1998* (Copenhagen, 1999), 248–319 (with map 3 at end of vol.). For its importance in shaping connectivity in the Peloponnese, see Horden and Purcell, *Corrupting Sea*, 130–1, and Shipley, *Early Hellenistic Peloponnese*, 271–82.

[52] The source for this is a series of purchases recorded in the accounts of the officials charged with rebuilding the Temple of Apollo at Delphi, *Corpus des Inscriptions de Delphes*, ii, on which, see: Russell Meiggs, *Trees and Timber in the Ancient Mediterranean World* (Oxford, 1982), 430–3; and J. K. Davies, 'Rebuilding a Temple: The Economic Effects of Piety', in David J. Mattingly and John Salmon (eds.), *Economies beyond Agriculture in the Classical World* (London, 2001), 222.

[53] Klaus Freitag, *Der Golf von Korinth: historisch-topographische Untersuchungen von der Archaik bis in das 1. Jh. v. Chr.* (Munich, 1999), 256.
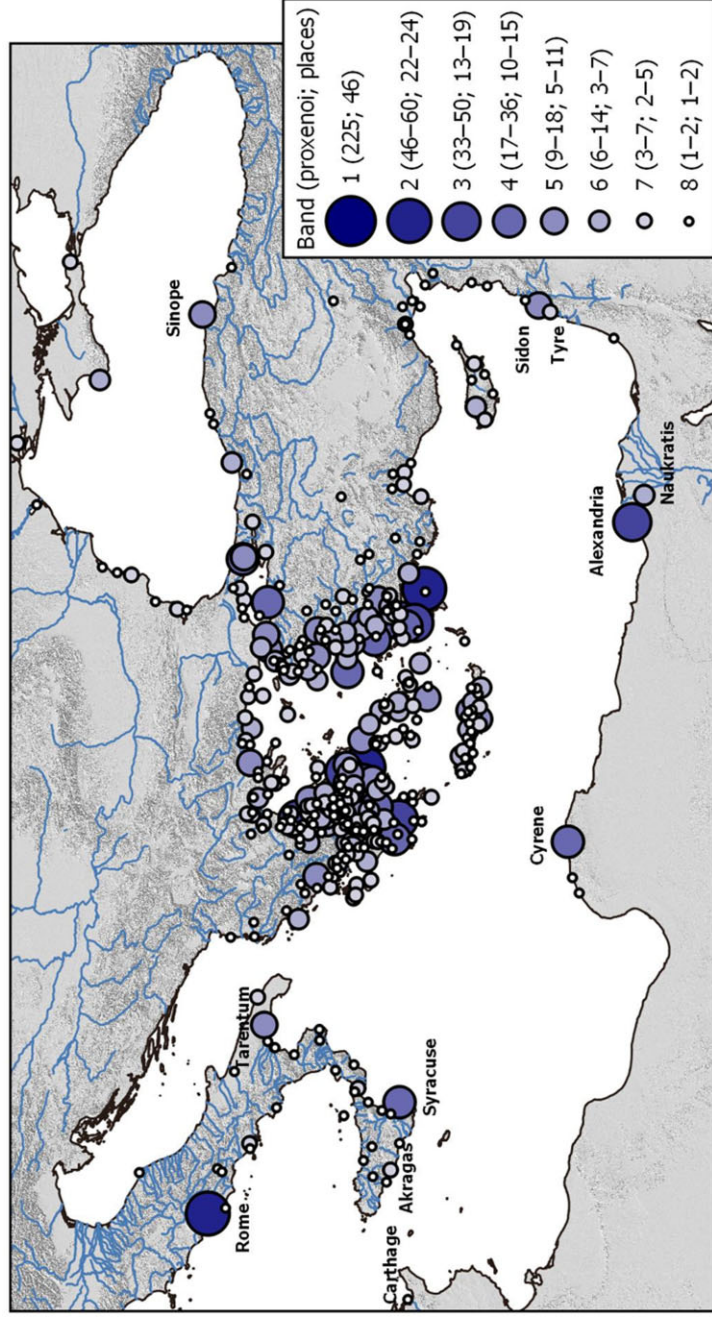
MAP 3

THE CONNECTIVITY HIERARCHY OF MEDITERRANEAN CITY-STATES, FROM THE PERSPECTIVE OF CITY-STATES IN
MAINLAND GREECE AND THE AEGEAN

of the Arkadian *polis* of Pheneos, despite its location deep in the valleys of Arkadia and its apparent insignificance within the wider historical record.[54] With twelve proxeny grants made by six communities, Pheneos appears to be more closely comparable with the coastal cities Aigion and Pellene (both band 4, 16 grants from 6 communities and 15 grants from 6, respectively) than with its inland Arkadian neighbours Lousoi (band 8, 1 grant) and Stymphalos (band 7, 4 grants from 2 communities). If we compare Pheneos with two Arkadian cities that loom much larger in the historical record — Tegea (8 grants from 5 communities) and Mantineia (14 grants from 4 communities) — the standing of Pheneos is even more striking. Recent work on the road network of Arkadia suggests a plausible explanation for this unexpectedly high connectivity.[55] Wagon roads, visible in the standard 1.4 metre gauge wheel-ruts cut into rocky terrain, ran from Pheneos' territory north to the ports of Pellene and Aigeira on the Corinthian gulf, and south, via the gorge by the modern village of Mati, to Orchomenos and major routes of the southern Peloponnese (Map 6). This major north–south axis was joined, near the urban centre of Pheneos itself, by the major east–west route of northern Arkadia, linking Pheneos directly to Kleitor and Lousoi in the west and, to the east, Stymphalos and Phleious and routes to Argos and Corinth beyond.[56] The position of Pheneos, at the intersection of important routes through which a significant amount of traffic in northern Arkadia is likely to have been funnelled, seems to have conferred an otherwise unexpected importance on this community as a place where interactions with (and presumably

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[54] A rough and ready illustration of Pheneos' obscurity is its absence from the index of Shipley, *Early Hellenistic Peloponnese*.

[55] Klaus Tausend, 'Die Verkehrswege Nordostarkadiens und ihre historische Bedeutung', in Tausend (ed.), *Pheneos und Lousoi: Untersuchungen zu Geschichte und Topographie Nordostarkadiens* (Grazer Alterumskundliche Studien 5, 1999); Klaus Tausend, 'Das Wege- und Verteidigungssystem von Pheneos', in Veronika Mitsopoulos-Leon, Christa Schauer and Walter Gauss (eds.), *Forschungen in der Peloponnes: Akten des Symposions anlässlich der Feier '100 Jahre Österreichisches Archäologisches Institut Athen', Athen 5.3.–7.3.1998* (Athens, 2001); Anton Bonnier, 'Harbours and Hinterland Networks by the Corinthian Gulf, from the Archaic to the Early Hellenistic Period', in Kerstin Höghammar, Brita Alroth and Adam Lindhagen (eds.), *Ancient Ports: The Geography of Connections* (Boreas 34, Uppsala, 2016).

[56] Bonnier, 'Harbours and Hinterland Networks by the Corinthian Gulf', 74–8.
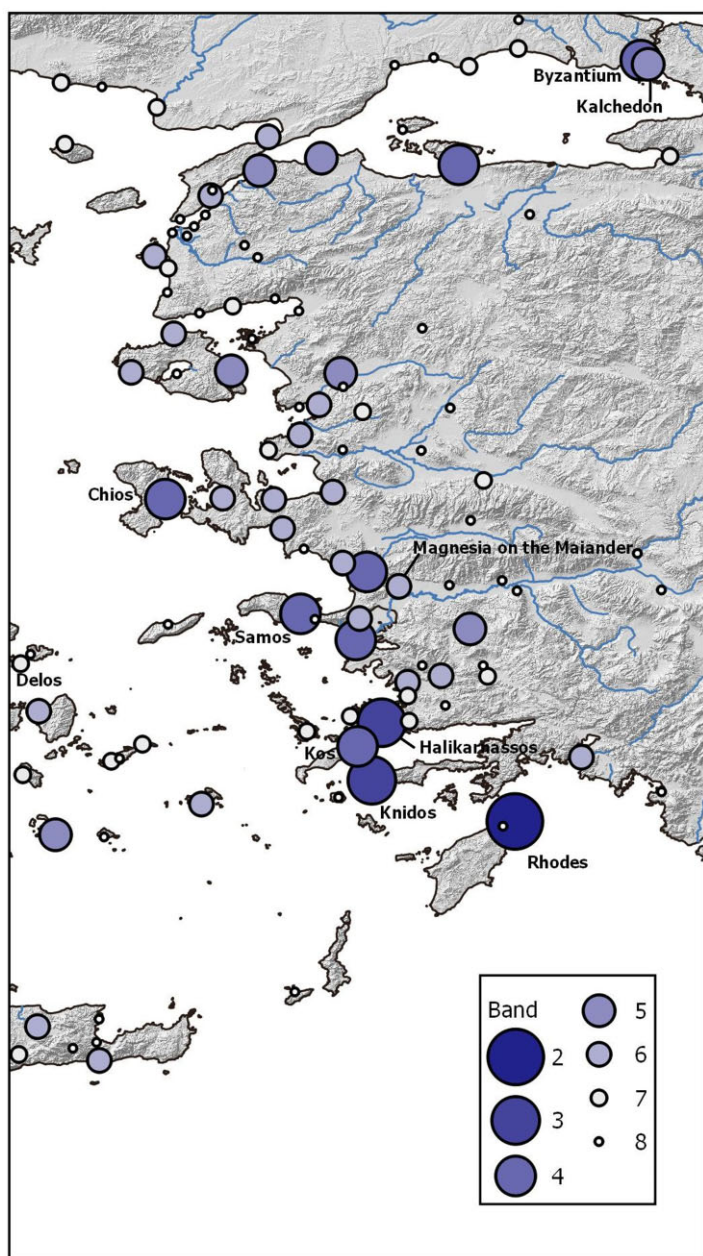
MAP 4
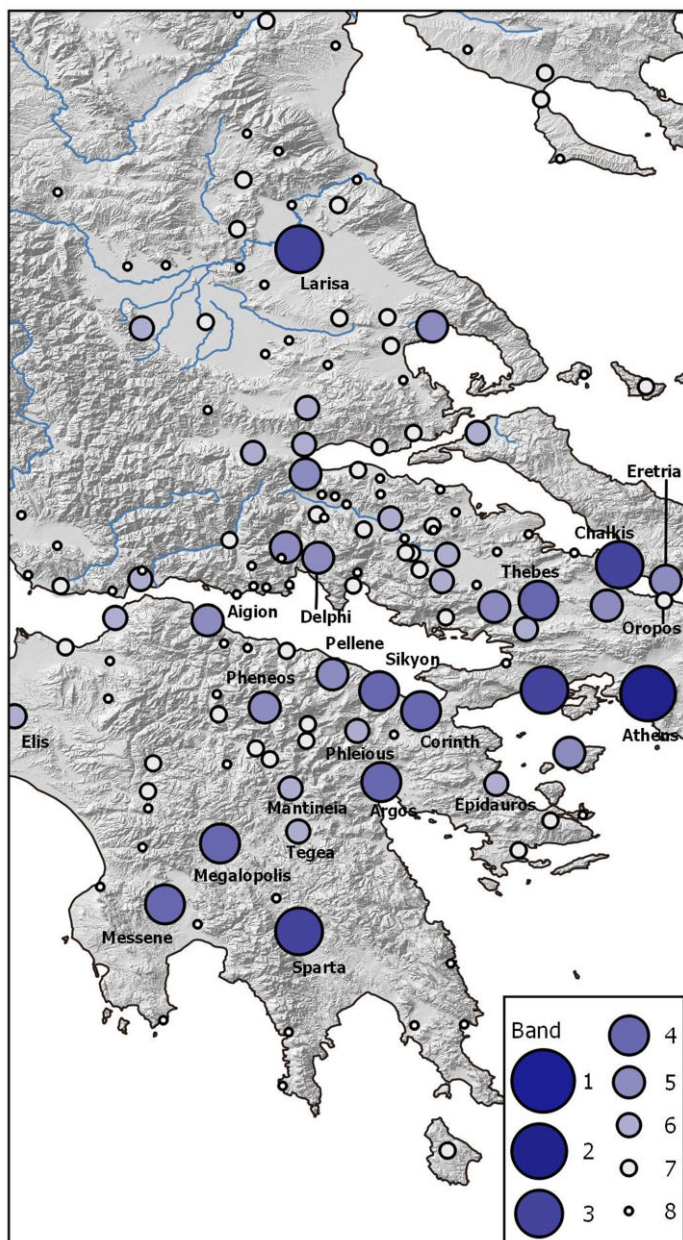CONNECTIVITY HIERARCHY OF CITIES IN ASIA MINOR

between) the citizens of other states occurred, facilitated by the services of *proxenoi* there.

Chalkis, the *polis* with the fourth highest connectivity ranking (band 3, 50 grants from 17 communities; Map 5), provides an even more striking example of this phenomenon. Far from being a leading power, like *poleis* immediately above and below it in the hierarchy, for most of the Hellenistic period Chalkis was subject to a Macedonian garrison, as one of the four 'fetters of Greece',[57] and the Chalkidians seem to have been obliged to follow the lead of the Macedonian king in even their more symbolic interactions with other *poleis*.[58] The prominence of Chalkis appears all the more anomalous if we examine its local context within the proxeny dataset. Chalkis completely overshadows other political communities on Euboea, notably Eretria (band 5, 13 grants from 7 communities) and Karystos (band 5, 18 grants from 10 communities), but these *poleis* apparently possessed equal or greater economic resources in the fifth century BC, if we can judge from their tribute payments to the Athenians.[59] The only thing that explains the remarkable prominence of Chalkis is its location on the straits of Euripus. These straits were both a choke-point for maritime traffic on the main north–south sea route in the western Aegean and a key point of entry to Boiotia from the Aegean, especially after

[57] Fetters of Greece: Polybius, *Histories*, 38.3.3. In the early third century, Herakleides Kritikos (in *Brill's New Jacoby*, FGrH 369A Fr.1.30), could already refer to them as 'enslaved for a long period', since at least 334 BC (Arrian, *Anabasis*, 2.2.4). *Inscriptiones Graecae*, VII 2724b, provides evidence that this control was not unbroken and the Chalkidians were able, at least briefly, to join the Boiotian League. On the chronology, see Denis Knoepfler, 'Chronologie delphique et histoire eubéenne: retour sur quelques points controversés', *Topoi*, viii (1998).

[58] 'The generals made the proposal: since King Philip wrote to the council and people about the Magnesians on the Meander and requested on the basis that the Magnesians are kinsmen of the Macedonians that the contest which they have established for Artemis Leukophryne be accepted as crown-bearing, [the generals proposed] that we therefore obey the king' (Rigsby, *Asylia*, no. 97, ll. 2–5).

[59] In the tribute assessment of 425/4 BC — Robin Osborne and P. J. Rhodes, *Greek Historical Inscriptions, 478–404 BC* (Oxford, 2017), no. 153, ll. 67–71 with trans. — the Chalkidians were assessed at 10 talents, the Eretrians at 15 talents, and the Karystians at 5 talents. Just a few years before, the Chalkidians and Eretrians consistently paid 3 talents (for example, *Inscriptiones Graecae*, I³ 281, col. II, ll. 47 and 51) whereas the Karystians are typically attested paying 5 talents (for example, *Inscriptiones Graecae*, I³ 265, col. II, l. 56). Comparisons are complicated by the presence of Athenian Cleruchies on Euboea, but see Thomas Figueira, *Athens and Aigina in the Age of Imperial Colonization* (Baltimore, 1991), 256–60, arguing against the suggestion that these included Chalkis.

MAP 5
CONNECTIVITY HIERARCHY OF CITY-STATES IN THE PELOPONNESE
AND CENTRAL GREECE

the construction of a bridge to the mainland over the straits in 411 BC.[60]

The high connectivity of the Chalkidians was not, however, the result of control of movement through or over the straits, since this would have been exercised ultimately by the Macedonian garrison during the period in which most of these grants were made. Instead, it seems to reflect the importance of Chalkis as a site for interaction and transaction, the favourable geographic position of which was deliberately enhanced by a well-placed market next to the harbour.[61] Comparative analysis of the regional catchment of Chalkis — which is possible in this case because of the quantity of evidence — highlights the fact that its importance as a hub bridged the distinct interactional zones of Central Greece and the Aegean, unlike other major cities on Euboea.[62] It is possible that the wide range of different people funnelling through this port became in itself a reason for travelling to it, over and above the other attributes of this community, in a virtuous, reinforcing cycle of connectivity, of 'the rich getting richer'.

Part of the value of this dataset is that it has the potential to allow us to zoom in to explore the dynamics of different regions, and even further to examine the sometimes surprising positions that communities occupied within them. If, however, we look at the forest as a whole rather than the trees, wider dynamics become apparent, which have important implications for our understanding of the information that it can yield. In particular, most of the city-states that feature in this dataset, and most of the particularly well-connected hubs, are located around the Aegean or in Mainland Greece. This seems to reflect the effect of geographic distance on direct connectivity between communities: the vast majority of surviving grants of proxeny

[60] Diodorus Siculus, *Library of History*, 13.47.3–6.

[61] An early Hellenistic geographer, Herakleides Kritikos (*Brill's New Jacoby*, FGrH 369A), emphasizes the importance of the location of the marketplace 'with an unsurpassed situation for the needs of trade', Fr. 1.28. For the tidal currents of the Euripus, which could alternate as many as seven times a day, see Strabo, *Geography*, 9.2.8, and for Chalkis (and its relation to Boiotia) used as the archetype for a gateway to a region inland, Demosthenes, 23.182.

[62] Chalkis was the focus for 36 grants from 10 different communities in Central Greece (compare Eretria, with 11 grants from 4 communities, and Karystos, 10 grants from 5 communities) and 14 grants from 7 other communities beyond (compare Karystos, with 9 grants from 6 communities, and Eretria, 2 grants from 2 communities).
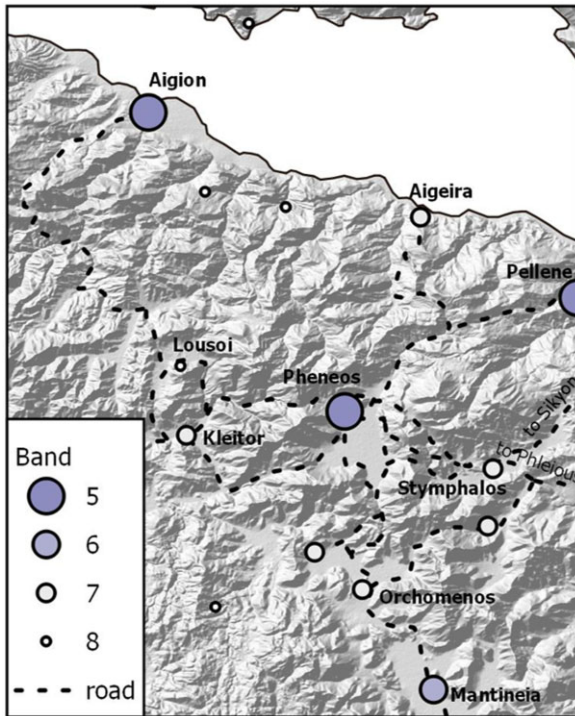
MAP 6
PHENEOS IN ITS NORTHERN ARKADIAN CONTEXT
Road reconstruction based on Pikoulas, 'The Road-Network of Arkadia', Tausend,
'Die Verkehrswege Nordostarkadiens' and Bonnier 'Harbours and
Hinterland Networks'.

come from this area (see Map 2) and were focused on establishing links within it (Map 3).[63] As we saw earlier, this is the likely explanation for the fact that most of the political communities with very large territories that are in the bottom band of this connectivity hierarchy occur in more distant regions, including the Black Sea and Sicily.

[63] For exploration of this tendency to amass proxeny links within a 'local region of primary interaction' from the perspective of particular communities, see Mack, *Proxeny and Polis*, 151–2, 174–80.

The infrequent survival of proxeny decrees for regions beyond this core area (Map 2), and their relative absence from Italy and Sicily in particular, could be seen as a significant limitation of the usefulness of this dataset, since it reflects differences in local traditions for recording honorific decrees (notably the use of bronze tablets in the west, which are less likely than stone inscriptions to survive) rather than the non-use of proxeny in this area.[64] However, while this bias limits the usefulness of the proxeny dataset for exploring the internal regional dynamics of the city-state network of Sicily and Italy, it highlights its potential importance for the recently reinvigorated question of the relation of the 'Greek East' to the 'Roman West' in the Hellenistic period.[65] Andrew Erskine has highlighted a tension in the eastern Greek perspective on the west, between the inclusion of cities in Italy and Sicily in Panhellenic religious and kinship networks and a sense of their remoteness in other sources. This was communicated by the Hellenistic historian, Polybius, in particular, through an emphasis on the geographic separation between east and west and also in the association of the west with barbarousness by a range of other authors.[66] To explain this sense of remoteness, Erskine points to the domination of Greco-Macedonian kings and consequent Greek cultural dominance in the east, in contrast with the Mediterranean west of the Ionian Sea where distinct ethnic groups (Romans and Carthaginians as well as Greeks) were in more equal competition.[67]

The proxeny dataset, by contrast, suggests a different kind of explanation from the east Mediterranean city-state-based perspective it offers, which glosses over the role of the Hellenistic kings and also effectively excludes the non-coastal communities that they controlled, including older non-Greek cities and new Greco-Macedonian foundations.[68] In this

[64] Jonathan R. W. Prag 'Epigraphy by Numbers: Latin and the Epigraphic Culture in Sicily', in Alison E. Cooley (ed.), *Becoming Roman, Writing Latin? Literacy and Epigraphy in the Roman West*, suppl. to *Journal of Roman Archaeology*, xlviii (2002), 24; Mack, *Proxeny and Polis*, 16–7.

[65] Prag and Quinn (eds.), *Hellenistic West*.

[66] Andrew Erskine, 'The View from the East', in Prag and Quinn (eds.), *Hellenistic West*, 24–9.

[67] *Ibid.*, 18.

[68] The isolated exception that proves the rule is *Inscriptiones Graecae*, XII 5 715, a Hellenistic proxeny decree from Andros for a Babylonian. For the suggestion that what we have here is a regional rather than *polis* ethnic, which

dataset the absence of proxeny grants instead suggests that the separation between east and west identified by Polybius was real in the sense that it corresponded to a relative dearth of direct interactions between the city-state network of the Greek Mainland and Aegean and the cities of Italy and Sicily. This arguably corresponds to the gulf that Braudel (echoing Polybius) argued later bisected the Mediterranean into two historical zones, and which he explained in terms of the navigational difficulties posed by the Ionian Sea.[69] Irrespective of whether Braudel's explanation holds, the proxeny dataset suggests that the ideas of remoteness and barbarousness Erskine identifies — which are one expression of shared Mainland/Aegean Greek mental maps — were rooted in collective experiences and perceptions of connectivity.

Perhaps the most obvious evidence of the disconnection between the Aegean city-state network and the western Mediterranean is the treatment of Carthage in the dataset. Given the central importance of Carthage within this interactional zone, especially before the conclusion of the Second Punic War (218–201 BC), and its status as the major economic power, we might have expected to find it particularly well represented, but in fact in our dataset there is only one grant of proxeny to a Carthaginian, made by the fourth-century Boiotian *koinon*.[70] Since other non-Greek cities, including the Phoenician cities of Sidon (band 5, 13 grants by 11 communities) and Tyre (band 7, 5 grants by 4 communities), and also, especially, Rome, are far better represented, this absence of grants cannot be explained in terms of cultural difference alone. Instead, despite evidence of Greek intellectual interest in Carthage and of the movement of Carthaginian intellectuals to Mainland Greece, Carthage is

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(*n. 68 cont.*)

suggests less interest in the individual's community of origin, see Getzel M. Cohen, *The Hellenistic Settlements in the East from Armenia and Mesopotamia to Bactria and India* (Berkeley, 2013), 378–82.

[69] Fernand Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II*, trans. Siân Reynolds, 2 vols. (New York, 1972), i, 103 and 133–5; for discussions of this gulf, see Erskine, 'View from the East' (on Polybius), and Purcell, 'On the Significance of East and West in Today's "Hellenistic" History', both in Prag and Quinn (eds.), *Hellenistic West*.

[70] *Inscriptiones Graecae*, VII 2407; for a discussion, with translation and bibliography, see Emily Mackil, *Creating a Common Polity: Religion, Economy, and Politics in the Making of the Greek Koinon* (Berkeley, 2013), 424–6.

presented as being particularly remote from mainstream eastern Mediterranean networks of interaction.[71]

This new evidence for the existence of a gulf invites us to re-evaluate the kinds of connections and nodes that apparently bridged it. The very remoteness of communities in Italy and Sicily may well be an important part of the reason for their inclusion in the itineraries of *theoroi* announcing the festivals of the Greek mainland (Delphi and Epidauros) and of delegations seeking the recognition of their sanctuaries from even further afield (Magnesia on the Maiander in Asia Minor), since these forms of religious networking were about asserting the importance and reach of the inscribing community. It is striking that only Syracuse and Rome were able, even partially, to transcend this gulf, presumably because of the exceptional concentrations of power and economic resources they amassed (in the former case, the considerable efforts that Syracusans actively put into building links with communities in the east may also be relevant).[72]

If proxeny decrees had continued to be inscribed in substantial quantities after 100 BC, one might have expected to see more evidence of Polybius' *symploke* — the weaving together of the historical zones of the eastern and western Mediterranean along with the extension of Roman domination — in the connectivity of western political communities other than Rome. But, in fact, this is a false proposition. As I have argued elsewhere, the cessation of proxeny inscription in this period, like the connected but distinct phenomenon of the decline of proxeny as a functional institution, was the product of the transformation of interstate society with the establishment of Roman imperial rule.[73] The logic of interstate connections and its basis in citizen identities was fundamentally altered, with the result that proxeny progressively ceased to be a meaningful way of articulating links.

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[71] For Greek interest in Carthaginian political organization, see Aristotle, *Politics*, 2.1272[b]24–73[b]26, and Polybius, 6.51–6; for a Carthaginian head of Plato's Academy (Hasdrubal, under the name Clitomachus), see Cicero, *Tusculan Disputations*, 3.54 and Diogenes Laertius, 4.67. Carthage was, however, integrated into North African networks, see Andrew Wilson, 'Trading across the Syrtes: Euesperides and the Punic World', in Prag and Quinn (eds.), *Hellenistic West*.

[72] Erskine, 'View from the East', 23–4.

[73] Mack, *Proxeny and Polis*, 234–54, 270–81.

Consequently it ceases, for our purposes, to be a meaningful way of examining connectivity.

Conversely, prior to *c*.100 BC we can use the proxeny grants to address the central question of how the structure of the network changed over time. Mapping the material by period, Classical (Map 7a; 500–300 BC), Early Hellenistic (Map 7b; 300–200 BC) and Late Hellenistic (Map 7c; 200–100 BC), with changing scales to reflect the differences in the total amount of material preserved for each, makes certain long-term changes apparent. Particularly clear is a long-term shift, within Egypt, from Naukratis as the focus for connections, to Alexandria (for labels, see Map 3). More surprising, perhaps, is the way in which Byzantium loses its prominence in the Later Hellenistic, after being a particularly central node in the two preceding periods (for label, see Map 4). Some care in interpreting the results is required, however, and reference back to the underlying material. The appearance, in Map 7c, of many more communities in inland Asia Minor, despite a substantial decrease in the number of communities represented in total, suggests a fairly major shift in the way in which non-coastal communities in this region were integrated into the wider network. This picture would fit in well with our wider understanding of the development of urbanization during this period, but the evidence underpinning this picture is weaker than it initially seems, as most (though not all) of the grants in question are preserved in a single list of proxeny grants from Chios.[74]

Nonetheless, the fundamental point that this comparison of granting in different periods makes is of the remarkable continuity and stability of the underlying network. This is visible not just in the central focus in the Aegean, which is maintained throughout, but also in clear and consistent links made to particular regions, and even particular communities (for example, Sidon, in the Levant). In contrast with the emphasis in scholarship on the expansion of the Greek world in the Hellenistic period, the horizons of the city-state network visible in this dataset remained fundamentally unaltered, beyond a possible, eventual and marginal expansion into inland Asia Minor, a shift of emphasis from the old Greek entrepôt of Egypt

[74] Mack, *Proxeny and Polis*, 303–4.

to the new (Alexandria), and the remarkable rise of Rome (possibly accompanied by a larger representation of Italian communities, if, arguably, less interest in Sicily).
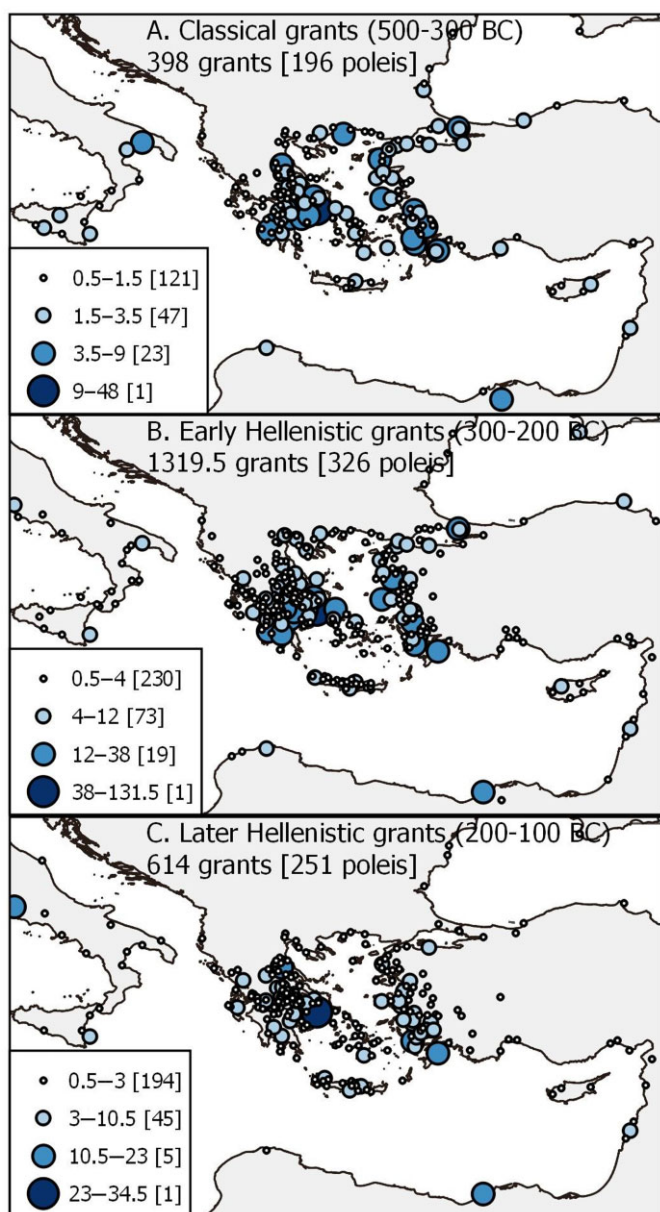
IV
CONCLUSIONS

The prevailing models for understanding the network of Greek city-states are based on analysis of civic discourse. A series of rich documents from Turkey have been paradigmatic: a decree of Xanthos in Lycia, responding to a request of Kytinion, an otherwise little-known community in central Greece (band 8 in the proxeny dataset), for monetary aid, which acknowledges their claim of shared kinship with warm words and a symbolic financial gesture;[75] an honorific decree that documents how the citizens of Lampsakos sent an embassy to Rome on a roundabout route via Marseille, to seek Massiliote support at Rome on the basis of a kinship link they claimed;[76] an extraordinary dossier of more than sixty texts inscribed at Magnesia on the Maiander, representing positive replies from up to two hundred communities from Sicily to Iran in response to the Magnesians' request for formal recognition of their festival.[77] These documents attest to a remarkable degree of cultural homogeneity, a strong common interest in asserting connections on the basis of reciprocal recognition of status, as well as shared values that are referenced using very similar language and a common system of political and interstate institutions. The most vivid illustration of this homogeneity is a decree from the city of Antioch in Persis (located on or near the Persian Gulf), which is the longest of the responses included in the Magnesia on the Maiander dossier and speaks in lengthy and impeccably Greek terms of their shared heritage and kinship with the Magnesians.[78] Texts like these present a very particular view of links between communities, which has been made central to our understanding of communities' mental maps

[75] *Supplementum Epigraphicum Graecum*, xxxviii (Amsterdam, 1988), no. 1476; translation in Ma, 'Peer Polity Interaction in the Hellenistic Age', 10–12.

[76] *Die Inschriften von Lampsakos*, ed. Peter Frisch (Inschriften griechischer Städte aus Kleinasien 6, Bonn, 1978), no. 4; translation in M. M. Austin, *The Hellenistic World from Alexander to the Roman Conquest* (Cambridge, 2006), no. 197.

[77] Rigsby, *Asylia*, nos. 66–131.

[78] Rigsby, *Asylia*, no. 111; translation in Austin, *Hellenistic World from Alexander to the Roman Conquest*, no. 190.

A. Classical grants (500-300 BC)
398 grants [196 poleis]

- 0.5–1.5 [121]
- 1.5–3.5 [47]
- 3.5–9 [23]
- 9–48 [1]

B. Early Hellenistic grants (300-200 BC)
1319.5 grants [326 poleis]

- 0.5–4 [230]
- 4–12 [73]
- 12–38 [19]
- 38–131.5 [1]

C. Later Hellenistic grants (200-100 BC)
614 grants [251 poleis]

- 0.5–3 [194]
- 3–10.5 [45]
- 10.5–23 [5]
- 23–34.5 [1]

MAP 7a–c
COMPARISON OF GRANTS TO *POLEIS* IN DIFFERENT PERIODS
Note: Changing scales reflect the variation in material preserved for each period.
Numbers in square brackets denote the number of *poleis* in each of the categories.

and connectivity. Specifically, they foreground the role of religious contexts and spaces in promoting interaction and the use of concepts of kinship to collapse geographic distances between communities.[79]

The picture that emerges from quantitative analysis of the proxeny decrees is substantially different and, because it reflects a wider range of perspectives and relates more closely to repeated patterns of interaction, it is likely to be more helpful in exploring how connectivity within the network was understood in practice. The wide range of states responsible for inscribing these decrees corresponds neatly with the peer polity model of equipollent actors, with each possessing similar institutional capacity to engage with each other. However, the result of this activity is a hugely unequal hierarchy in which Athens — and even the hundred or so *poleis* to receive six grants or more — occupy a qualitatively different position within the network to the 169 states receiving only a single grant and up to five hundred *poleis* with none at all. Moreover, detailed examination of this connectivity hierarchy suggests that religious contexts for interaction were less important than we might expect from their massive visibility in the record. As a consequence, we should also be wary of assuming that there is a very close connection between religious links we can trace and economic activity that is much less visible.[80]

Among the factors that shape connectivity, particular importance seems to be attached to patterns of regular mobility and the difficulties of travel, which made particular places and regions remote. And the rather narrower (but not narrow) *polis* horizons suggested by this material place some of the more spectacular assertions of long-distance connection in a different light, as reflecting a desire to draw and monumentalize religious connections or kinship ties in response to a lack of connectedness. Regardless of whatever links and shared cultural forms a distant, royal foundation like Antioch in Persis might

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[79] On these texts and the wider phenomenon of kinship between states, see Olivier Curty, *Les Parentés légendaires entre cités grecques* (Geneva, 1995); Christopher P. Jones, *Kinship Diplomacy in the Ancient World* (Cambridge, MA, 1999).

[80] For a recent, more nuanced attempt to use economic connectivity as a model for thinking about religious links, see Barbara Kowalzig, 'Cults, Cabotage, and Connectivity', in Justin Leidwanger and Carl Knappett (eds.), *Maritime Networks in the Ancient Mediterranean World* (Cambridge, 2018).

have been able to claim with the established Greek *poleis* of the Aegean, the absence of such communities from the proxeny dataset suggests that, in practice, they were disconnected from and largely irrelevant to the network of Greek states. From the point of view of the Hellenistic kings, who founded these communities, this lack of network connectivity would probably have been no bad thing, since effective and regular participation in this network would also have meant these communities engaging in a discourse predicated on communal autonomy.[81] Conversely, the interest of the Xanthians in responding to the appeal of the distant Kytenians, albeit symbolically, and monumentalizing their response, may make particular sense given their apparent marginality within the *polis* network, illustrated by the absence of proxeny grants to Xanthians in this dataset.

But the proxeny dataset also corroborates one important element of John Ma's model of the Greek state network, the long-term stability of institutional forms of interaction and mental maps. It suggests that patterns of interaction were also relatively stable, though not entirely unchanging, until the late Hellenistic period (Maps 7a–c). Consequently, this stability needs to be seen not as an ahistorical artefact of the application of peer polity interaction theory to institutions, but as a historical phenomenon in its own right, perhaps a response to the massive systemic changes that the wider Greek world underwent.

Finally, locating the *proxenoi* in this way makes an important contribution to one other problem, that of mapping the political geography of the Greek world. The sheer number of political communities involved and their constantly shifting histories of alliance, dependence, and hostility, have rendered conventional mapping of political geography — rather than settlement — all but impossible. As a consequence, attempts to understand the plurality and diversity of *poleis* have focused on typology,[82] description[83] and quantification from secondary datasets (which

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[81] John Ma, *Antiochos III and the Cities of Western Asia Minor*, 2nd edn (Oxford, 2002), 160–8; Mack, *Proxeny and Polis*, 190–5, 213–24.

[82] Hans-Joachim Gehrke, *Jenseits von Athen und Sparta: das dritte Griechenland und seine Staatenwelt* (Munich, 1986).

[83] Hansen and Nielsen (eds.), *Inventory of Archaic and Classical Poleis*. For the Copenhagen Polis Centre's (sadly abandoned) project of mapping the Greek *poleis*, see Mogens Herman Hansen, 'Poleis and City-States, 600–323 BC: A

are more likely to be substantially complete).[84] The proxeny dataset, exceptionally, provides us with a new kind of lens through which we can view a differentiated political landscape of Greek *poleis*, a landscape which is complete in the sense that even the absence of an otherwise known community can be used to characterize it. Mapped in this way, we can distinguish not only cities great and small, to use the ancient Greek cliché, but shades of greatness and smallness. And, by using this as a framework for reading other, more partial sets of material, we can also explore the long-term reasons why.

What has enabled this kind of coherent panorama to be extracted is a close dialogue between Social Network Analysis and the particularities of this distributed body of historical material — the proxeny grants. Such a dialogue does not allow us to treat the surviving sample as complete, but to identify in broad outline a very marked underlying structure that has been preserved in spite of its incompleteness. The strength of Social Network Analysis is that the resulting view of the network reflects not the acquisitive assessment of a single imperialistic power, or the efforts of actors to represent themselves in particular ways, but the many discrete judgements made by a diverse range of actors within the wider network on each other. And it is the particularity of the institutional relationship in question — proxeny — which means these judgements were also ultimately linked to movements between communities, to people voting with their feet and engaging in a broad range of interactions. As a consequence we can glimpse the results of these different patterns of mobility — from the anonymous journeys of private individuals to more marked inter-*polis* delegations — which collectively defined and effectively delimited 'the spring of the Hellenistic *poleis*'.[85]

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(n. 83 cont.)
Comprehensive Research Programme', in Hansen (ed.), *The Ancient Greek City-State* (Copenhagen, 1993), 15.
     [84] Josiah Ober, *The Rise and Fall of Classical Greece* (Princeton, 2015), esp. 21–44. For the underlying data, see <http://polis.stanford.edu/> (accessed 26 Jan. 2021).
     [85] Ma, 'Peer Polity Interaction in the Hellenistic Age', 33.

ABSTRACT

The aim of this article is to establish a new basis for exploring
the network of ancient Greek city-states during the Classical and
Hellenistic periods by applying Social Network Analysis to the
record of inscriptions recording grants of proxeny. Proxeny was a
generalized institution for facilitating interactions between Greek
political communities. Because it left a rich and idiosyncratic
record in the form of thousands of honorific inscriptions, it
represents an important test case for Social Network Analysis.
By drawing on work on partial samples of network data, we can
identify a clear and historically significant structure in this
material, namely a massively unequal hierarchy in the extent to
which different communities were the focus of links. This allows
us to compare, systematically, the hundreds of Greek city-states
in terms of their connectivity in the network. As a result it
provides a new empirical basis for testing prevailing models and
assumptions about why these communities forged links and
mapping the limits of the network. By reading this hierarchy
alongside the other information we have, we can identify the role
that political, economic and geographic factors played in
determining connectivity in this network, and the surprising
unimportance of religion.