

‘Greek colonisation’ and Mediterranean networks: patterns of mobility and interaction at Pithekoussai

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Colonisation, migration and diaspora: framing Greek mobility in the early Iron Age Mediterranean¹

Pithekoussai, present-day Ischia, a small island in the Bay of Naples had completely escaped the attention of Antiquarians and government functionaries—some more, some less diligently excavating the many rich archaeological sites around Naples and the Vesuvius since the 17th century—until native resident and archaeologist Giorgio Buchner uncovered the first tombs, shortly after WW II, and with it, opened a previously neglected chapter in Greek history, that of ‘Euboean colonisation’.² Since the discovery of Pithekoussai, scholarly attention for Greek, especially Euboean ‘colonisation’ has skyrocketed, and the Euboeans have been hailed as the first Greek prospectors, pioneers, the openers of the Mediterranean after the Dark Ages and the creators of the pivotal Greek institution of overseas colonisation—an institution which would transform the Greek world thoroughly.³ The increased attention for the Euboean colonisation movement helped define Greek colonial studies as a separate subject of study, after pioneering work by scholars such as that of Jean Bérard and Tom Dunbabin, who collected literary evidence and confronted it with the, at that time, scarcely known archaeological remains.⁴ Pithekoussai, however, has uninterruptedly been at the heart of studies and debates on ancient Greek ‘colonisation’.

Reservations regarding the existence of an ancient Greek ‘colonisation’—in the modern sense of the world—were formulated as soon as the subject surfaced as a more popular scholarly topic. Early critiques were, most notably, expressed by Moses Finley. But it was only from the late 1990s onwards that more substantial criticisms started following one another rapidly.⁵ Together with an increased interest in new conceptualisations of Mediterranean mobility and interaction, connectivities and networks, the nature of Greek ‘colonisation’ continued to be revised.⁶ The recent ‘colonisation’ debate has produced many interesting contributions and led to the questioning of ontologies and heuristics of Classical archaeological and more general scholarly concepts and approaches to ancient mobility and intercultural interaction. A number of scholars actively seek to restore or save ‘colonisation’ and its ‘traditionalist’ approaches, in the face of those who reject the heuristic value of the term completely, and prefer to use terms such as migration, diaspora or mobility instead.⁷ Despite many differences still remaining between various ‘schools’, it is clear, perhaps surprisingly, that there are

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² Main publications of the necropolis: Ridgway 1992; Buchner and Ridgway (eds) 1993; Nizzo 2007. References to the ‘chronicle’ of the discoveries can be found throughout these volumes.

³ *Contribution* 1975; *Gli Eubei* 1978; Lenger 1981; Bats and d’Agostino 1998. See Papadopoulos 1997 for an extensive critique.

⁴ Bérard 1941; Dunbabin 1948. See on Dunbabin: de Angelis 1998; Shepherd 2005.

⁵ Finley 1976; Papadopoulos 1997; Osborne 1998; Yntema 2000; also in Papadoulos 2011; Osborne 2008, 2016; Yntema 2011, 2016.

⁶ Horden and Purcell 2000; Malkin 2005; recently Broodbank 2013.

⁷ Most notably various contributions in Tsatsikladi 2006; Greco 2006; Tsatsikladi and Hargrave 2011; Lombardo and Frisone 2009, *Alle origine* 2012, the discussion section in *Ancient West & East* 10, Donnellan *et al.* 2016a and 2016b.

also shared concerns, such as a general recognition of the role of native populations, the awareness of the need to contextualise both the phenomena studied and the scholarly concepts and methods to approach them. Moreover, it is commonly recognised now that diversity, rather than convergence, reigned over processes of ancient mobility and settlement, and it seems to all that the most fertile approaches might be the ones that combine a broader and interdisciplinary framework.⁸

At the heart of the Greek colonisation debate lies the acute question as to what the foundations, called *apoikiai* by the ancient Greek writers, ‘colonies’ by the Latin authors, actually were.⁹ Scholars such as Irad Malkin have attempted to define a process of Greek colonisation, based mainly on textual references.¹⁰ Founders, called *oikistes*, were either appointed in the mother city, usually in response to a crisis of some sort (famine or political strife or personal crisis resulting in voluntarily exile).¹¹ Founders of overseas settlements are mentioned as early as Homer, and it is thought that the reference expresses actual contemporary Greek concerns regarding the relocating of settlements.¹² The accompanying settlers were chosen, either by lot from the city’s population, or were invited by the founder from elsewhere, if insufficient numbers could be drawn from the homeland. Herodotos and Thucydides were the first to narrate substantially on foundations and settlers. Importantly, as Herodotos stresses, the founder had to go to Delphi, to seek divine sanction—Apollo’s approval was deemed obligatory for all colonial expeditions. The Spartan Dorieus failed to comply with this custom, and paid for his mistake with his life.¹³ Often, as numerous foundation myths expound, the oracle provided the expedition with a clue, such as a distinct landmark, of where a prosperous settlement could be founded.

The figure of the founder played a fundamental role in the establishment of the settlement. According to the image drawn from the ancient texts, the *oikistes* assumed the duty of town planner, main priest and political leader—duties and honours for which he received a cult after his death. Founders’ cults are attested archaeologically, though not in every settlement. Through the founder, the relation with the homeland was assured, and the founder remained at the heart of a foundation’s identity throughout its existence.¹⁴

To a vast group of scholars, this type of traditional historical foundational narrative still constitutes the basic framework for studying Greek overseas settlement. The focus of research thus lies on the distillation of a true version among often various, even rival narratives, in an attempt to construct a coherent historical sequence of facts. However, as Naoise MacSweeney recently pointed out, foundation myths were a discourse, played out in different media, with stories sometimes reinforcing each other, sometimes contradicting each other.¹⁵ More recent nuanced comprehensions of ancient foundation myths, however, continue to contribute to our understanding of the construction of ancient notions of home and motherland.¹⁶

More critical readings of ancient Greek colonisation have elicited the introduction of alternative terms for ‘colonisation’, such as ‘migration’, ‘diaspora’ or more neutrally, ‘mobility’.¹⁷ The use of an alternative concept entails in some cases new epistemological questions, but in other cases, the replacement remains within the existing heuristic framework of colonisation.¹⁸ Regrettably, simply substituting one term through another one, merely because it seems more fashionable, without

⁸ Donnellan and Nizzo 2016; de Angelis 2016.

⁹ Donnellan and Nizzo 2016.

¹⁰ E.g. Malkin 1987, 2009.

¹¹ On common foundation themes: Dougherty 1993a, 1993b. For a deconstruction of Greek foundation myths see: Hall 2006.

¹² Malkin 1998; Osborne 1998.

¹³ Hdt. *Hist.* 5.42–48.

¹⁴ On colonial identities: Calame 2003; Giangiulio 2001, 2010.

¹⁵ MacSweeney 2014. See also Dougherty 1994 on the occasions for the performance of foundation myths.

¹⁶ E.g. Malkin 2016.

¹⁷ E.g. Garland 2014; Martinez-Sève 2012; van Dommelen 2012; Osborne 2016.

¹⁸ E.g. rather uncritical treatment of overseas settlement in Garland 2014.

questioning the underlying heuristic values, adds very little to the study of the actual process of mobility and interaction, that scholars came to address as 'colonisation'.

The adoption of alternative concepts such as 'diaspora' or 'migration' have indeed accomplished a broadening of the study of ancient human mobility. Several presuppositions underlying the process, however, still go largely unchallenged. The intrinsic idea of Greek 'colonisation' as a movement in which groups of *Greeks founded new settlements* has hardly ever been questioned.¹⁹ Greeks are still and invariably seen as the instigators of settlement in Southern Italy, Sicily and elsewhere. The traditional scholarly approaches to Greek colonisation-as-foundation, to use Peter van Dommelen's term,²⁰ are insufficient when it comes to grappling with processes of Mediterranean mobility, interaction and the subsequent social and cultural transformations that were caused by it. A focus on these patterns of human mobility, intercultural interaction and political formation processes is necessary if we are in turn to grasp the process that Cyprian Broodbank has aptly called 'the making of the Middle Sea', in all its detail.²¹

Disentangling processes of mobility and interaction

The focus of attention of several scholars interested in Greek (and other ancient) colonisations has shifted, since a number of years, to interaction between different cultural groups. Drawing on postcolonial thinking, archaeologists have successfully moved away from the racist, imperialist and one-dimensional notions of Greek colonisers conquering and civilising native wild tribes.²² The concept of 'hybridity' has hereby often been used as a postcolonial interpretative framework for the description of the dynamic intercultural interactions and exchanges between colonisers and colonised.

Notions of 'colonisers' versus 'colonised', however, even in a revised cultural interactionist scheme, also are at risk of being used as essential categories: colonial identities and relations of economic, social and political inequality between colonists and colonised, between suppressors and suppressed are being produced and reproduced in continuing encounter and interaction. They are not pre-existing categories. Allowing for native agency in the reconstruction of intercultural interaction and exchange is not enough. The production of these differences must be studied as well. Disparate relations and identities arise often along ethnic lines of 'new' and 'old' groups, but the interaction, sometimes, can also transform existing local categories and relations, and amplify them towards a gross exaggeration of previous local dissimilarities.²³

Pithekoussai is a case in point. Supposedly founded around 775/770 BC by Euboeans (the founders being mentioned by Strabo and Livius)²⁴ on a previously uninhabited island, the tombs have yielded large quantities, not of Euboean Geometric pottery as one would expect of a Euboean foundation (Euboean pottery is present but is most certainly not dominant), but proto-Corinthian, and in addition many other productions from elsewhere in the Mediterranean (from the Levant, Rhodes, Phoenician 'colonies', the indigenous world, ...).²⁵ Metalwork (fibulae, jewelry) is virtually exclusively inspired by indigenous forms—if not actual imports from the mainland.²⁶

¹⁹ Some notable exceptions are Osborne 1998; Yntema 2000, 2011.

²⁰ van Dommelen 2012: 399.

²¹ Broodbank 2013.

²² E.g. van Dommelen 1997, 2011, 2012, 2014; Antonaccio 2005, 2013; Malkin 2004; Burgers and Crielaard 2011, 2016.

²³ E.g. the well-studied modern construction of opposite Hutu and Tutsi identities in modern Rwanda. Differences were initially very loosely defined, but next exploited by the Belgian colonial administration, eventually resulting in strictly defined groups and attempts to achieve ethnic purity through genocide. See Vantemsche 2007, esp. 129 (with literature).

²⁴ Strab. 5, 4, 9, Liv. 8, 22, 6.

²⁵ Papadopoulos 1997 and Nizzo 2007 produce useful quantifications of painted pottery categories.

²⁶ Guzzo 2004; Macnamara 2006; Lo Schiavo 2006.

Since the early days of the discovery of the necropolis, the excavators and other scholars have stressed that Pithekoussai was a mixed society of Greeks, natives, and Phoenicians²⁷ The characterisation of the relations between these different ethnic/cultural groups is, however, significantly and almost invariably predetermined by the colonisation perspective: Greeks are pictured as founders, colonists and initiative-takers, Phoenicians as *epoikoi*, or diasporic residents and traders.²⁸ The natives are considered as marginal, either as slaves and/or as spouses, but always implying a subordinate position to Greek colonists.²⁹ The intermarriage hypothesis is considered by most scholars as sufficient to explain the presence of indigenous material at Pithekoussai.³⁰ Only recently, in a paper by Olivia Kelley, was this position rejected.³¹ She suggested that also male tombs could be related to the native world. The connection she saw was not one of marginality, but a materialisation of elite display, through the use of artefacts in a similar way as in Southern Etruria. Kelley is one of the very few scholars who stress the active involvement of the indigenous population in the creation of material culture on the island.

Otherwise, the mixed, hybrid, Pithekoussan population, remains, for most scholars, difficult to capture. Scholars recognised early on, that the first Greek foundations, such as Pithekoussai, were initiated at a time—as was thus conceptualised—that the Greek world had not yet politically matured, i.e. was not yet formed as the archetypical world of the polis.³² This has led to the widely-shared opinion that Pithekoussai was ‘*un apoikia particolare*’, a ‘special’ foundation.³³ Because of the political embryonal stage, natives could have been part of the local society, as wives of the Greek colonists, or as slaves, and thus an atypical Greek pre-polis colony would have been produced.

Pithekoussai is certainly special for many reasons: the large number of tombs excavated, the excellent publication of many of them, the immense variety of objects coming from the Mediterranean. But Pithekoussai was *not* a special Greek foundation. The Pithekoussan case demonstrates the limited reach of past approaches, and brings to the fore the pressing need for renewed critical scrutiny of the evidence. A new approach needs to take into account processes of mobility and settlement, exchange and interaction, without using predetermined labels of ‘Greeks’, ‘natives’, ‘colonists’, ‘colonised’, ‘slaves’ etc. It needs to look at how cultural interaction and human mobility developed through time, produced social and cultural/ethnic inequalities and led to the cultural reality we know. Fundamental hereby would be to focus on the materiality of interaction.³⁴

Since two decades, classical (and other) archaeologists have increasingly become aware that ‘pots do not equal people’ and that material cultures cannot be equated with monolithic, uniform and harmoniously organised groups.³⁵ The focus of these identity studies long lay in disentangling the construction of ethnic, cultural, religious, regional, gender and other identities, but attention is now increasingly shifting towards the material form of expressions. How the interactions, from which these identities rose, were materialised and what effect intercultural contact and exchange had on the materialities of expression are becoming increasingly compelling questions.³⁶

Changing perceptions on connectivity have greatly contributed to reformulating ancient mobilities and interactions. Even though concepts, terminology and theoretical concerns differ, archaeologists are coming to realise that a combined study of local phenomena in terms of consumption/appropriation/

²⁷ E.g. Buchner 1975; Ridgway 1992, 2000a, 2000b; Guzzo 2011, esp. 73–74; d’Agostino 1999, 2009; Nizzo 2007; Nizzo & ten Kortenaar 2010.

²⁸ As stressed by Papadopoulos 1997.

²⁹ But read the very sensible critical remarks to the intermarriage hypothesis in Saltini Semerari 2016.

³⁰ Coldstream 1993; Shepherd 1999.

³¹ Kelley 2012.

³² d’Agostino and Ridgway (eds) 1994.

³³ d’Agostino 1994. See also Greco 1994.

³⁴ van Dommelen & Knapp 2010.

³⁵ Contributors (among many others): Jones 1997; Hall 1997, 2002, 2016; Malkin 2001; Lomas & Shefton 2004.

³⁶ van Dommelen & Knapp 2010.

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use of 'things'/etc. within their broader context of globalisation, migration, diaspora or networks is actually very productive.³⁷ Such a framework helps to overcome the limits of approaches that focus exclusively on the negotiation of identities on the one hand, or patterns and processes of the exchange of objects on the other. As de Angelis convincingly points out '*such an approach not only underlines how regionalism and globalism are closely linked, but it also takes more account of local conditions and their relationship to regional and global dynamics*'.³⁸ Comparable concerns have been expressed in recent work by Tamar Hodos. She has focused on localised responses to globalisation, with the understanding that globalisation, unlike previous meta-narratives, '*does not suggest a unified world society or culture, but rather comprises sets of practices or bodies of knowledge that transgress cultural or national ideas and are shared between those interacting at the global level*'.³⁹ Miguel Versluys sees a conceptual understanding which focuses on things in motion, or the materiality of interaction and a parallel analysis of broader, global trends as the productive archaeological response to the study of Roman colonisation, imperialism and its cultural responses.⁴⁰ The concept of connectivity provides Versluys with the alternative to (post)colonial constructs, which, as he rightfully stresses, do not really allow a deconstruction of the Roman versus Natives narrative (whether in an 19th century imperialist and pro-Roman view or in a postcolonial pro-Native resistance perspective). Object diasporas make up the Roman world, and within this framework of connectivity, the negotiation of power, identities and interaction, conducted with objects, should be studied.

Interaction and networks: modes of analysis

Recognising the major concerns and common denominators of all these recent contributions, the approach adopted in the present paper draws on a quantitative, formal network analysis, to enable the study of many contexts containing—together—some thousands of objects. This quantitative analysis is informed by a broader methodological and interpretative framework, that draws on the complementarity of different time scales in the study of the human past. This explicit simultaneous analysis, at different time scales, is most closely related to an *Annales*-School approach.

Interest in Fernand Braudel, and with it, the *Annales* School, has received an enormous boost with the work of Horden and Purcell, and more recently, of Cyprian Broodbank. But *Annales*-informed approaches in archaeology are, in reality, nothing new. Already in the early 1990s John Bintliff published a book in which the use of different time scales was proposed as a solution to overcome the agency/structure opposition, when the archaeological discipline was splitting into the diverging processualist and postprocessualist schools.⁴¹ Only one year later, a volume edited by Bernard Knapp, similarly explored the possibilities offered by a distinction of time and space in the fashion of Braudel.⁴²

Both Bintliff and Knapp pointed out the many advantages in that the interdisciplinary intake and dynamic views of time and space of an *Annales*-informed approach for Mediterranean archaeology. But with the exception of landscape archaeologists, who inevitably focus on broader patterns and time scales, it appears, however, that mainstream archaeology did not pick up Braudelian and *Annaliste* themes, until Horden and Purcell's landmark publication in 2000. Yet, even now, a not insignificant part of mainstream archaeologists claiming to work in the spirit of Braudel, simply uses the now fashionable term 'longue durée' to indicate that they are looking at a phenomenon which lasted more than a couple of years, without in the least addressing the implications of a truly interdisciplinary and multiscale method of analysis the *Annalistes* advocate!

³⁷ Recently also Kistler *et al.* 2015. See elsewhere in this volume for my review of this book.

³⁸ de Angelis 2013: 4.

³⁹ Hodos 2009: 221.

⁴⁰ Versluys 2014: 11.

⁴¹ Bintliff 1991. Also Bintliff 2004, 2008, 2012.

⁴² Knapp 1992a, b.

Thus, based on these various theoretical premises, it is claimed here that it is possible to study the materiality of interaction through the formation of networks. It is proposed to study the negotiation of objects, practices, the construction of power relations and the reproduction of identities at a micro level, whereas broader patterns, consumption-scapes or object diasporas, are studied at the meso scale. The lack of attention to agency and the way ties were formed, a critical point in many formal network studies is overcome by a multi-scalar analysis.

The last decade has seen a steep rise in the number of archaeological/historical network studies, analysing road networks, settlement intervisibility, exchange networks, identity formation, and much more.⁴³ Rather surprisingly, to my knowledge, no substantial research has taken up the challenge to analyse funerary datasets. This might be due to the fact that few digitised datasets are available, and obtaining them through a manual digitisation process is very time consuming. The advantages of putting in the effort are, however, enormous.

The network analysis presented in the next section, is used as a statistical method in order to reorganise archaeological data, which have been obtained from excavations. A quantitative method of study allows the inclusion of *all* objects and remains into the analysis, as well as the common remains of daily life and the less exotic or rich contexts. A quantitative analysis, like network analysis, furthermore does not just quantify, as do other methods of quantification, such as histograms, but has the additional advantage that it places data within their context. Patterns are looked at in combination, rather than in isolation. It is this attention to relations that distinguishes network analysis and which, I believe, yields great potential for archaeological research. The importance of studying and understanding artefacts and structures in context has been stressed by archaeologists for decades.

The quantitative network analysis conducted here looks at patterns of connectivity in the large body of data of the Pithekoussan necropolis. Combined with a multiscale analysis, this method permits us to move away from traditional narratives of ‘Greek foundation’ and instead enables us to focus on the materiality of mobility and interaction. The network analysis concentrates on burials and the cultural relations/connections they express materially. The micro scale analysis focuses on details of tombs, practices surrounding death, the framing and reframing of material culture, and the construction of identities.

A burial, in this analysis, is considered as a coherent set of actions carried out by a group of people, with the purpose of burying a deceased friend or relative.⁴⁴ These acts are carried out according to norms and expectations set out by the society(-ies) to which they belong. Whereas burial is invested with important cultic meaning related to perceptions of life and afterlife, the occasion also provides unique opportunities for manipulation, through conspicuous feasting, sacrifice or the disposal of wealth.⁴⁵ Even though much of the performance surrounding death escapes our detection, the material remains can often be retrieved, in the form of a manipulation of space—through the construction of a tomb, and other ritual behaviour—such as feasting or sacrifice, the use of special dress, bodily adornment and other tokens, considered to be appropriate for public funerary display. These material remains, pertaining to ritual behaviour surrounding death, are meaningful, and the selection of raw materials, shapes and decoration of the objects and structures that frame and enable the funerary performance, are the result of decisions made within a framework of social interaction and ideology. By extrapolating certain aspects of these choices for analytical means, it is possible—in some cases—to detect repetitive behaviour that could be related to ideology, social categories, institutions etc. Such an analytical focus on origins (in a broad sense) of the materiality of funerary performances

⁴³ E.g. Malkin 2005, 2011; Knappett 2011; Brughmans 2010, 2012, 2014; Blake 2014; Evans & Felder 2014; Collar *et al.* 2015.

⁴⁴ A recent overview on the theory of death and burial can be found in Nizzo 2015.

⁴⁵ E.g. as set out by Dietler 1999, 2001.

allows us to shift away from the traditional 'painted fine wares' approach and the a priori assumptions about the cultural context of Pithekoussan funerary rituals as relating to the Greek/Euboean sphere.⁴⁶

Interaction and transformation at Pithekoussai

The micro scale: funerary practice at Pithekoussai

At Pithekoussai, the attribution of ethnic labels to material culture has led to the reinforcement of a colonial interpretation regarding the origins of the settlement. This interpretation has primarily been based on textual evidence, dating from Roman times, that states that Pithekoussai was settled by Greeks from Euboea. Operating from a culture-historical perspective, scholars have generally considered culture as a well-defined set of practices and objects, that characterised a region at a certain time. Thus, in cases of Greek colonisation, such as at Pithekoussai and elsewhere, they assumed that this set of culture and practices was imported from the motherland—in the case of Pithekoussai therefore, meaning Euboea. Even though the archaeological record does not in the least confirm the existence of a well-defined set of funerary practices at Euboea either, most scholars have (and still do) nevertheless interpreted all the remains on Pithekoussai as being Euboean. This despite the fact that the differences between tombs on Euboea and Pithekoussai are numerous.

One of the main supposed 'markers' of Euboeanness is the introduction of the cremation rite, a rite which was seemingly unknown among the native populations in the 'precolonial' period. Traditionally, the Bay of Naples is seen as a part of the so-called Iron Age *a fossa* culture, or 'culture of the pit tombs', a culture where the dead were inhumed instead of cremated, the latter rite being customary among the Villanovan groups of Southern Etruria and Campania. The introduction of the novel cremation rite at Pithekoussai (and on the opposite shore at the slightly later 'colony' of Cuma) could, therefore, only be connected to the arrival of the Euboean colonists, as mentioned in the sources. Disproportionate attention has been paid in research through the years to the cremation tombs, while the inhumation tombs have mostly remained neglected, for being poorer, and, supposedly, belonging to natives.⁴⁷

The closest parallels for the Pithekoussan inhumation tombs can indeed be found among the native sites in Campania—parallels which scholars have ignored completely because of the prevalent colonial interpretative framework. The parallels lie not in the tombs being poor, but in the construction method. Pithekoussan tombs were simple pits, possibly aligned, fully or partially, by boulders and often, but not always, covered by a small tumulus, also composed of small boulders. Some tombs were marked by a large standing boulder. This way of constructing tombs is markedly different from what is known from Euboea. However, the use of stones and boulders for marking the inner sides of the tomb is a technique dominant in native contexts in Campania, for example at Cuma, or Pontecagnano.⁴⁸ The custom of constructing small tumuli is traced by some scholars to Oropos, near Eretria,⁴⁹ but the practice actually finds multiple parallels in native contexts, in Cuma and Pontecagnano, contexts which precede or are contemporary with 'Greek colonisation' in Pithekoussai. Ettore Gabrici, the publisher of the necropolis at Cuma, on the mainland opposite the island of Pithekoussai, where, supposedly, soon after Pithekoussai a new Euboean colony was founded, already mentions *explicitly* that some of the pit tombs were not filled with sand, but with an accumulation of stones placed in a pyramid-shaped construction.⁵⁰ Moreover, Gabrici argued, as early as 1913, that the natives did not only inhumate their dead, as scholars previously thought, but that changes in the rites were already apparent before the Greeks arrived.⁵¹ Gabrici, however, did not possess the tools to construct

⁴⁶ A critical analysis of Euboean funerary practices can be found in Donnellan 2016 (with bibliography).

⁴⁷ E.g. Buchner 1982; Nizzo 2007: 31.

⁴⁸ See Criscuolo and Pacciarelli 2009 for a nuanced discussion.

⁴⁹ Mazarakis Ainian 1998: 2006–7.

⁵⁰ Gabrici 1913: 366.

⁵¹ Gabrici 1913: 365.

a refined chronology of the tombs he was publishing, and simply divided them into pre-Hellenic and Hellenic, based on the presence/absence of Greek material. Needless to say, such a division does not allow for the possibility that native tombs are contemporary with, or post-date ‘Greek colonisation’. Cultural mixing, as we now know, has been the case in several ‘colonies’. Yet, Gabrici sensed that the cultural division he proposed was too rigid and that transformations in the funerary rites from ‘pre-Hellenic’ to ‘Hellenic’ had been more gradual.

The introduction of the cremation rite in Campania, although indeed more frequent in Euboea, should not be exclusively related to interaction with Greeks, but fits into a broader regional context of increasing contact with Southern Etruria, where cremation was also practiced; increasing contact with the latter region is amply testified by imports of objects from north to south and from south to north.⁵² Recent excavations have, moreover, not only confirmed the use of the cremation rite in Campania outside the Greek ‘colonies’, but also at Cuma itself. Recent excavations of the Centre Jean Bérard brought a 9th century BCE cremation in an urn to light, thus underlining the plausibility of an enduring Etrurian/Villanova connection.⁵³ The ashes, probably of a young male individual, had been left in a biconical urn which was deposited in a pit, whose walls were aligned with stones.

Within this broad outline of funerary practices and tomb construction and their native similarities, it is worthwhile to look in more detail at the earliest tombs that have been excavated in Pithekoussai. The original publication of the Pithekoussai necropolis did not present a very refined chronology: the tombs were dated based on ceramics, which allowed for, roughly, 20/25 year sequences. A much more detailed study of the chronology of the necropolis, made by Valentino Nizzo, included the stratigraphical details, recorded by the same Buchner and Ridgway, combined with a typological analysis.⁵⁴ The vast majority of the tombs intersect one another, and thus, it was possible, as Nizzo did, to make a very detailed sequence of tombs. This sequence further allowed for a more refined classification of objects, and thus, tombs without clear stratigraphic relations to other tombs, were more easily (in most but not all cases) assigned to a stratigraphic sequence, rather than the broader pottery sequences. Even though a sequence is always an artificial reconstruction and, indeed, it is unclear how much time lay between the different levels (e.g. if the time lapse between level 20 and 21 is as much as between, say, levels 30 and 31), the matrix proposed by Nizzo is the most detailed we have, and probably as good as it can ever get.

No scholar, apart from Nizzo himself, has used this matrix for a more detailed reconstruction of transformation of the funerary rituals and an analysis of the grave goods. The general evolution of mainly Greek and Greek-style painted pottery and the correlation with age, gender and funerary rite make up a large part of the body of Nizzo’s study. One of his observations is already that the tombs in the earliest level do not look very Greek.⁵⁵ The supraposition of later ‘Greek’ tombs and the idea that the nuclei of tombs represent family groups (or at least people who felt related) prevented Nizzo from exploring this argument further. In the light of the theoretical and methodological critique formulated earlier in this paper, it is worthwhile to scrutinise the earliest levels of the necropolis in more depth.

The first levels of the necropolis are stratigraphically defined as layers 10, 11 and 12.⁵⁶ As much as 23 tombs (see Table 1) have been attributed to these earliest levels, four of which constitute the earliest recognisable contexts of the necropolis (level 10). As can be deduced from Table 1, T 447 and T 611 did not yield any gifts. The construction method of these tombs fits neatly into the pre-existing fashions, traditionally attributed to the indigenous *a fossa* culture from Campania. Both tombs have been attributed to adults, and the individual in T 447 was deposited in a supine position.

⁵² E.g. Nizzo & ten Kortenaar 2010.

⁵³ As already argued by Criscuolo and Pacciarelli 2009 for northern Campania. Some of the Cuma tombs are published preliminarily in Brun & Munzi 2008: 101–112.

⁵⁴ Nizzo 2007. See also Nizzo 2016.

⁵⁵ Nizzo 2007: 30.

⁵⁶ Nizzo 2007.

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Level	Tomb nr.	Tomb form	Rite	Content
10	T 447	pit	inhumation	/
10	T 611	pit	inhumation	/
10	T 571 bis	pit	inhumation	ivory pendant
10	T 574 bis	pit	inhumation	bronze hook
				fibula 'a navicella'
11	T 549	pit	inhumation	local oinochoe
				local skyphos
				Lyre player seal (4)
				scarab (2)
11	T 571	pit	inhumation	local oinochoe
				Lyre player seal
11	T 575	enchytrismos	inhumation	bronze ring
				bone pendant
				scarab
11	T 577	pit	inhumation	/
11	T 583	pit	inhumation	fibula 'a sanguisuga'
11	T 588	pit	inhumation	/
11	T 610	pit	inhumation	ceramic tile
				bronze ring
12	T 214	pit/tumulus	cremation	/
12	T 216	pit/tumulus	cremation	local oinochoe
12	T 221	pit/tumulus	cremation	/
12	T 229	pit/tumulus	cremation	iron knife
				kotyle imit. Aetos 666
12	T 240	pit/tumulus	cremation	local skyphos
12	T 420	pit	inhumation	seal
				seal/pendent
12	T 435	pit	inhumation	local oinochoe
				bronze ring
12	T 446	pit	inhumation	/
12	T 574	pit	inhumation	local oinochoe
				Lyre player seal (2)
12	T 576	enchytrismos	inhumation	local amphora
12	T 578	enchytrismos	inhumation	local amphora
12	T 609	pit	inhumation	local oinochoe
				fibula 'a sanguisuga' (2)

Table 1. The earliest funerary contexts (levels 10–12) from Pithekoussai

The two other tombs of the lowest level (10), the pit or *a fossa* tombs T 571 and T 574, did not allow for an estimation of the age of the occupant, but the tombs contain gifts: T 571 bis contained an ivory pendant and T 574 bis, a bronze hook and a bronze fibula *a navicella*. The latter are part of a well-known indigenous repertoire, whereas the ivory pendant points to an oriental connection.

In the second level of the necropolis (Nizzo's level 11—see Table 1), the scarcity of the Greek material is again striking. Seven tombs are connected to this phase, of which six are inhumations in a pit and one is an *enchytrismos* (an infant burial in a ceramic vessel); in one of the pit tombs, the body was deposited in a flexed position (T 583). In the *enchytrismos* tomb, an oriental-style amphora with a cylindrical neck (*con collo cilindrico*), of uncertain origins, was used. It was inscribed with an Aramaic graffito and a sign which has been linked, by some scholars, to Levantine perceptions of the afterlife⁵⁷ Although the use of the *enchytrismos* rite is usually attributed to Greek colonists, its first attestation in the necropolis is marked by a distinct Levantine connection; in this level of the necropolis, moreover, seals and scarabs were amply present (eight for four tombs). The seals and scarabs are often seen as a distinct marker of the Greek colonists at Pithekoussai, but they do not appear in tombs that are markedly different from the previous level. Scarce locally produced pottery in a Greek geometric style (two *oinochoai* and one *skyphos*) was also found. These vessels might

⁵⁷ Boardman 1994; Docter 2000; but see recently Sossau 2015.

issue from the same workshop, which was active also during the next phases.⁵⁸ Characteristic for this workshop are the *oinochoai*, decorated in a rather conservative Corinthian geometric style. The vessels were produced in a local clay and clearly indicate that a potter, trained in Corinthian pottery-production-traditions, was resident at the site; in contrast, the bronze objects of the tombs belonging to the 11th level of the necropolis, belong to the indigenous repertoire (*fibulae*, ring).

Only in level 12 of Nizzo's stratigraphical matrix are the first changes in the funerary rites and material composition of the funerary rites visible.⁵⁹ Twelve tombs have been securely attributed to this level, of which five are cremations, and six inhumations. Of the five cremations, four tombs have been attributed to adults. Their tombs were 'monumentalised' with a small tumulus. The six inhumations, four pit tombs and two *enchytrismoi*, belonged to children and infants. Their tombs were also marked on the surface, using a large boulder or an accumulation of small stones, like a small tumulus. Among the grave goods one new Greek form appears: a local imitation of a Corinthian Aetos 666 *kotyle*. The consumption of locally produced *oinochoai* points to continuity of the practice attested in the previous levels. Another novelty in this phase is the appearance of the first locally produced amphora-type, the so-called type A, which was modeled on oriental examples (with the addition of a flat bottom). The metal objects from the graves of level 12 (see Table 1) all belong to the local indigenous repertoire.

Looking at the micro-scale, the pattern of consumption of objects in the Pithekoussan tombs of the earliest levels of the necropolis points to a gradual introduction of a very limited and selected range of Greek vessel shapes (*oinochoe* and drinking cups), rather than a quick and massive import of the full repertoire of Greek pottery (drinking cups, cooking and storage devices, vessels for cultic activities etc). The earliest Greek pottery at Pithekoussai, for the largest part, consisted of locally produced pots, decorated in a rather conservative and not particularly attractive Corinthian style. The use of these vessels indicates that new practices were being adopted, or existing ones transformed, and that these required the use of new types of vessels. Even though no residue analysis has been executed, it is probable that this new practice related to the consumption of wine: the *oinochoe* and *skyphos/kotyle* are typically vessels for wine consumption. Even though they could, theoretically, have contained other liquid substances, the almost simultaneous appearance of amphorae rather points to the local consumption, possibly even a local production, of wine.

The use of the Greek vessels, was integrated into a pattern of consumption of a whole range of other artefacts, most notably metal objects, which were produced in a style that knew a long-standing tradition among the native groups of Campania and beyond. The presence of seals and scarabs, in contrast, points to connections with the Levantine world, as does the use of ivory and Levantine amphorae. The production of local amphorae is, moreover, styled on Levantine prototypes.⁶⁰

Tomb types related to these earliest contexts, displaying a similar mix of traditions and evidence of gradual adaptation, rather than sudden innovation relatable to the influx of a large body of foreign settlers. The pit inhumations find their closest parallels in the Early Iron Age *necropoleis* of the native settlements, traditionally attributed to the 'a fossa culture'. The cremation tombs have been traditionally ascribed to Greek colonists, but the local adoption of the cremation rite, more frequent in Etruria and among the Villanovan groups of Campania, is sporadically attested in 'a fossa' Campania from the 9th century BCE onwards. The construction of the Pithekoussan cremation tombs, particularly their tumulus, finds parallels in the so-called pre-Hellenic necropolis of Cuma. The first *enchytrismos* tomb in Pithekoussai—a rite also attributed conventionally to the Greek colonists—is striking in its use of an oriental amphora, including a graffito.

⁵⁸ See on this production: Mermati 2012; Donnellan 2016.

⁵⁹ Already observed by Nizzo 2007: 29.

⁶⁰ Pithekoussan amphorae: Petacco 2003 (with earlier literature).

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The funerary rites and the consumption of grave goods appear to convey complex messages of appropriated forms invested with new meanings in a local context of increasing social differentiation. Various new practices were introduced, such as the consumption of wine, cremation rites, the use of exotic objects (seals, scarabs). These new practices allowed for social distinctions that did not exist, or were expressed differently, before. The local production of Greek pottery on Pithekoussai demonstrates that, at least, a potter trained in Corinthian production methods was resident. The Aramaic graffito, albeit disputed, could hint at another individual migratory experience.

Pithekoussai is, in traditional scholarship, unvaryingly depicted as a *Greek* foundation. The occurrence in the first levels, of Greek contacts, exchange and individual Greek migration is beyond doubt, but the evidence, at present, does not support the idea that the majority of the residents were culturally Greek. Ethnic or cultural identity is always difficult to deduce from objects alone, but the significant roots of tomb types, rites and the way grave goods were deployed, in pre-existing indigenous traditions, and in the light of the scarcity of Greek objects, are highly suggestive that there was a pre-existing native settlement on Pithekoussai, which was inappropriately labelled in subsequent research the 'earliest Greek colony in the West'. Gradually, increased interaction and mobility, through time, transformed this settlement into a more cosmopolitan looking one, in which very distinct Greek objects and practices had been integrated. The amount of contexts for the later levels of the necropolis (Nizzo's matrix levels 13–40) requires, however, a slightly different approach to the analysis. Hundreds of tombs and some thousands of objects make up the data set and the tabular form used for the earliest levels would not be productive here when attempting to draw more general conclusions about long-term cultural change. A quantitative analysis, in which the same questions are repeated and answered in an automated form, is required and will be outlined in the next section.

The medium scale: connectivity in the 8th and 7th centuries BC

In the previous section, it was explained that Pithekoussan burials in the earliest levels match best those practices known from the indigenous world. New practices, integrated gradually, relate to the consumption of wine, funerary ritual, storage and dress and most likely resulted from interaction with people coming from different regions, such as the Levant, the Aegean, Southern Etruria, and others, be it directly or indirectly.

As the amount of evidence increases significantly after the earliest levels of the necropolis, it becomes difficult to grasp the multiplicity of processes going on, in terms of diversity of objects and structures, the links they mediated, practices they embody etc, in order to achieve an interpretation of medium-term processes and changes. It is proposed here to create an abstraction, which aims specifically at addressing the question of 'colonisation'. An abstraction of this kind is achieved by reorganising specific information, drawn from the excavations, with the use of a computer. The image thus drawn is, inevitably, a broad-brush one, in that much information is purposely left out, but systematic, in that it addresses all data in the same way. There is no preselection of tombs, because they are 'rich' or 'poor' (in our perspective), or 'exotic' or 'marginal' (*idem*) etc. Previous research has largely focused on a preselective data basis, rather than attempting to situate certain practices within their context. 'Rich', 'poor', 'local', 'non-local' are not absolute, transcultural, values, but localised and situational judgments, linked to strategies that are effectively (or not) directed towards creating similarities and/or differences that could be manipulated politically. By means of abstracting, for analytical means, patterns of connectivity, it becomes possible to gather additional information regarding mobility and interaction, particularly pertaining to repeated behaviour and assess changes in practices over time.

In research, a clear distinction between quantitative and qualitative analysis, or between the focus on structure versus agency has existed for many years. Some scholars attribute greater, if not the only, value to analysis that uses mathematical language to make abstractions and explain them. Thus, however, they neglect agency. As a result, other scholars reject medium-scale analysis, for its over-

generalising aspects and they focus exclusively on agency. Both views fall short in acknowledging that every perception of reality, scholarly or not, is in the end the result of an abstraction of complex sensory experiences and the thought processes of a scholar, mediated through language. Whether this abstraction regards a broader spatial or temporal pattern or an observation on daily life, the abstracting thought process behind it is the same. The one abstraction has no more value than the other, they are both cogent in their relative scope of grappling different questions. It is important to acknowledge this difference. A scientific discourse should, in my view, therefore consist in specifying one's assumptions that have led to a certain conclusion. Moreover, understanding phenomena is, I believe, advanced, by looking from different, even contrasting angles. Interpretations and conclusions, always subjective and situational, should be drawn by comparing these different angles. An analysis on different levels can achieve this best.

The meso scale analysis here was executed using a network analysis program (Gephi). Network analysis allows us to study connections of different sorts. Even though significant advancements have been made regarding the integration of network analysis into archaeological research, its premises are not widely accepted in the scholarly community.⁶¹ Networks based on more complex questions of social interaction in the past have not yet been sufficiently explored, and more work is needed to fully appreciate the results it can attain and to understand how epistemological concerns might work together with mathematical representations of a certain question.

The analysis here is based on the principle of the affiliation, or two-mode, network.⁶² In a two-mode network, two different kinds of nodes/actors are connected to each other. Analysis entails (among other things) looking at which combinations of nodes is more frequent or not. If certain nodes co-occur frequently, their connection might be meaningful and merits consideration. The two-mode network, or affiliation network, was created by connecting actors (tombs) with regions, from where the artefacts in the tombs originated, either as an import, or as an imitation. Locally produced objects were connected to a 'Pithekoussai' node. Hybrid origins of objects were acknowledged through the creation of double categories, e.g. Pithekoussai/Corinth, for vessels that were produced in Pithekoussai, and were not faithful imitations of Corinthian examples, but free adaptations. The full content of tombs was considered: all objects published by the excavators were inserted in a database, from which a spreadsheet was created, which was analysed in Gephi. Typically, a tomb contained vessels, mostly fine ware, but also semi coarse and coarse wares, metalwork, such as *fibulae*, rings, bracelets, spirals, pendants, sometimes faience and glass paste (mostly scarabs), but also small flasks and vessels, or pendants, and stones (mostly seals). Ivory, bone or other materials were rare. A number of tombs did not have any content, and they were, consequently, not considered. Table 2 presents the model for T 145 and T 154, and shows how the links between nodes were shaped. This procedure of drawing lines between tombs and regions was repeated for all tombs of the 8th-7th centuries BCE. Objects that were too fragmentary for a classification were rejected from the analysis. Some objects have no known origins, and for this group a node 'unknown' was created.

By uploading a spreadsheet with information regarding tombs and their connections to regions, the program Gephi draws images, consisting of dots and lines. The program was commanded to adjust the size of the labels relatively, based on the number of ties each node had. This measure, in formal network terms, is called degree. The program does not draw multiple lines between a tomb and a region, in the case there was more than one object with the same origin, but the program counts the lines, and automatically adjusts the label. This procedure allows us to detect visually which connections were most numerous.

The availability of chronological divisions, based on the stratigraphic matrix created by Valentino Nizzo, made it possible to dissect the archaeological record further: a separate network was created

⁶¹ See the discussion in my review of Kistler *et al.* 2015 elsewhere in this volume.

⁶² See Donnellan 2016 for more detail.

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NODE	(tomb content)	TIE
T 145	<i>aryballos, globular, EPC</i>	Corinth
	<i>aryballos, KW</i>	Rhodos
	<i>aryballos, KW</i>	Rhodos
	<i>aryballos, KW</i>	Rhodos
	<i>aryballos, KW</i>	Rhodos
	<i>aryballos, KW</i>	Rhodos
	<i>aryballos, KW</i>	Rhodos
	<i>aryballos, KW</i>	Rhodos
	<i>aryballos, KW</i>	Rhodos
	<i>aryballos, KW</i>	Rhodos
	<i>fibula, iron, 'arco rivestito'</i>	Pithekoussai/Tyrrhenian indigenous
	<i>lekythos, conical, imit. EPC</i>	Corinth
	<i>lekythos, conical, imit. EPC</i>	Corinth
	<i>lekythos, conical, EPC</i>	Corinth
T154	<i>rosette, faience + pendent</i>	Egypt
	<i>skyphos, Thapsos</i>	Peloponnesos
	<i>bracelet, bronze</i>	Tyrrhenian indigenous
	<i>cup, one-eared</i>	Euboea
	<i>jug</i>	Euboea (?)
	<i>kotyle 'con fila uccelli'</i>	Corinth
	<i>pendant, bronze</i>	Tyrrhenian indigenous
	<i>pendant/chain, bronze</i>	Tyrrhenian indigenous

Table 2. Prototype for the construction of nodes and ties adopted in the network analysis

for every layer of the necropolis, starting from layer 13, with the previous layers discussed in the micro scale analysis of the previous section. Not all tombs could be attributed to one layer. They have been included in every layer they could possibly belong to.

The creation of visual representations of the archaeological record in terms of two-mode networks allows for an easy overview of the tombs and the connections they display through their material. A total of 28 images was created (see appendix) of the tombs within the layers of the stratigraphical matrix. Through comparison, some marked differences and similarities can be observed: some layers clearly have more tombs and more connections, whereas others have only a few tombs and few connections; in some layers, there is no significant difference in size of the labels (degree), whereas in others (to start in layer 14), some labels are clearly larger, and therefore more important in the network. More important nodes in the network might have had a potentially special meaning, if they could be related to repeated and purposeful behaviour, in order to evaluate this, it is necessary to look at what the more/most important nodes were throughout our time interval.

The aim of the subsequent analysis is to look at cultural transformations, especially those related to the scholarly discourse of 'Greek colonisation'. Objects have, traditionally been seen as ethnic markers of colonists, and the Greek vessels have come to define the ethnicity of the whole settlement. Labels, in terms of origins of objects, are also employed in the present analysis, which might seem contradictory at first sight. It is indeed fundamental to acknowledge that non-local objects or structures might be integrated fairly quickly in another society, or that they can acquire new meanings in the process of intercultural transfer or appropriation.⁶³ Analytically, however, it is difficult to achieve an

⁶³ van Dommelen 1997; Dietler 2010.

individual and detailed analysis of meanings for thousands of artefacts in the Pithekoussan necropolis. Meaning is therefore studied at another analytical level, the micro scale and again, at the end, through a comparison of changes in and between the micro and meso scale. The contextual and comparative chronological analysis on a meso scale, moreover allows us to evaluate attributed meanings through time. Thus, the accepted premise for the meso scale here is that spatial and chronological patterns, especially if repeated, can be related to multiple instances of mobility and interaction, whatever their shape took in daily life.

It can be observed from the networks in appendix 1, that in the first level (level 13), not a single node occupied a more prominent position than another. No connection dominates the many links the tombs have. In layer 14, the situation is different: there are marked dissimilarities between sizes of labels, with some being big and bold and others being small. Big bold labels can be tied to the most frequently attested connection (degree), and the label ‘Tyrrhenian indigenous’ is, without doubt, the biggest label, and therefore, the most frequently attested connection. Looking at the situation in the subsequent level 15, and next 16 etc. leads to the same conclusion: the most important connection is quite obvious: the Tyrrhenian indigenous one dominates.

This pattern continues in a convincing way, until level 30. The network indicates that now, another region becomes the most important connection: Corinth. The size of the label in level 30 breaks the patterns that could be observed in layers 14–29. This transition attested in level 30 roughly coincides with the chronological transition of Late Geometric to Middle Protocorinthian.⁶⁴ All subsequent levels are now different from what was observed in the earlier levels (14–29).

The network of layer 31 puts a new, hybrid category, to the forefront: locally produced vessels, inspired by ‘Phoenician’ prototypes are the most frequent connection, in level 32, the network has Corinth, once again, as the most important of all connections. The networks of level 33 to 36 appear to have no dominant node; in the networks of levels 37–40, Corinth is, again, the most prominent node.

To evaluate the results of this analysis (reproduced fully in the appendix), it is crucial, in the first instance, to verify if the patterns revealed can be confirmed via other means. One of these means entails the application of other network analysis measures. Several approaches to inspect composition and structure of two-mode networks exist. Since the objective of this paper is not to explore the full analytical possibilities of archaeological networks, but rather to respond to a specific historical question, the examination will be limited to the evaluation of the patterns observed *supra*.⁶⁵

Analysis (for reasons of space, not fully reproduced here, a selection can be found in appendix 2) revealed that a meaningful measurement was ‘betweenness centrality’.⁶⁶ Betweenness centrality is an algorithm, calculated by the network program, in which it is calculated how often a node is passed, if two nodes want to contact each other in the most efficient way (called shortest path). The nodes that are crossed most often are considered most important.

The measure of betweenness centrality was conducted for all layers, but only a small selection is reproduced here (appendix 2). The network was drawn and the label automatically adjusted in relative size, based on betweenness centrality. The biggest label indicates which nodes are the most important.

The (selected) images of appendix 2 show that the results confirm the patterns revealed via degree: the most important node of the networks of layers 13–29 was the Tyrrhenian indigenous world.

⁶⁴ The transition is dated to level 29 by Nizzo (Nizzo 2007).

⁶⁵ Further statistical analysis of the Pithekoussan necropolis is in progress by the author.

⁶⁶ On betweenness centrality: Opsahl *et al.* 2010; Collar *et al.* 2015.

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However, as was observed previously, real changes seemed to have taken place in layer 30. Instead of Tyrrhenian indigenous being the most prominent node, Corinth came to the forefront, in layer 30 and several of the subsequent levels. Calculating betweenness centrality still shows these new nodes as important, but not as *the* most important connection. The most important node is, still, even with the new measurements, the Tyrrhenian indigenous world.

Through time, as the various networks (cf. appendices 1–2) demonstrate, many links were created through the employment of artefacts in the burial rituals. Some of these connections were persistent through time (e.g. Tyrrhenian indigenous, Corinth, Levantine world), whereas others were short-lived (e.g. Iberia—levels 20–21). Remarkable, as scholars have long noted, is the enormous diversity in connections attested: Pithekoussai was a hub and drew many people to its shores; some of them on a temporary base, others relocating more permanently. Rather than a sudden colonisation or take-over by Greeks, the analysis has shown that human mobility deeply transformed a local settlement. The inhabitants at Pithekoussai, temporary or permanent, employed their network and co-inhabitants' networks to (re)produce a meaningful world-in-transformation.

Discussion: interaction, transformation and Mediterranean mobilities

The analysis conducted on a micro and meso scale in the previous section aimed at highlighting patterns of interaction, relevant within the framework of human mobility on Pithekoussai. At a micro level, it was observed that tomb constructions, as well as body treatment, found numerous parallels in the indigenous world: pit tombs, small tumuli, inhumation, even the odd cremation, are well-known in Early Iron Age Campania. Similarly, most funerary gifts in the earliest tombs from the necropolis, relate to pre-existing indigenous production and consumption traditions. Contact with the Levantine world resulted in the use of exotic objects, such as ivory and seals, and the introduction of a new tomb type, the *enchytrismos*, for the burial of an infant. Influence from the Aegean was limited to scarce (albeit locally produced) drinking cups and *oinochoai*. Major transformations in the necropolis appear not to have accompanied the introduction of Greek pottery, instead, the adoption of new objects seems to be related to an increased expression of difference, in terms of age and status, in funerary ritual.

At the meso scale, quantitative analysis was used to study the persistence of the connections observed at the micro level. Even though it was recognised that quantitative analysis is to some extent restricted, the possibility to study trends during longer time intervals was considered meaningful. Scholars have long acknowledged that Pithekoussai was well-connected to the rest of the Mediterranean, but a full overview of patterns of connectivity was never presented in a concise way. Moreover, disproportional attention has been paid to the Aegean connections, at the expense of others. The pattern created using a network analysis revealed the importance of such a much neglected connection, with the indigenous world, which was maintained throughout the entire existence of the necropolis.

The discovery of patterns, brought to light with a multiscale analysis, was enabled through studying connections *in context*. Traditional archaeological studies organise artefacts in a finds catalogue, and the aim is to produce typological and chronological seriations, i.e. per artefact type (e.g. various fineware types, semi-coarse ware types, coarse ware types) or structure type (e.g. pit tomb, cist tomb, etc.). Whereas all these methods are, of course, crucial for understanding aspects of chronology, the range of production and imports of objects, these traditional archaeological methods of analysis also entail a number of limitations and problems. Disproportional attention is paid to beautiful, rich or exotic objects, rather than to plain pottery, or other artefacts of common and daily life. For example, the famous Nestor cup from Pithekoussai has received wide scholarly attention for its being an amazing testimony to local wine consumption practices, writing and the reciting of heroic poetry.⁶⁷

⁶⁷ E.g. Buchner and Russo 1955; Murray 1994; Ridgway 1997.

The cup, however, was found in a cluster of tombs of people who were, invariably, laid to rest using native dress styles and native jewelry and the tombs were constructed in a native fashion! In order to understand Pithekoussan society, it is not sufficient to look at one—indeed amazing—drinking cup, but one has to consider the cup in its archaeological and broader cultural context.

Past research had already greatly contributed with pointing out the hybrid character of assemblages and the mixed identities of the inhabitants at Pithekoussai. But by looking at how connections, existing ones and new ones, were forged, purposely continued, adapted or rejected, through time, it becomes possible to see how the local society changed as new connections were fashioned. A broader perspective helps us to frame better what we might reconstruct of daily life, indeed, also Tamar Hodos rightfully states that *‘networks do not always explain the why behind cultural developments, but network thinking highlights connections we might not have been aware of otherwise. It is in the conjoining of network thinking with the social processes underpinning globalization that a much richer understanding develops’*.⁶⁸

By looking at recurrent patterns, disrupted patterns or non-repeated patterns in the materiality of mobility and interaction, a contextualised appreciation of the use of material culture and its possible social meanings can be produced. Social categories such as ‘elites’ or ‘social outcasts’ are not essential and stable classes that exist eternally within a given society: they are locally and temporally constructed within existing social, political and economic discourses. Similarly, identities, ethnic, religious, gender or other, are not mechanically attached to certain objects. Identities are being produced continuously within a unique context of social values and references. To evaluate individual identity or social position means to evaluate this individual within their context of reference. The persistence of, and the precedence, of indigenous material culture at Pithekoussai has, hitherto, not been rightly valued, and the fact that the vast majority of the Pithekoussan tombs expressed material connections to the indigenous world should urge us to re-evaluate general cultural classifications of Pithekoussan society.

The multi-scalar analysis, which integrated the study of networks into the study of past human mobilities, allows us further to align the field better with current migration studies. Scholars studying contemporary migration phenomena have pointed out that, apart from the incentives at the individual and household level, other aspects influence and frame the migratory experience. Charles Tilley stressed that *‘the effective units of migration were (and are) neither individuals nor households but sets of people linked by acquaintance, kinship and work experience’*.⁶⁹ People may physically move, but connections to home and family often remain, thus offering possibilities for future interaction. In line with this view, Goldin *et al.* state that *‘while wage differences and individual cost/benefit analyses may create conditions for migration, it is the insertion of people into migration networks that explains why some migrate and others do not, and why migration flows endure over time between particular countries (or even particular communities)’*.⁷⁰

One of the main conclusions of this paper is that, based on our current state of evidence, there seems to be little ground to consider Pithekoussai a new Greek foundation, Greek settlement or Greek colony. Pithekoussai attracted many new settlers over time who transformed a native settlement deeply and unrecognisably. It is difficult for archaeologists to grasp individual migratory experiences, apart from perhaps potters and other itinerant craftsmen who left very tangible evidence of their presence. But through networks and transformations, it becomes possible to evaluate mobility and interaction, its duration and impact.

⁶⁸ Hodos 2014: 29.

⁶⁹ Tilley 1990: 84 (my emphasis).

⁷⁰ Goldin *et al.* 2011: 104 (my emphasis).

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The earliest Pithekoussan tombs as well as their material are sufficiently grounded in pre-existing indigenous practices to allow us to assume that, even with the small sample at hand, the settlement was an indigenous one that started to attract settlers from elsewhere through time. The continuity of connections with the native world throughout the archaic period, moreover, indicates that, despite many social and cultural changes brought about by continued migration, short-term or permanent, the indigenous world continued to be a major point of reference for the inhabitants of Pithekoussai. Olivia Kelley has aptly pointed out that Etrurian elite discourses informed the construction of Pithekoussan male tombs with artefacts.⁷¹ Generally however, in the necropolis, dress and bodily adornment (at least those in the funerary sphere), food preparation, storage and food consumption persistently built upon native practices. Both daily life and ideology seem deeply grounded within a native cultural landscape.

The other major link that was studied in this paper, already long recognised by scholars and considered to be the main connection of Pithekoussan trade—Corinth—appears to relate to feasting/banqueting (drinking, eating, pouring, perfuming). A very fertile production of imitations and hybrid vessels, mainly based on Corinthian examples, took off very soon after the first imports, and given the very high quality and faithful imitations of the originals, it is likely that a (or a number of) potter(s) who had received their training in an Aegean context, can be considered migrant workers, on a permanent or more temporary basis. Future research will need to establish the scale and duration of the output of different workshops, to assess further the transformations that were brought about economically and socially. The impact, however, of this connection through imitations cannot be overestimated: it reinforced the connectivity established by the original tie, it was multiplied by local means. The enormous impact of new vessels and probably food/drinks could lead to the hypothesis that the Greek pottery caused a deep transformation in local feasting practices, more specifically what Michael Dietler called the change from patron-role feasts to diacritical feasts.⁷² A diacritical feast, as Dietler states, '*involves the use of differentiated cuisine and styles of consumption as a diacritical symbolic device to naturalise and reify concepts of ranked differences in the status of social orders or classes*'.⁷³ The Greek pottery present at Pithekoussai seems to relate to distinct forms of consumption, specifically of wine, perhaps also of food, in ways that were previously unknown among the indigenous populations. Consumption of Greek style pottery, and with it the practice of drinking wine, perfuming the body and behaving in certain ways thus would have provided a means for the Pithekoussans to create and maintain social distinctions among themselves. Similar fashions of diacritical feasting, known as the 'symposium' developed also in Greece.⁷⁴ Through the Corinthian connectivity, people at Pithekoussai were able to participate in a network of practices that, alongside other similar networks, such as the one highlighted by Olivia Kelley, enabled them to create social distinctions.

Euboean pottery shapes at Pithekoussai relate to feasting/banqueting (drinking, eating, mixing, pouring, cooking). An additional observation concerns the variety of Euboean(-ising)⁷⁵ shapes: it is much greater than the Corinthian ones. Forms for eating, drinking, pouring, and storage, are all present. Yet, not all Euboean(-ising) shapes found their way into the local hybridised repertoire. It can be wondered if these, as well as other objects from other regions, were simply failed attempts to introduce new shapes, or if, at least in part, they were brought by migrants from their old home to be used in their new one. All kraters known appear to be Euboean. Erich Kistler *et al.* speak of a process of Mediterranean 'kraterisation', i.e. the spread of shared values and practices regarding what an appropriate reception of guests should look like.⁷⁶ The adoption of the practice of consuming

⁷¹ Kelley 2012.

⁷² Dietler 1999: 2001.

⁷³ Dietler 2001: 85.

⁷⁴ Wecowski 2014.

⁷⁵ Objects classified as Euboean could in reality have come from a broader area. Our limited and unsystematic knowledge of the very flourishing contacts between the northern Aegean and coastal areas of Asia Minor likely distort our view of Euboea.

⁷⁶ Kistler *et al.* 2015.

and mixing wine, and with it the maintenance of guest friendships might, at least partially, have been shaped by interaction with people from Euboea or Euboean imitations (and its adjacent regions) and Corinth. Familiarity with these practices of mixing, but also of pouring and drinking wine presupposes more than superficial and cursory contact with accidental passengers. Durable relations between peers, called *xenia*, must have existed.⁷⁷ These weaker ties might have provided other people with the prospect of relocating permanently with the logistics needed to cross the sea and settle elsewhere. Thus, new ties were created, resulting eventually in a network of overlapping ties of mobility and interaction.

Differing from Greek pottery are the patterns exhibited by ‘Levantine’ (including the broader Phoenician sphere and colonial) connections: objects relate mainly to transport/storage, food consumption, bodily adornment, perfuming, and cult/magic. Most notably, Levantine prototypes, very early on, brought about a local, not very standardised production of amphorae. This innovation is likely to have impacted society as deeply as the transformation of Aegean food and drink consumption practices. The economic impact in terms of production, storage and distribution of—probably—wine may have been part of the base of an intensifying processes of social stratification, whereby diacritical feasting, using appropriate vessels for the consumption of food and drinks, became a further exponent of this trend.

Sociologists have pointed out that pioneer-migrants create networks with the homeland, and by posing as a successful example of migration, thus facilitate the departure of others. It is likely that the successful settlement of potters, and other pioneers, perhaps moving themselves along weaker ties of *xenia*, stimulated others to start a new life at Pithekoussai, and elsewhere. The favourable reception of Levantine and Greek (among others) practices and objects among indigenous groups in Italy, in turn, stimulated the production at the other end of the network. In Corinth, for example, a flourishing export industry of perfume production was established. Producers of seals and scarabs, probably from Rhodes, found customers in Pithekoussai. The creation and maintenance of ties had effects on the whole network. Thus, not only did people move more easily and were encouraged to follow the example of the pioneer-migrants, but societies were transforming and found themselves also in a better position to embrace more newcomers.

Conclusion

For many decades, scholars have attempted to define and redefine Greek ‘colonisation’. Despite critical voices, the larger part of the scholarly community has, until recently, perceived of ancient Greek mobility in terms of a colonisation, with the civilisatory and expansionist undertones the term usually entails. With some scholars still adhering to the term, albeit recognising the inherent differences between ancient and modern colonisation, others have moved towards a conceptualisation in different terms, e.g. diaspora, migration, to stress the unorganised and voluntary departure of people (less so in the case of diaspora, but Greek diaspora is not considered a traumatic event as is the Jewish diaspora). However, every concept limits its analytical power through its unifying of the underlying processes. In order to look at these underlying processes of mobility and interaction, rather than to find a single label that would appropriately describe the entangled complexities of ancient mobilities, it was proposed here to look at networks from a multi-scalar perspective.

It was further observed that, despite a shift in terminology, the basic notion that Greeks moved overseas to found settlements *ex novo*, has hardly been questioned. Pithekoussai, reputedly the earliest Greek ‘colony’ or ‘foundation’, in the Bay of Naples, is a case in point. Written sources referring to an appointed founder, a foundation oracle or a foundation myth are absent. Only scarce Roman references refer to an Euboean settlement. The early date of the supposed foundation (based

⁷⁷ Recently on gift giving: Satlow (ed.) 2014.

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on the presence of the earliest Greek pottery) had brought scholars in the past to a reconstruction of a scenario in which Pithekoussai was settled before the Euboean mother city (-ies) was actually formed as a political community, a polis. Together (perhaps because of) this loose political organisation, it was supposed that natives stayed among Greeks in the settlement, even though most scholars consider them to have occupied a subordinate position in society. It is claimed here that these views pose many problems on an interpretative level and even fail to address the nature of the archaeological evidence correctly.

In order to disentangle the complex patterns of mobility and interaction, it was proposed to use the notion of networks as an analytical concept. Networking was used in a Braudelian/*Annaliste* scheme, constructed as a multi-scalar analysis. A multi-scalar analysis of the archaeological evidence of the necropolis was made possible because of the exceptional stratigraphic observations, made at the time of the excavation, and the minute reconstruction of the stratigraphy as a matrix more recently.⁷⁸

On a micro scale, individual contexts were analysed in terms of spatial and ritual composition. Special attention was paid to the origins of burial traditions, for their erroneous attribution to Greek colonisers' long-standing practices. It was observed that tomb constructions, as well as content, found, in most cases, parallels among other indigenous groups in the Tyrrhenian world. Innovations, Greek and Levantine, were clearly being introduced, but they appear to have been integrated gradually—rather than overtaking suddenly—the existing funerary practices.

On a meso scale, a statistical technique was introduced, in order to analyse the large dataset which comprises the Pithekoussan necropolis. Contexts were analysed as a two-mode network, in terms of origin of their content, with the goal of mapping which place different origins occupied within the whole of the necropolis. The analysis pointed out that the indigenous world was a major connector throughout the existence of the (archaic) necropolis. This connection had remained, until present, grossly undervalued, at the expense of the Greek connections.

Next, it was attempted to integrate the micro and meso scale analysis in a new narrative of migration, interaction and transformation. Continuities and transformations in the material record were seen as networks, which constituted more durable links that affected societies at both ends of the connection. Most notably, continuities in material culture in terms of links with the Tyrrhenian indigenous world indicate that people at Pithekoussai continued to maintain meaningful links with other native groups in Campania and beyond. This part of Italy remained a point of reference in terms of dress and bodily adornment (at least funerary dress), food storage, preparation, consumption, as well as funerary rites.

Deep transformations, with significant economic, social and political consequences, were caused by the interaction, through temporary or more permanent settlement, with people from the Aegean and Levant. From the Aegean, distinct styles of consuming wine were introduced, whereas the Levantine connection mainly caused a transformation in the economy, in terms of production, storage, circulation of goods, especially wine. These innovations had important consequences as they enabled social distinctions, that had not existed before, to be expressed in funerary ritual. The effect of these transformations was, moreover double, in that other migrants more easily followed in the footsteps of earlier pioneer-migrants, and that the receiving society was sufficiently transformed to integrate more newcomers.

Material connectivity, as critics may argue, says indeed little about ethnic identity of settlers and/or natives.⁷⁹ However, ethnic identity is always difficult to assess: a newly arrived migrant may refer to him/herself in terms of a homeland, whereas the same person may consider him/herself a native after several years of residence in the new home! Poorer migrants might have never fully participated in

⁷⁸ Buchner and Ridgway 1993; Nizzo 2007.

⁷⁹ See recently on the topic: Hall 2016.

public life at home, and hence, never had a real sense of collective ethnic identity. Second or third generation migrants will have generated a completely different idea of a homeland they might have never set eyes on themselves than a first generation who grew up in the homeland. The construction of migrant identities is as much related to the production of an idea of a home, both by individuals, as well as by a society collectively. As there are no explicit and contemporary references to founders or an identity as an *apoikia*, a home-away-from-home, it is indeed not sure if archaic Pithekoussai collectively, even though heavily engaged in interaction with Aegean culture, and the home of many Aegean settlers, ever regarded itself explicitly as Greek before the later archaic or early Classical Period.

Studying Pithekoussai from a broad multi-scalar perspective in an *Annales*-informed approach, combining an analysis of connectivity with one of daily life, allows us to move away from traditional colonisation and foundation narratives. The approach permits the overcoming of the pitfalls of postcolonial studies, which although acknowledging native agency and negotiation of material culture, often still operate from a number of fixed categories and oppositions, such as colonist/colonised, or hybridity. Focusing on interaction in terms of networks is considered to be a more productive framework for analysis. The intersecting and overlapping of mobilities and interactions, of connectivity, settlement, resettlement and transformation is difficult to capture in a single concept, as scholars have previously attempted to do. However, focussing on processes rather than labels could eventually enable a truly comparative and interdisciplinary framework that would allow for the formulation of transcultural concepts about human mobilities and interaction.

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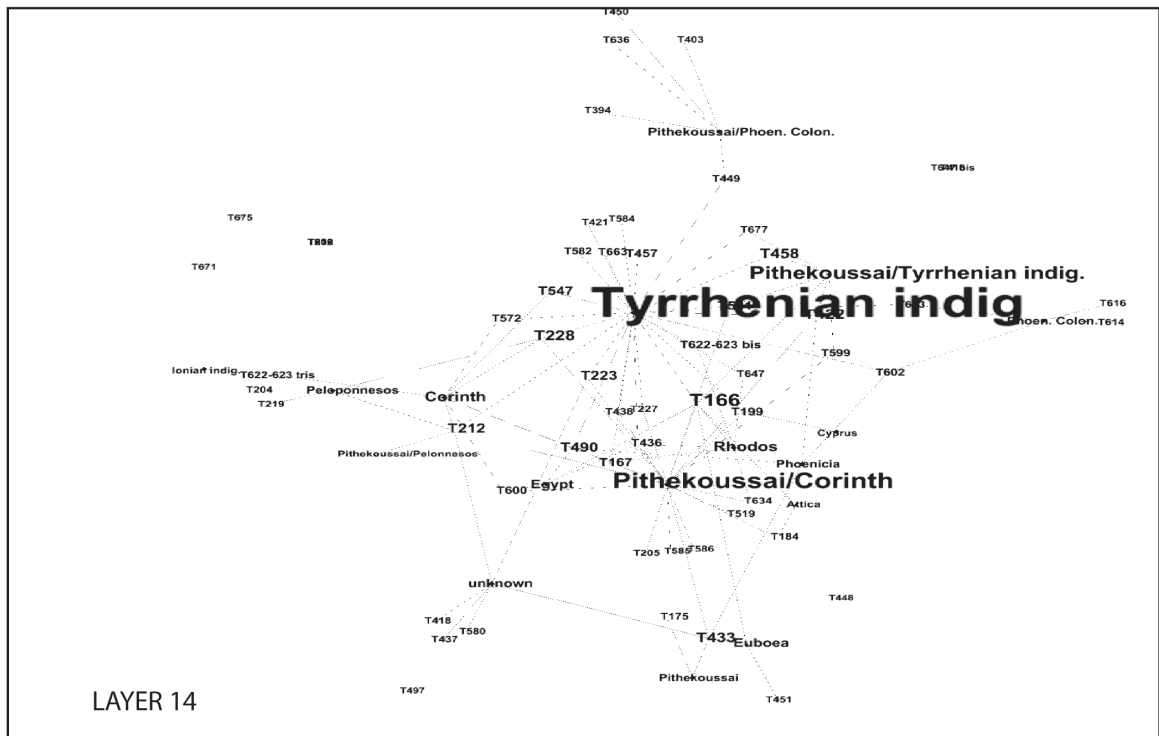
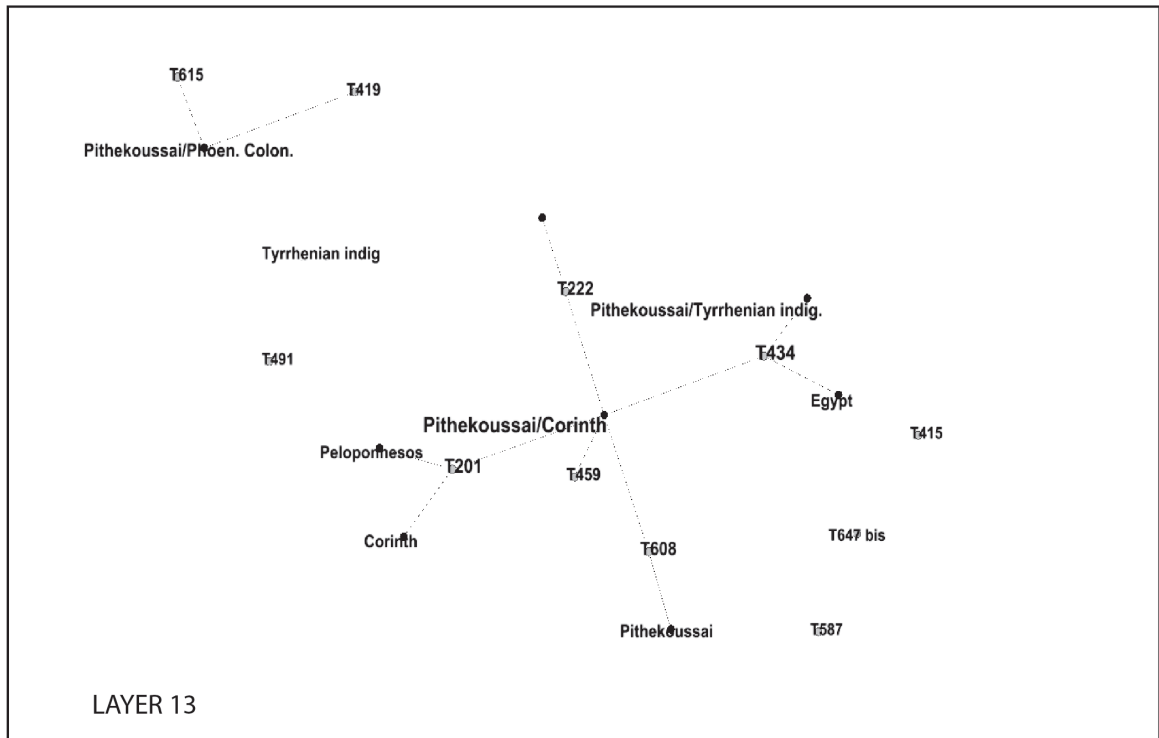
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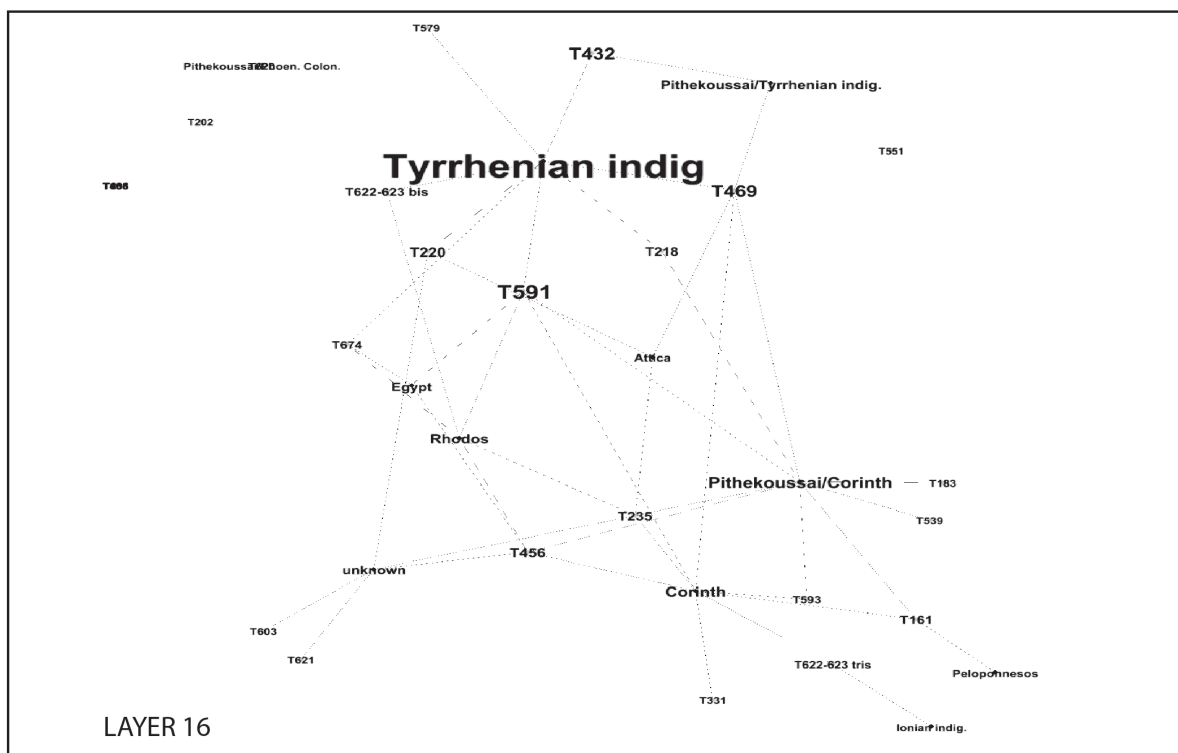
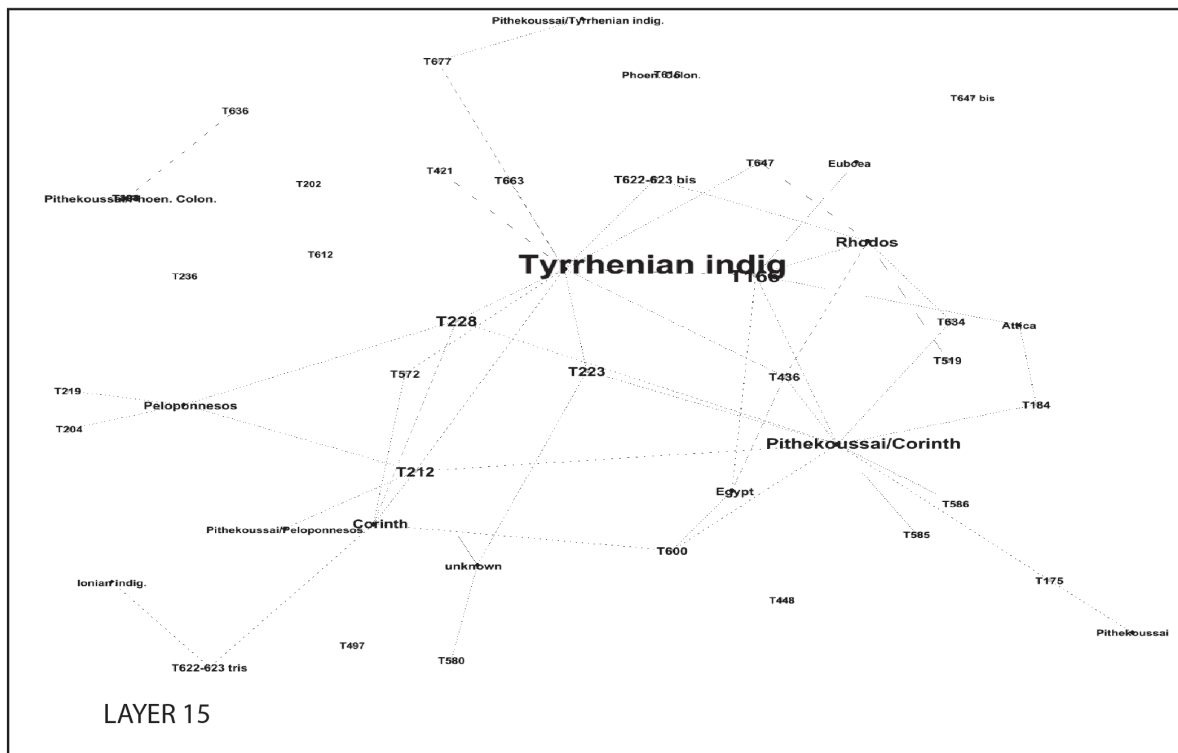
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'GREEK COLONISATION' AND MEDITERRANEAN NETWORKS

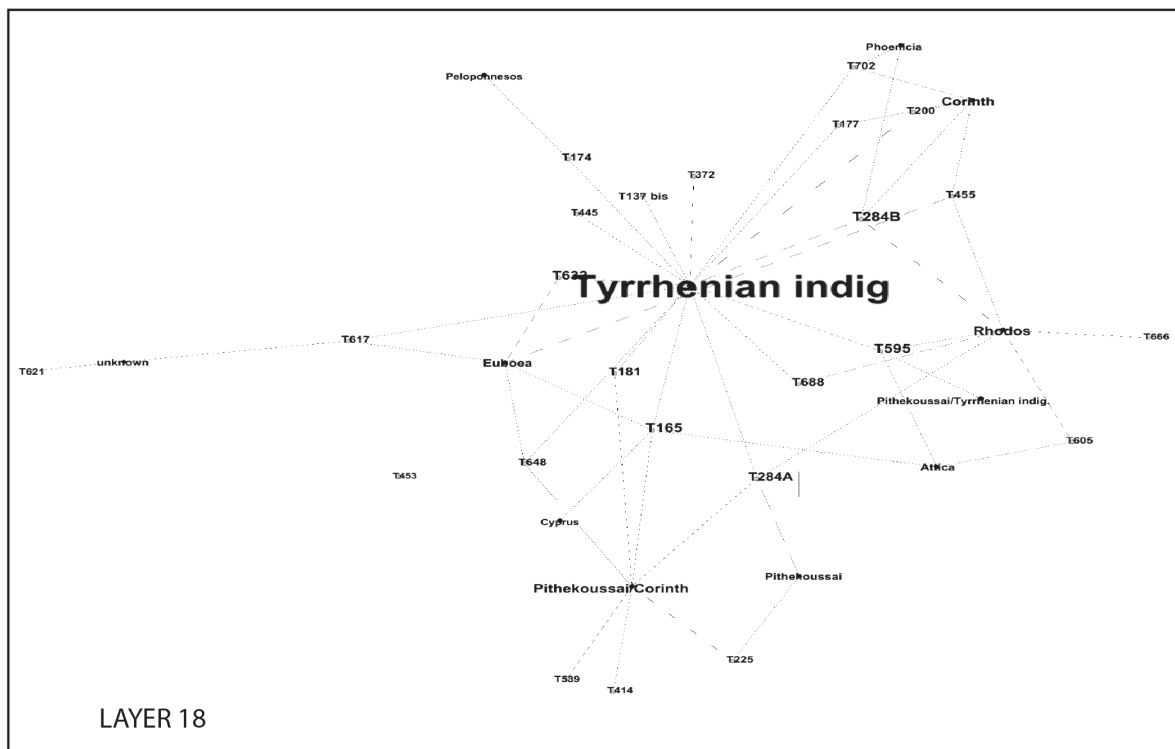
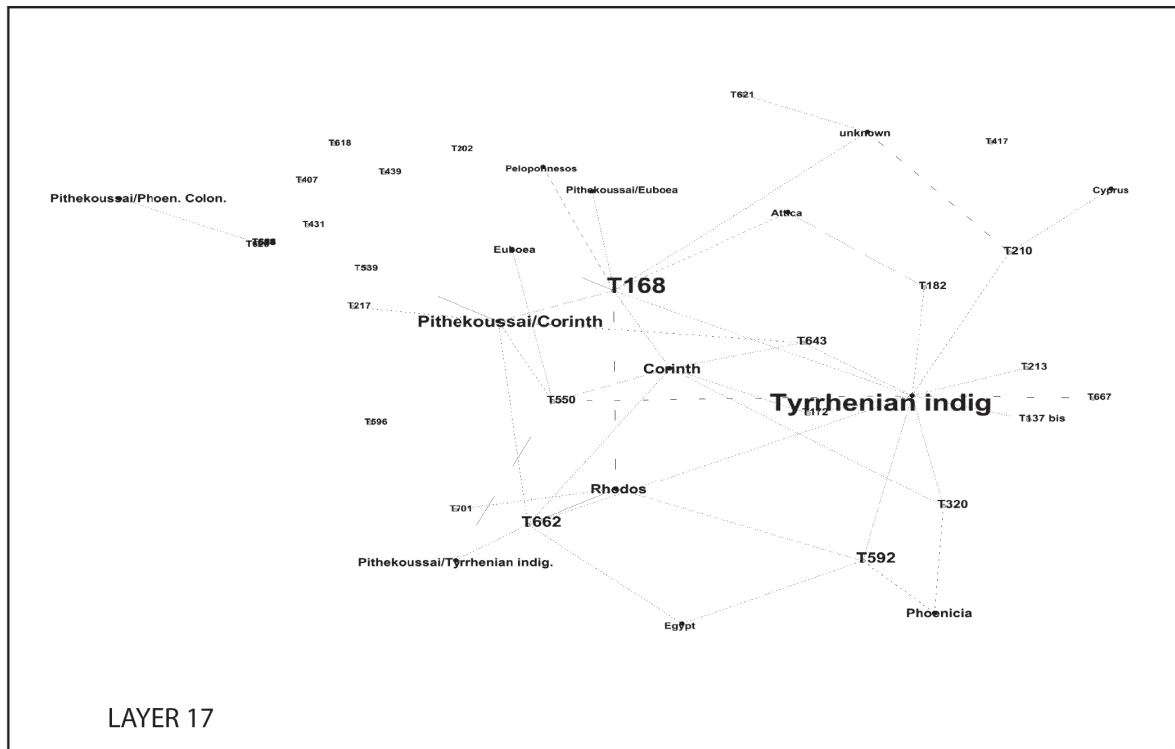
Appendix 1. To-mode networks of material connectivity at Pithekoussai (organised per stratigraphical layer). The label size is based on *degree*.



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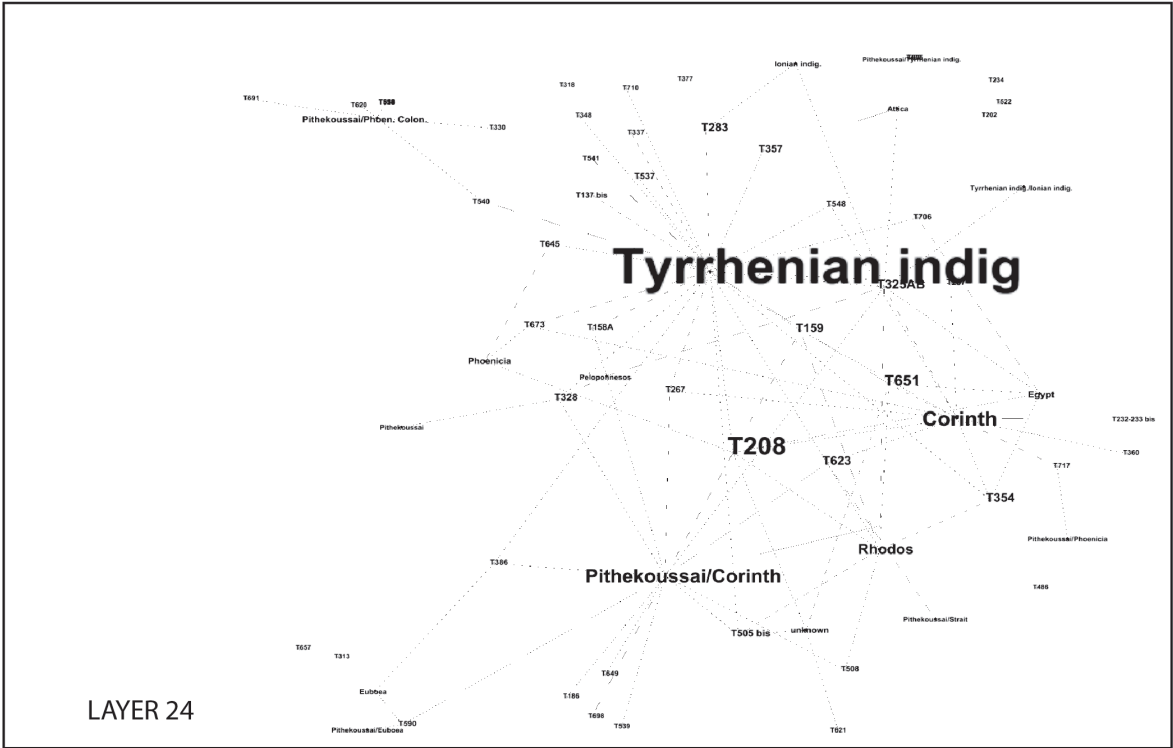
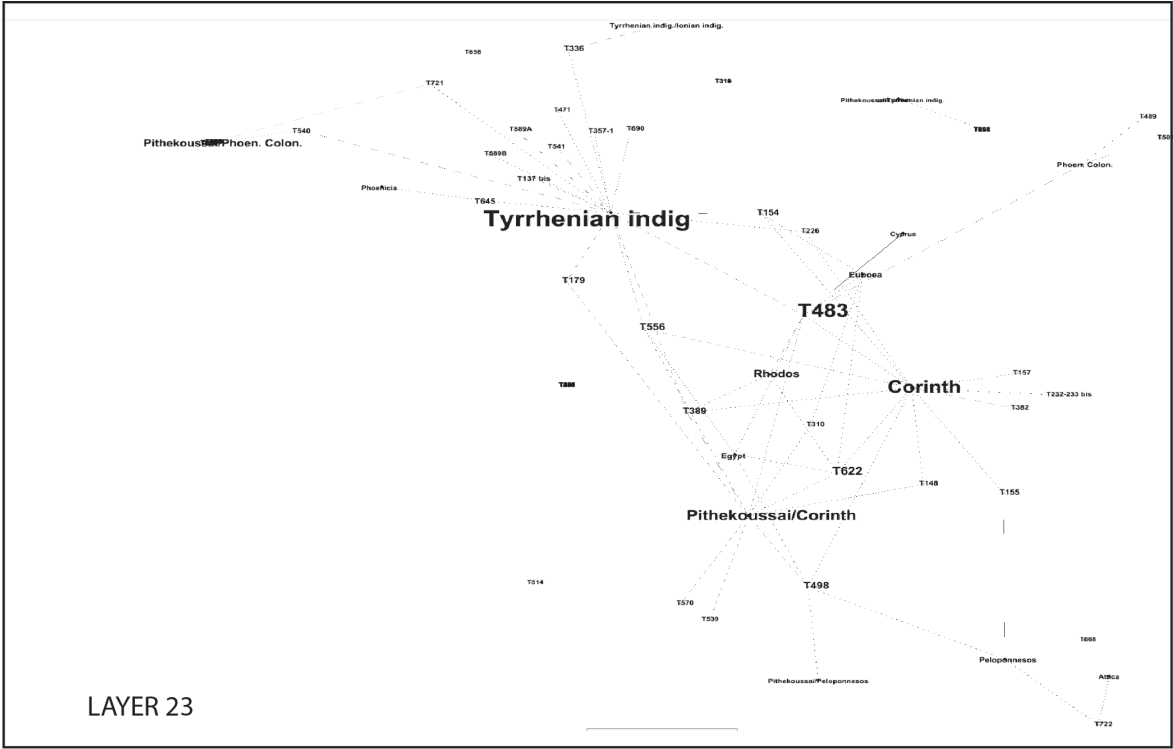
‘GREEK COLONISATION’ AND MEDITERRANEAN NETWORKS





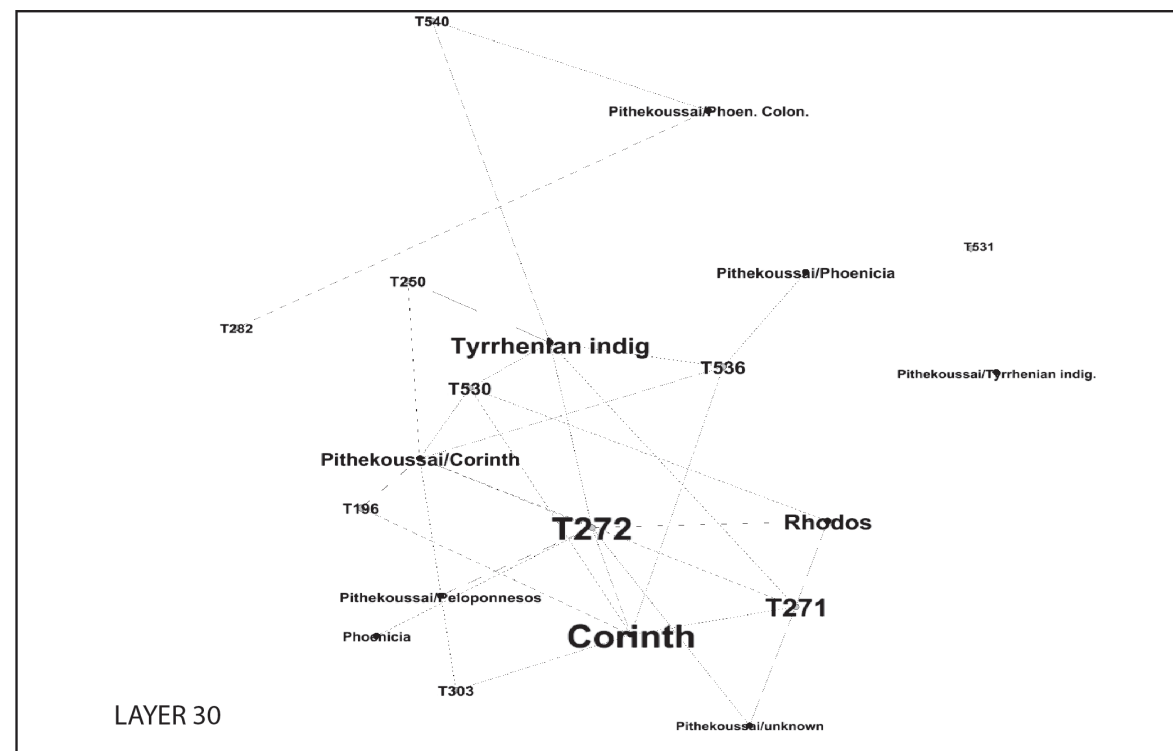


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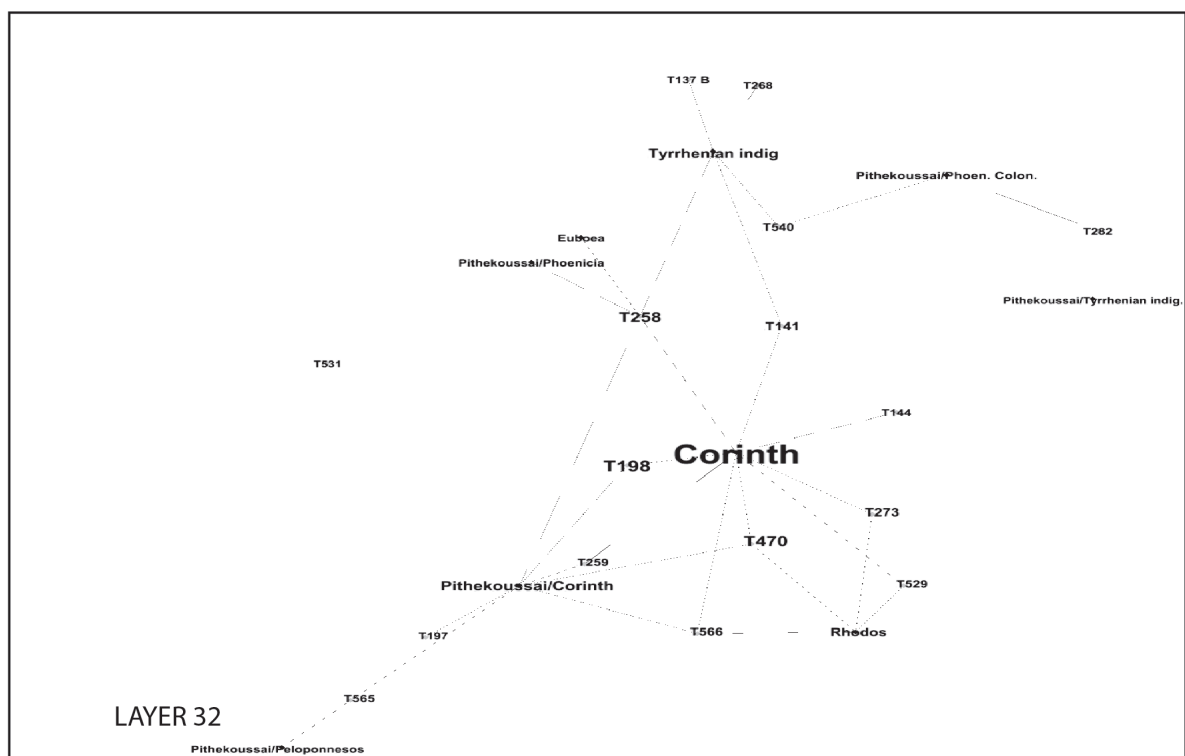
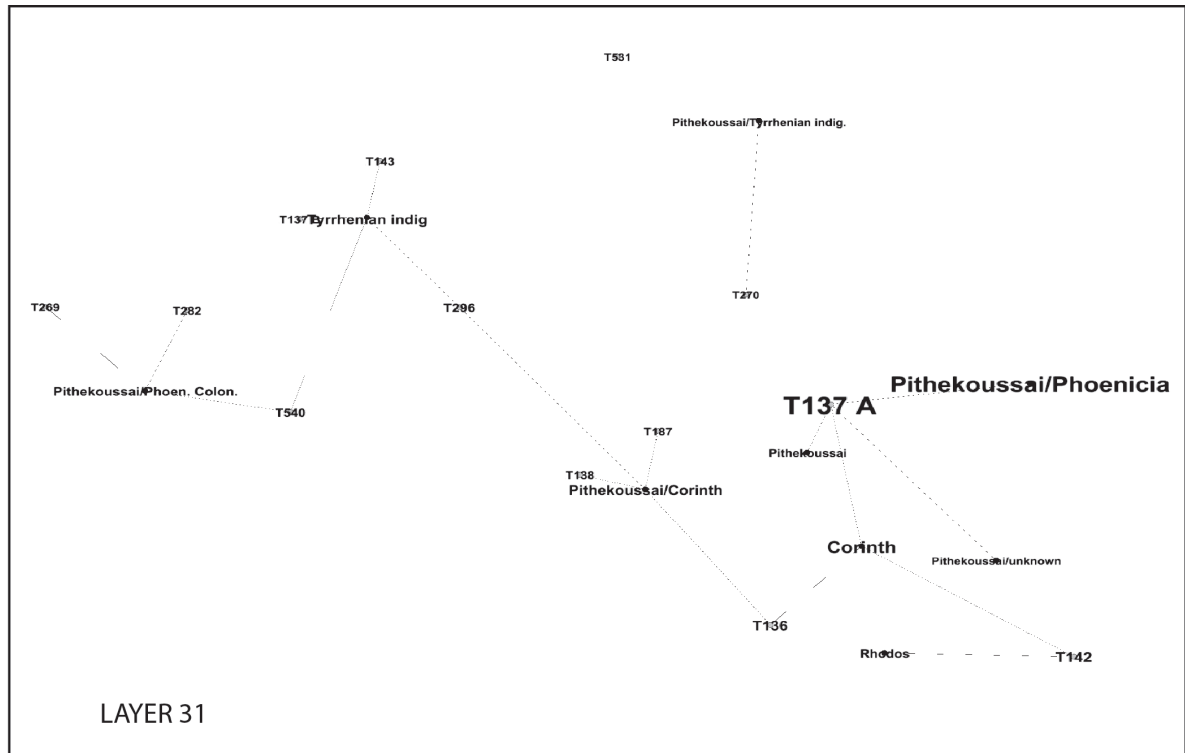




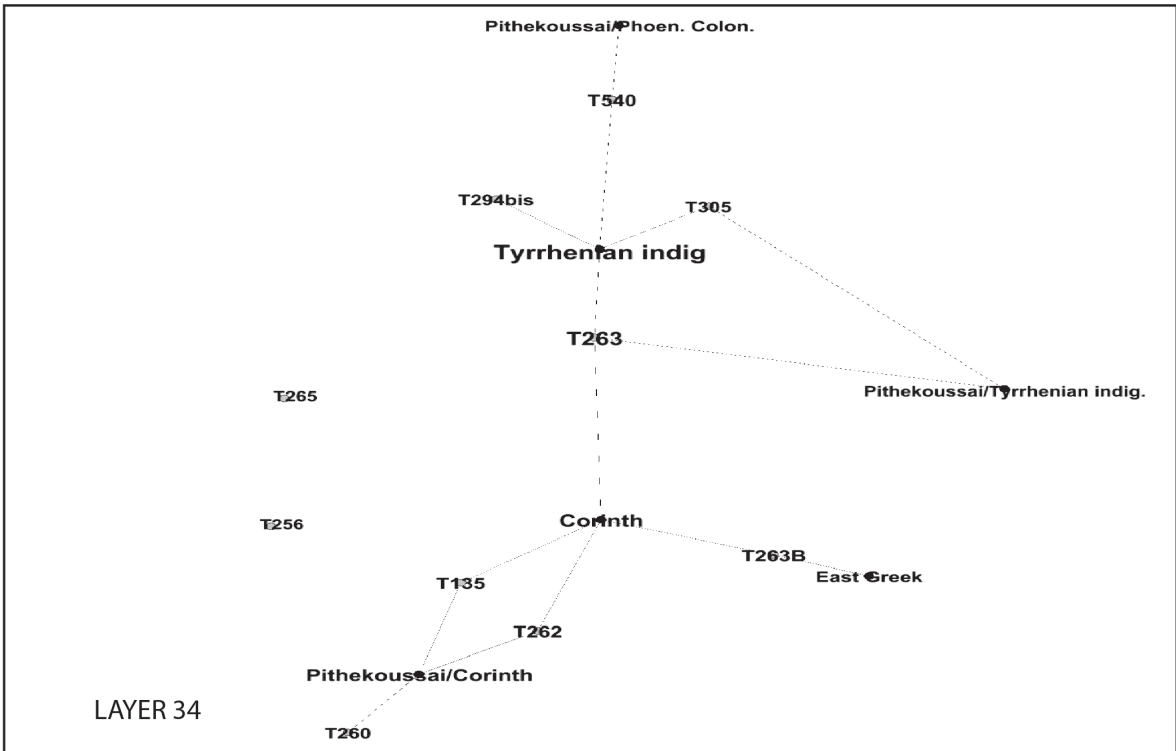
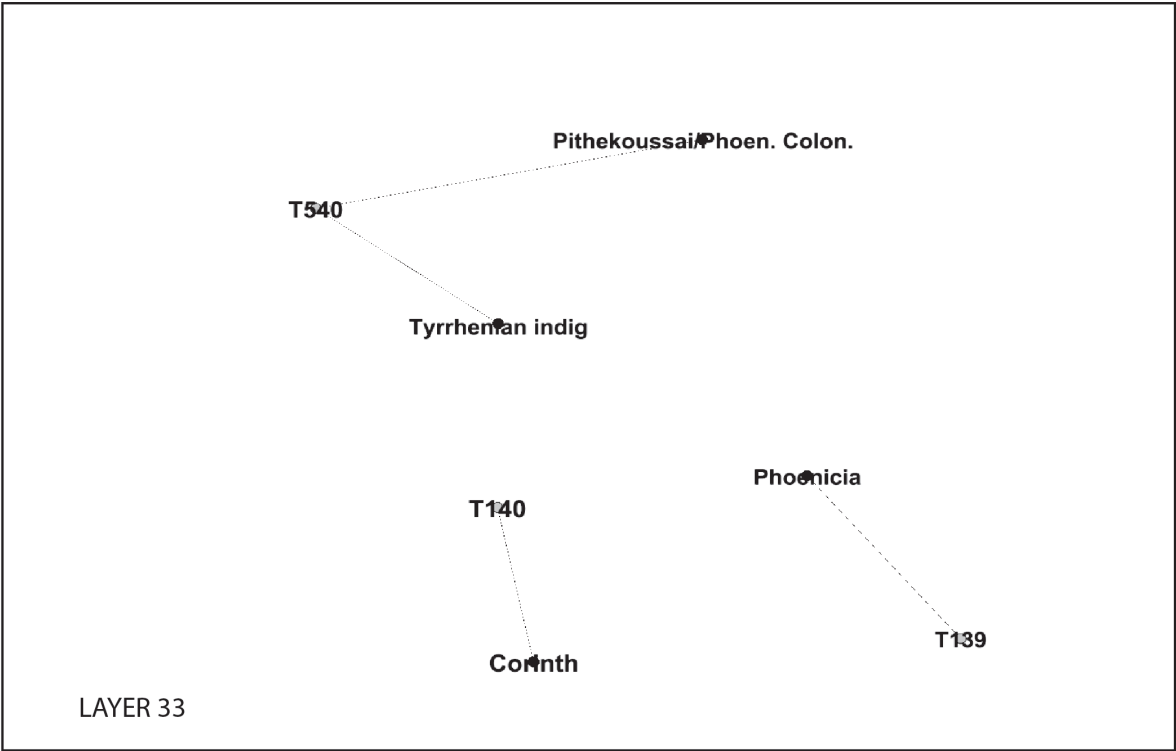




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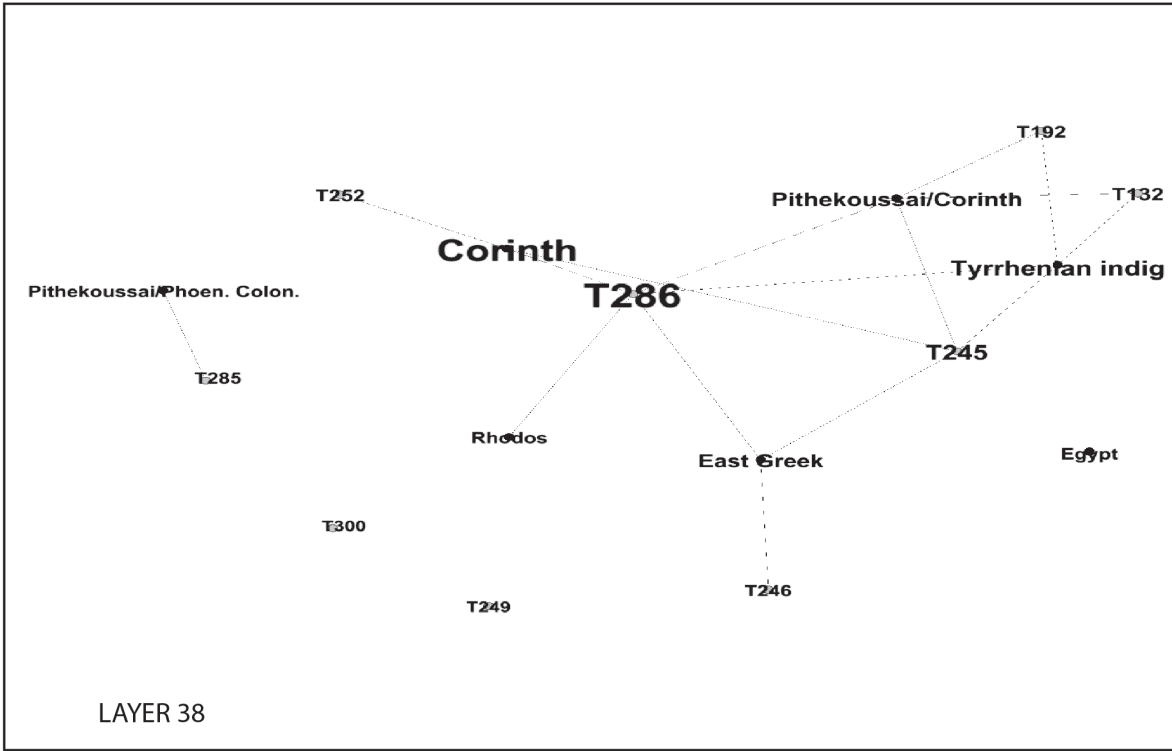
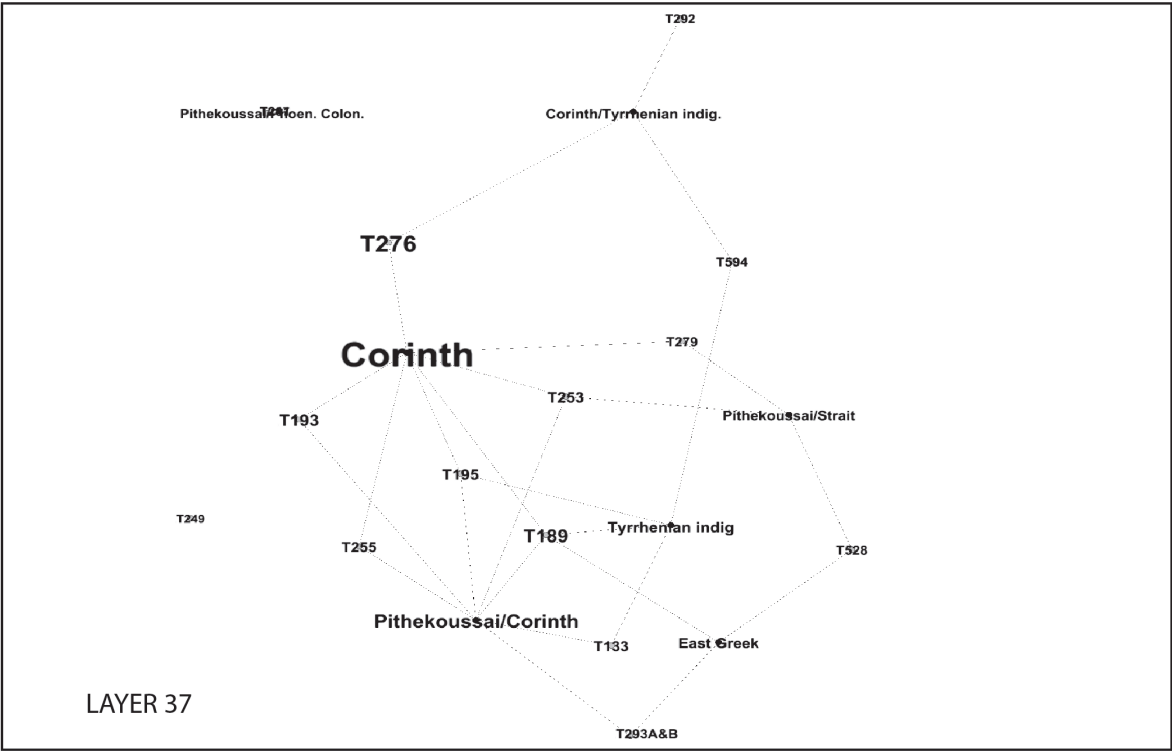


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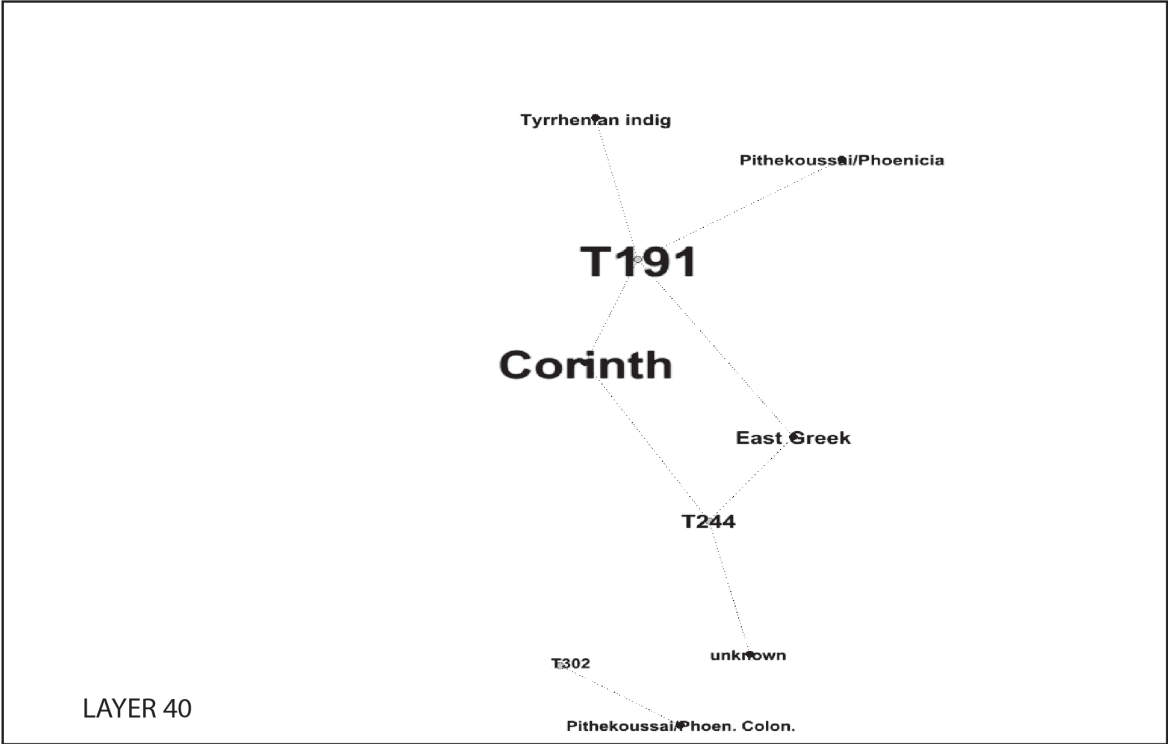
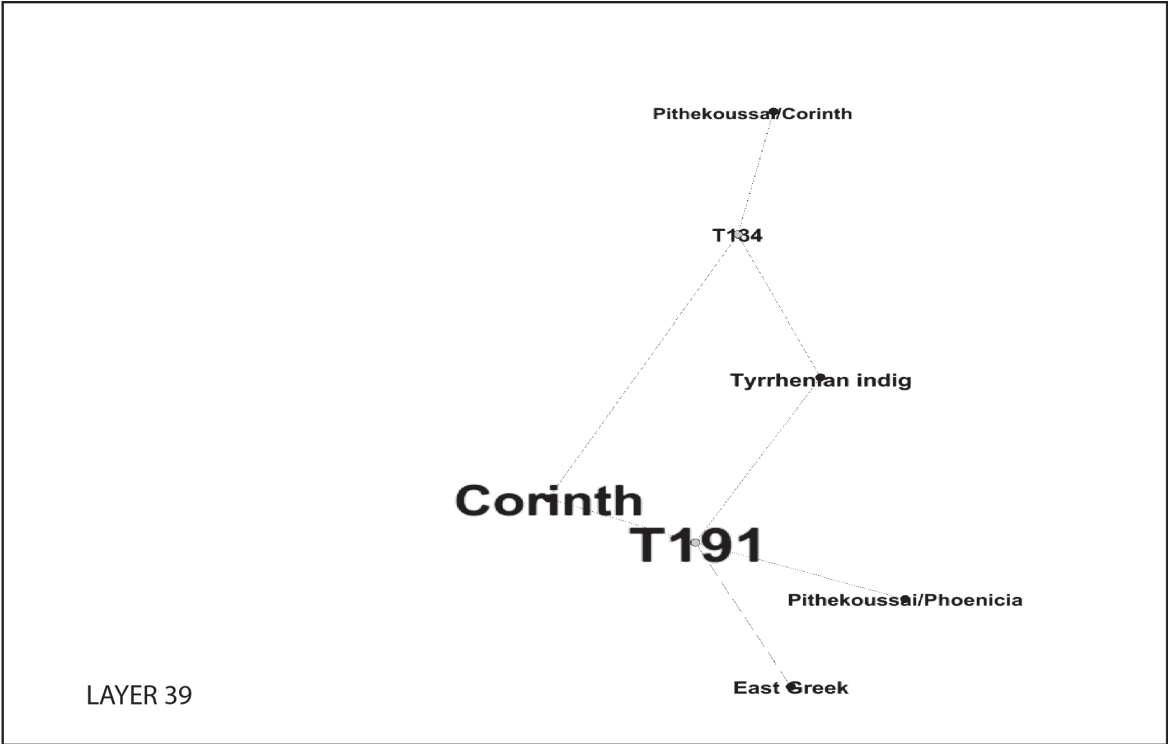




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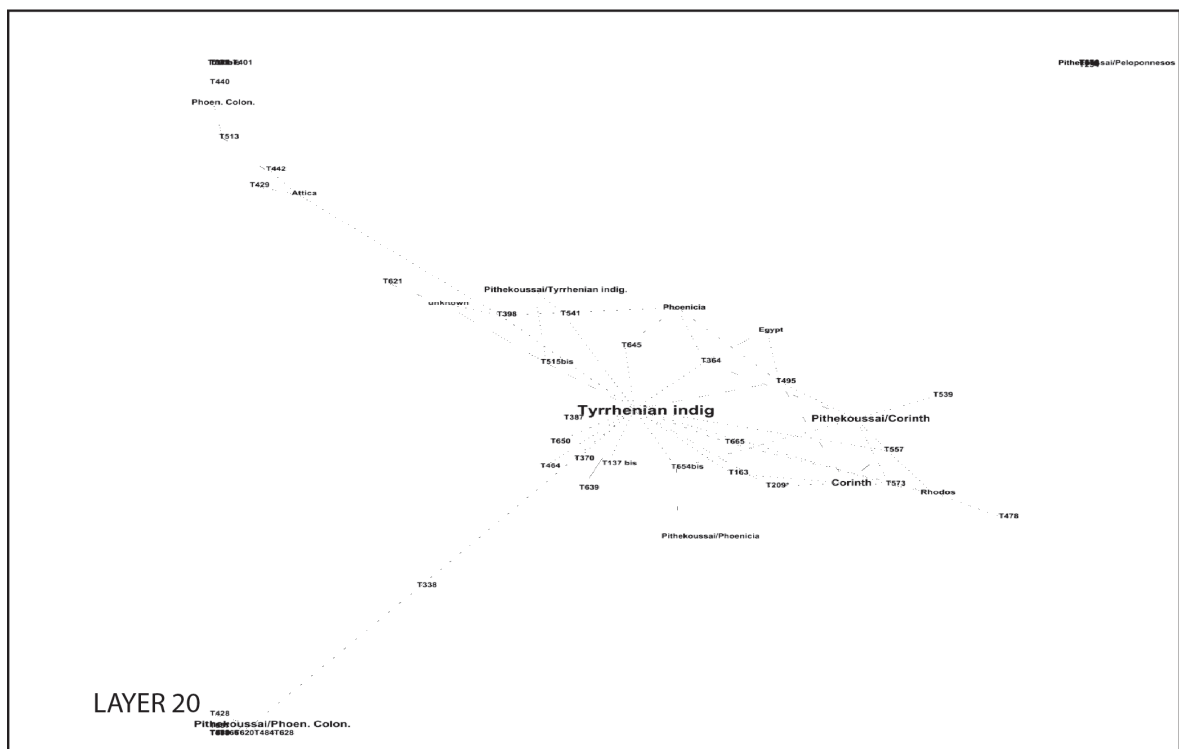
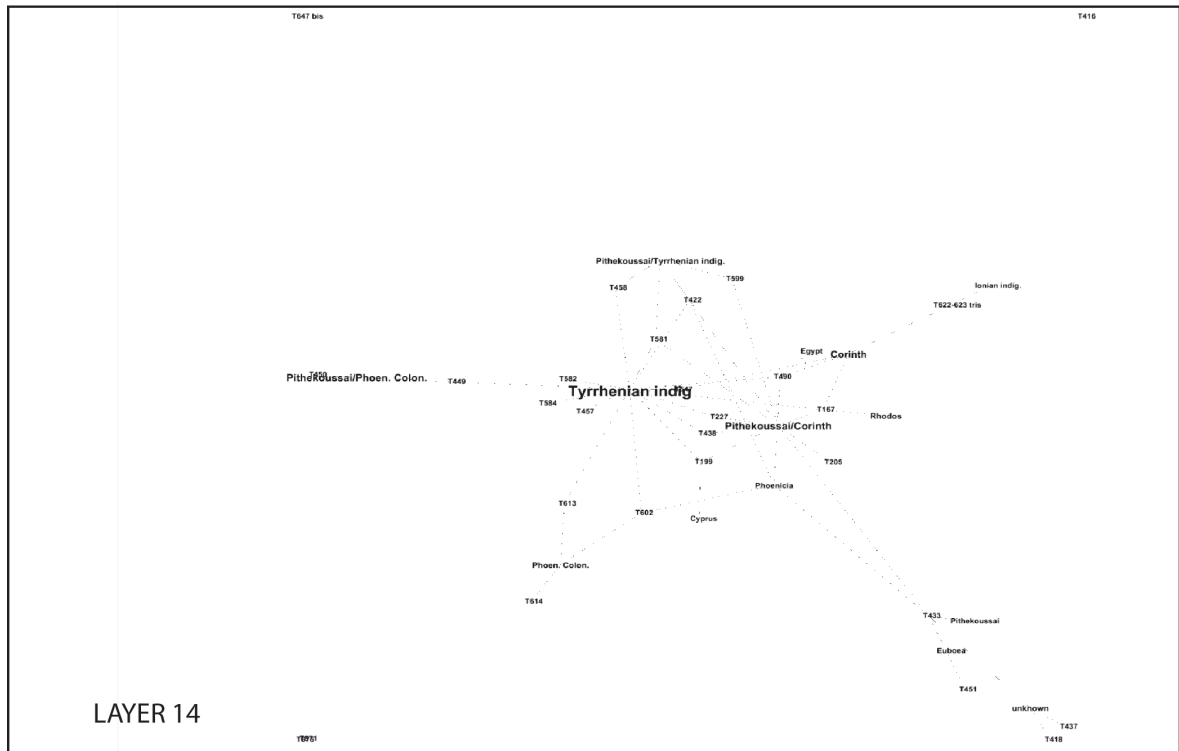


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Appendix 2. Selection of layers of the two-mode networks of material connectivity. The label size is based on *betweenness centrality*.



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