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Cultural landscapes, social networks and historical trajectories: A data-rich synthesis of Early Bronze Age networks (c. 2200-1700 BC) in Abruzzo and Lazio (Central Italy)

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Chapter 9

Thick, rich, slow: implications for the study of Bronze Age trajectories

“The problem is that prehistorians, and indeed archaeologists in general, simply equate long-term sequences of material conditions (things that can be traced over a long period of time) with the structuring of history. .. the mistake throughout is to equate process (as simply a pattern of change) with structural histories. .. The trap is sprung when we imbue the generative process with an intentional logic that operated at the same scale as the pattern being explained and which is further described entirely by the outcome of the chain of events” (Barrett 2004, 14-17).

What does a data-rich approach to archaeological synthesis of networks and trajectories (i.e. network changes) contribute to Italian Bronze Age studies, in particular, and to European and Mediterranean Bronze Age studies, in general? First and foremost it addresses the issue of the ‘retrospective’ approach to reconstructing historical trajectories current in Italian protohistory (§1.2). A data-rich approach helps to restore chronological order and rephrase trajectories in terms of network changes. A data-rich concern with sequence aligns with Barrett’s project that advocates not to ‘equate long-term sequences of material conditions [...] with the structuring of history’ (2004, 14) and not to take ‘the outcome of the chain of events’ (2004, 17) as a starting-point for archaeological explanation.³¹⁶ Arroyo-Kalin (2004) has adopted a similar stance against ‘retrospective’ approaches and introduced a network perspective to the notion of material conditions. He states that the “lived-in dispositions of materiality extend beyond synchronicity: they are processual in the sense of ‘ongoing outcomes’ that are established through the constitution of relations to and with prior objects” (2004, 78). The notion of material conditions as ‘ongoing outcomes’ is also relational in the sense that it acknowledges that a network change (or transformation) cannot be studied in a single place. In addition to sequence, network changes (i.e. trajectories) imply networks of places and should not only be studied in a diachronic sense but also in a ‘multi-sited’ manner (Chapter 2). Starting from the diachronic and ‘multi-sited’ character of network changes (i.e. material conditions as ongoing outcomes), a network approach can avoid the trap that is sprung in ‘retrospective’ approaches (cf. Barrett 2004). It appreciates that the order of ‘events’ should be followed in archaeological synthesis of historical trajectories, in order to understand trajectories as ‘ongoing outcomes’ (i.e. network changes). As a consequence, archaeological synthesis of ‘social transformation’ at the end of the Bronze Age, the preoccupation of protohistory in Central Italy (§1.2), starts with a data-rich understanding of networks at the beginning of the Bronze Age (Chapters 3-8).

Barrett’s caveat not to ‘equate long-term sequences of material conditions [...] with the structuring of history’ (2004, 14) goes to the heart of diachronic comparison. Generalising forms of archaeological synthesis tend to approach historical trajectories using the spatio-temporal entities of periodisation as units of analysis. Diachronic comparison then often boils down to simply ‘cross-checking’ for presences and absences in two, three or more generalised entities. These spatio-temporal entities are ‘ahistorical’ in the sense that they hardly capture historical situations (as ongoing outcomes) or cultural landscapes (as networks of places), and should therefore be avoided in a network approach. A generalising approach reifies spatio-temporal entities as ‘synchronic’ constructs and severs ‘diachronic’ forms of relationality that are crucial in a data-rich approach to reconstructing trajectories (§2.2). In other words, if the case study would stop short at a data-rich synthesis of Early Bronze Age networks and trajectories (Chapter 8), without considering how these networks and trajectories related to ‘what happened next’, it would still reify the Early Bronze Age as a ‘synchronic’ entity, a bounded

³¹⁶ To the faint-hearted who were left puzzled by *Fragments of antiquity* (Barrett 1994) and think that Barrett’s project of ‘(structural) material conditions’ is about ‘agency’, I would recommend close-reading of *Agency, the duality of structure, and the problem of the archaeological record* (Barrett 2001), which is not as much about agency as the title suggests, or *Temporality and the study of prehistory* (Barrett 2004).

building-block of periodisation. What distinguishes a data-rich approach is that it assembles the pieces of a ‘four-dimensional jigsaw’ into larger multi-faceted elements (i.e. parts of networks) that are open-ended and leave a number of questions open and unanswered. A data-rich understanding of Early Bronze Age trajectories (Chapters 3-8) requires further diachronic comparison with the subsequent situation. The first part of this chapter therefore engages with questions that protrude from the case study of the Early Bronze Age into the Middle Bronze Age. Methodologically, the notion that material conditions are ongoing outcomes (see above) requires a transgression of periodisation, at least from a network perspective on historical trajectories. At the same time, the Early-Middle Bronze Age transition can and should, from an epistemological perspective, be regarded as a construct of archaeological classification. For both these reasons, methodological and epistemological, the transition from one period (i.e. the Early Bronze Age) to the other (i.e. the Middle Bronze Age) has to be conceptualised as a trajectory, rather than “one damn thing after another” (cf. Bintliff 2003).

In archaeological classification particular elements in cultural landscapes tend to be attributed dichotomously to one period or the other. This denies a certain extent of fuzziness to boundaries between spatio-temporal entities in periodisation, even if a few phenomena can be found to defy classification and sit uneasily with ‘self-inflicted’ chronological boundaries. Commonly attributed to an undefined ‘transitional’ phase, in this case the Early-Middle Bronze Age transition, such phenomena tend to be excluded from diachronic comparison as ‘conflicting’ evidence, diluting the general impression of what distinguishes one period from the other. From a network perspective, however, putting pieces of ‘conflicting’ evidence into place can be crucial for arriving at a data-rich understanding of a so-called ‘transition’ as a trajectory of network changes. If ‘conflicting’ evidence does not result from the tendency to construct dichotomies in classification and periodisation, it can be interpreted in terms of chronological order. Then it is likely that ‘conflicting’ evidence constituted a ‘transitional’ phenomenon and can be put in a ‘transitional’ place in trajectories. This and other issues have to be addressed, in order to get all of the pieces of the ‘four-dimensional jigsaw’ into place and, at the same time, the spatio-temporal entities that are separated by the Early-Middle Bronze Age transition, into one and the same trajectory (or trajectories). Therefore, I will first make a brief diachronic comparison between Early and Middle Bronze Age archaeological records, addressing the basic question which elements were implicated in network changes, i.e. persisted in, disappeared from and/or were added to Middle Bronze Age cultural landscapes (§9.1.1). Subsequently, those issues that were already highlighted in the case study as potentially ‘time-transgressive’ (Chapters 3-8) will be brought together and to bear on the conceptualisation of the Early-Middle Bronze Age transition as a trajectory from a network perspective. The discussion starts with ceramics and metalwork typochronologies (§9.1.2) and flows over into a relatively thick description of what happened ‘at’ the Early-Middle Bronze Age transition (§9.2). Prompted by the possibility of a ‘time-transgressive’ scenario (§9.1.2), the emergence of the larger “Grotta Nuova” sphere in Central Italy (§9.2.1) and the larger “Protoappenninico” sphere in Southern Italy (§9.2.2) are repositioned with respect to the Early Bronze Age. Although this attempt at extending the diachronic comparison to include the Early-Middle Bronze Age transition is abbreviated and not data-rich, it is enlightening in an epistemological, methodological and historical sense (§9.2.3). More details and thicker descriptions can be found in the volume that will comprise the data-rich synthesis of Middle Bronze Age networks and trajectories in Abruzzo and Lazio (Van Rossenberg forthcoming).

In the third and final part of this concluding chapter (§9.3) the case study will be scaled up from Central Italy to the wider context of European and Mediterranean Bronze Age studies. The Early Bronze Age can be regarded as a ‘transitional’ period in the regional context of Central Italy, sandwiched as it is between two periods that are distinguished by so-called ‘rich’ (or relatively ‘complete’) archaeological records (§9.1.1). Despite its relatively low archaeological visibility, it still bridges the ‘gap’ between the Copper Age and the Middle Bronze Age. Starting from the notion that material conditions are ongoing outcomes (see above), trajectories cannot have ‘gaps’ and do not stop. The Early Bronze Age was not a period in which nothing happened or changed, but an indispensable part of historical trajectories. A data-rich synthesis of Early Bronze Age networks and trajectories shows that a lot of things did change in Abruzzo and Lazio, if only for the articulation of a ‘metal-work’ in Central Italy (chapter 8). The question that remains to be addressed, is how the Early Bronze Age ‘metal-work’ with its focus on Tuscany (chapter 4) fits in trajectories of change from the Copper Age to the Middle Bronze Age in the Italian peninsula as a whole and continental Europe and the Mediterranean at large (§9.3.1). In particular, the question is how the Bell Beaker networks that had connected Tuscany to Northern Italy, were related to the emergence of the Early Bronze Age ‘metal-

work', focused on Tuscany, and how this fits in the supra-regional context of metalwork-related trajectories in Europe and the Mediterranean. At the other end of the Early Bronze Age, there is ample evidence for the integration of Central Italy in the peninsula as a whole, as well as the larger European and Mediterranean spheres at the start of the Middle Bronze Age. In general, the question is how these subsequent changes in the Middle Bronze Age followed the conditions of possibility provided by Early Bronze Age networks and trajectories in Central Italy. In turn, Copper Age through Middle Bronze Age trajectories can be used as a comparandum for the extension of the Urnfield phenomenon to include Central Italy 'at' the Middle-Late Bronze Age transition, at the same time, the transition from 'earlier' to 'later' Bronze Age trajectories.

Putting the case study of the 'earlier' Bronze Age in its interregional context (§9.2.1) underscores that not only the protohistory of Central Italy (or the 'later' Bronze Age) has wider relevance, the latter commonly used as a comparandum in archaeological studies of 'early state formation' (§1.2.2). A network perspective that comprises the full length of Bronze Age trajectories in this region that is situated between Europe and the Mediterranean (§1.2.1), is crucial for Bronze Age studies at large, given the 'international', long-distance scope of exchange networks. However, the use of regional trajectories as a comparandum in interregional Bronze Age studies (e.g. Mathers & Stoddart 1994) is one thing, a network perspective is another. Akin to a world-systems approach (e.g. Sherratt 1993), a 'flat' understanding of networks (*sensu* Latour 2005) means that what happened in one region cannot be disconnected from what happened in other regions. From a network perspective, synthesis of Bronze Age trajectories entails putting the many regional 'four-dimensional jigsaws' into a larger, interregional 'four-dimensional jigsaw' (§9.3.2). Obviously, extending data-rich synthesis to such a supra-regional scale is at present a mission impossible, if not always going to be a never-ending story, given the accumulative nature of the discipline. Still, the epistemological issues encountered in this case study in slow archaeology (Chapters 3-8) carry wider implications and should be resolved in future, to improve current understandings of Bronze Age trajectories. I will argue that Bronze Age studies have long reached the interpretative limits of the spatio-temporal entities commonly used as units of analysis (i.e. cultures and periods) in synthesis, but that the data-rich concern of a network approach can help to resolve this and other issues. Because a network perspective is open-ended, yet spatial, it is the best solution for the issues at stake in the study of historical trajectories in Bronze Age studies as a whole (§9.3.2), one that rephrases and makes explicit the relational notions already present but implicit in the discipline (Chapter 2).

9.1 Diachronic comparison: transitions as trajectories

Extending the scope of the case study to include the Early-Middle Bronze Age transition is more than establishing 'what happened next?'. Because spatio-temporal entities tend to be reified in archaeological synthesis and interpretation, this is not a straightforward question. The answer is complicated and lies in conceptualising the transition between two periods as a trajectory and getting the pieces of 'late' Early Bronze Age and 'early' Middle Bronze Age networks in the same 'four-dimensional jigsaw', in the same trajectories of network changes. In addition, the Middle Bronze Age has traditionally not so much been considered as the ongoing outcome of Early Bronze Age network changes in Central Italy, as the starting-point of 'protohistoric' trajectories of social transformation (§1.2). In this respect, the Middle Bronze Age can be regarded as much a 'transitional' period as the Early Bronze Age, albeit one with relatively 'rich' archaeological records. Here I will focus on Middle Bronze Age networks as ongoing outcomes in so-called 'earlier' Bronze Age trajectories in Central Italy, from the perspective of the case study (Chapters 3-8). Although this diachronic comparison is abbreviated and not data-rich in itself, it does start from a data-rich synthesis of Early Bronze Age conditions that can shed a different light on 'what happened next?' in Bronze Age trajectories. The comparison concerns changes in material conditions, as evidenced by Copper Age, Early and Middle Bronze Age archaeological records and highlights which elements in cultural landscapes were implicated in network changes (§9.1.1). The approach is generalising in the sense that I will only make a distinction between the first and second 'halves' of the Middle Bronze Age (i.e. MBA1 and MBA2) and not between their constituent subphases. On the other hand, it is less generalising than my preliminary attempts at diachronic comparison of Bronze Age sequences in Lazio and Abruzzo (Van Rossenberg 2005, 2005a) that took the four constituent periods (i.e. the Early, Middle, Late and Final phases) of the Bronze Age as units of analysis (Table 1.1). At the same time, Barrett's caveat not to 'equate long-term sequences of material conditions [...] with the structuring of history' (2004, 14) should be kept in mind, in order to avoid reification of periodisation and to conceptualise transitions

between periods as trajectories. The alternative for a data-rich synthesis of Middle Bronze Age networks and network changes (cf. Van Rosenberg forthcoming) that will complement the case study (Chapters 3-8), is taking the possibility into account that ‘time-transgressive’ scenarios (or a certain degree of chronological overlap between subsequent phases) should also be expected at the Early-Middle Bronze Age transition in Central Italy. A number of such issues were already highlighted in the case study of Early Bronze Age networks (Chapters 3-8), but here they will be brought together and to bear on the comparison with Middle Bronze Age networks, starting with typochronologies of ceramics and metalwork as basic interpretive frameworks (§9.1.2).

9.1.1 Archaeological records as a proxy for network changes

As a starting-point for the data-rich synthesis of Early Bronze Age networks in Abruzzo and Lazio (§8.1), an assessment was made of the respective archaeological records in terms of the relative visibility of a range of elements in cultural landscapes (Table 8.1). This exercise has been extended to include the Middle Bronze Age (Table 9.1) and gives a general impression of network changes after the Early Bronze Age (see below). Throughout, however, Barrett’s caveat (2004) should be kept in mind: a sequence of material conditions cannot be equated with the structuring of history. In other words, the following discussion of archaeological records from Abruzzo and Lazio does not equal a data-rich, ‘multi-sited’ synthesis of Middle Bronze Age networks and trajectories in Central Italy, because it will not include a spatial analysis of cultural landscapes as networks of places (cf. Van Rosenberg forthcoming). Nonetheless, the preliminary assessment of archaeological records (Table 9.1) does provide insight into which elements in Middle Bronze Age cultural landscapes were implicated in network changes, similar to the exercise for Early Bronze Age archaeological records (§8.1). This assessment underscores that Middle Bronze Age archaeological records are relatively ‘rich’ (or ‘complete’). To be more precise, it is the first ‘half’ of the Middle Bronze Age (MBA1) that boasts archaeological records that are more ‘complete’ than those for both the preceding and the subsequent period, EBA2 and MBA2 (Table 9.1). This ‘peak’ in archaeological visibility seems to have been followed by another ‘transitional’ situation (i.e. MBA2) in which several elements are less prominent than in MBA1 archaeological records (Table 9.1). It shows that MBA1 is sandwiched between EBA2 and MBA2 as a ‘peak’ situation, to the same degree that the Early Bronze Age is sandwiched between the Copper Age and the Middle Bronze Age as a ‘transitional’ period with ‘poor’ visibility. This apparent alternation of ‘transitional’ and ‘peak’ situations in Bronze Age trajectories (in terms of archaeological visibility) will be discussed at a later stage (§9.3), in the context of a brief comparison between the ‘earlier’ and ‘later’ Bronze Age. First, the focus is on which elements in cultural landscapes were implicated in Middle Bronze Age network changes.

From Early to Middle Bronze Age networks

A major difference between Early and Middle Bronze Age cultural landscapes in Abruzzo and Lazio lies in the proliferation of cave use, as well as its increasing intersection with funerary practices (Table 9.1). Underground place-making had been a feature of Early Bronze Age cultural landscapes (Chapter 6), but the deposition of human remains, ceramics, food and other substances at caves became more prominent in Middle Bronze Age cultural landscapes (cf. Guidi 1991/1992; Miari 1995). Whereas caves with extensive assemblages had been limited to ‘coastal’ Abruzzo in the Early Bronze Age (Chapter 6), in the Middle Bronze Age this polythetic group became a prominent element of cultural landscapes in the intermontane region and ‘coastal’ Lazio, too. Moreover, the prevalent use of caves for funerary practices is particularly striking in Middle Bronze Age cultural landscapes (Table 9.1), given the extremely low archaeological visibility of Early Bronze Age burial (Chapter 5). This intersection of cave use and funerary practices did not entail a one-to-one-relationship, however, since burial was not a common denominator of Middle Bronze Age cave use (cf. Guidi 1991/1992). The relevance of such a basic distinction between ‘funerary’ and ‘ritual’ cave use highlights the potential of polythetic classification of Middle Bronze Age cave assemblages for recognising distinctive notions of place. At present, the peculiarities of Middle Bronze Age cave use feature prominently in accounts of Italian Bronze Age cave use in general (e.g. Guidi 1989/1990, 1991/1992; Miari 1995; Pacciarelli 1997; Cocchi Genick 1999a), as if these details were not peculiar to Middle Bronze Age cultural landscapes and social networks (cf. Van Rosenberg forthcoming). The tendency to generalise about cave use is not peculiar to Italy, but also constitutes a problem in European Bronze Age studies (e.g. Bradley 2000; Harding 2000, 317-320; 2004; Davies & Robb 2004; Brück 2011). By contrast, a network approach acknowledges that cave use was a historically specific form of place-making.

	Copper Age	EBA1	EBA2	MBA1	MBA2
Metalwork deposition					
Funerary contexts	++	-	-	?	-
Caves	+	-	-	+	?
Hoards	-	+	+	+	-
Isolated finds (non-funerary)	+	+	++	++	+
Funerary practices					
Rock-cut tombs	++	?	?	+	?
Individual burials	+	?	-	-	-
Caves – articulated burial	+	+	-	+	?
Caves – disarticulated human remains	+	+	+	++	+
Cave use					
Metalwork	+	-	-	+	?
Funerary practices	+	+	+	++	+
Food and/or ceramics	+	+	+	++	+
Open-air sites					
Settlement – houses	++	+	?	+	+
Settlement – funerary practices	+	?	-	?	?
Settlement – deposition (pits and other features)	+	?	?	+	+
Deposition – food and/or ceramics (isolated?)	-	+	+	+	+
Lake-side cult places	-	-	+	++	+

Table 9.1: a generalised overview of the relative archaeological visibility of constituent elements of Copper Age, Early and Middle Bronze Age cultural landscapes in Abruzzo and Lazio [abundant (++); present (+); uncertain (?); absent (-)].

From the perspective of Early Bronze Age networks in Abruzzo and Lazio (Chapter 8), the increase in cave use in Middle Bronze Age cultural landscapes is dramatic. This network change seems to have been an almost ‘concerted’ effort in place-making in MBA1. The phenomenon was ‘short-lived’ and seems to have been followed relatively soon by another network change, i.e. the abandonment of the majority of these caves in MBA2. Parallel to the increase in cave use, depositional practices at crater lakes show a MBA1 ‘peak’ (Table 9.1). These were extended from LAGO DI MEZZANO and LAGO DI BOLSENA in northernmost Lazio (Chapter 7) to crater lakes in the remainder of ‘coastal’ Lazio (notably LAGO DI BRACCIANO, LAGO ALBANO, LAGO DI NEMI) and seemingly ‘abandoned’ again in MBA2. Although cave use and lake-side deposition had already been forms of place-making in Early Bronze Age cultural landscapes, their parallel ‘peaks’ in MBA1 in terms of archaeological visibility (Table 9.1) is striking. It seems to indicate that these categories of ‘natural’ places (§8.3) were articulated in cosmologies that involved more places and were more widely shared throughout Central Italy in MBA1 than before (cf. Cocchi Genick 2002). Similar to the misrepresentation of cave use as a generalised Bronze Age phenomenon (see above), the reconstruction of a focus on water in generalising accounts of Bronze Age deposition (e.g. Cocchi Genick 1999a; Grifoni Cremonesi 1999, 2007) is predominantly based on Middle Bronze Age depositional practices, both underground at caves and in the open air at lakes. The data-rich synthesis already highlighted that such a connection with bodies of water is likely for metalwork deposition in the Early Bronze Age (Chapter 4). The ‘persistently’ high archaeological visibility of this element in MBA1 cultural landscapes, including occasional acts of deposition connected to subsurface flows of water inside caves (Table 9.1), suggests that metalwork deposition was part of a more general concern with water in MBA1 cosmologies (cf. Van Rosenberg forthcoming). This interrelationship is underscored by the subsequent and parallel decrease in visibility of cave use, metalwork deposition and lake-side cult places in MBA2 (Table 9.1).

Overall, ritualised forms of place-making remain overrepresented in Middle Bronze Age cultural landscapes, following the bias towards deposition also present in Early Bronze Age archaeological records (Chapter 8). Nonetheless, the MBA1 ‘peaks’ in visibility of cave use, lake-side deposition, metalwork deposition and burial (Table 9.1) highlight differences with the prior situation and should therefore be appreciated in terms of network changes. The generalised and ‘concerted’ increase in visibility of these particular forms of place-making seems to refer to a major network change. Arguably, this can be interpreted as the articulation of cosmologies that were more widely shared in MBA1 than before (see above). In this context, the dramatic increase of the visibility of burial (Table 9.1) indicates that notions of ancestorhood did also change in MBA1 and that the treatment of the dead was implicated in the articulation of cosmologies as a ‘new’ form of place-making. To sum

up, a preliminary comparison of Early and Middle Bronze Age cultural landscapes in terms of the visibility of its constituent elements (see above) underscores that the emergence of such an articulated cosmology was in all likelihood a past reality. The articulation of MBA1 cosmologies did not happen overnight, however, and should be regarded as a trajectory of network changes and interpreted as an ongoing outcome. This is underscored by the ‘persistent’ implication of the same elements that had also been involved in Early Bronze Age network changes, following cosmological principles already present (Chapter 8). It should be stressed that, different from ‘retrospective’ approaches, this preliminary interpretation uses the data-rich understanding of prior, Early Bronze Age network changes as a starting-point. A diachronic network approach can fully appreciate the spatial dimensions of changes in the relationships between places that resulted in ‘new’ material conditions, including cosmologies, first in MBA1 and subsequently in MBA2, as ongoing outcomes.

So far, this brief diachronic comparison has focused on ritualised forms of place-making in Abruzzo and Lazio (see above). It was stressed that Bronze Age cosmologies should be studied as historically specific networks of places that were part of trajectories of network changes, different from generalising approaches to ritual and religion in Bronze Age studies (e.g. Harding 2000; Brück 2011). A network approach is ‘multi-sited’ and does not regard ritualised forms of place-making as elements that are ‘additional’ to settlement patterns (as the more ‘basic’ pattern) and favour one type of place over another (chapter 2). From such a data-rich, ‘multi-sited’ perspective, it is significant that houses and features, such as pits, are also more prominent in Middle Bronze Age archaeological records from Abruzzo and Lazio than before, although dwarfed by the ‘peaks’ in visibility of ritualised forms of place-making (Table 9.1). This adds another element to the overall increase in the numbers of places that made up Middle Bronze Age cultural landscapes and raises ‘multi-sited’ questions about their spatial relationships. The ‘multi-sited’ analysis of Early Bronze Age cultural landscapes highlighted that cave use and metalwork deposition occupied ‘intermediate’ positions with respect to settlement patterns (Chapter 8). Did the overall increase in the numbers of places that made up Middle Bronze Age cultural landscapes follow conditions set by such a structure of spatial relationships in Early Bronze Age cultural landscapes? For instance, the Middle Bronze Age increase in cave use (Table 9.1) would have been conditioned by the physically circumscribed occurrence of these ‘natural’ places. Limited to areas where caves had already been selected for deposition in the Early Bronze Age, this increase did not necessarily constitute changes in spatial relationships. By contrast, the proliferation of depositional zones at crater lakes did constitute ‘new’ nodes in ‘coastal’ Lazio. At the same time, similar to caves, depositional practices at crater lakes were conditioned by the physically circumscribed occurrence of these ‘natural’ places. Only a data-rich analysis and synthesis of Middle Bronze Age cultural landscapes (as networks of places) can address the ‘multi-sited’ question to what extent the Early Bronze Age structure in terms of spatial relationships between different types of place (Chapter 8) was preserved in Middle Bronze Age network changes, or not. The potential of this approach will be highlighted by the relatively thick description of network changes at the Early-Middle Bronze Age transition (§9.2).

9.1.2 Time-transgressive issues and scenarios

The preliminary analysis of changes in archaeological records can be used as a proxy for network changes (§9.1.1), but conceptualising the Early-Middle Bronze Age transition as a trajectory requires more effort. Diachronic comparison should be more than simply ‘cross-checking’ presences and absences in two, three (or more) generalised, ‘ahistorical’ entities. The MBA1 ‘peaks’ in archaeological visibility (Table 9.1) highlight a major network change, but questions about temporalities of change are unanswered. Leaving a full-fledged, data-rich and ‘multi-sited’ comparison of Early Bronze Age and Middle Bronze Age networks aside (cf. Van Rosenberg forthcoming), one major issue should be addressed here. Does the Early-Middle Bronze Age transition refer to a decisive moment in historical trajectories, or does it follow a constructed dividing line that results from archaeological classification? As the neatness of archaeological classification (and, by consequence, periodisation) sits uneasy with the ‘fuzziness’ inherent in past realities (Chapter 2), a certain degree of overlap between EBA2 and MBA1 should be expected. The distinctions made in the abbreviated comparison between Early and Middle Bronze Age archaeological records, or EBA2 and MBA1 cultural landscapes (§9.1.1), are to a large extent generalised. Differences may have been exaggerated due to the ‘dichotomous’ tendency in archaeological classification to attribute one element (or the other) to one period (or the other). Favouring similarities over difference, archaeologists tend to attribute ‘more of the same’ to a ‘peak’

phenomenon, thereby creating more pronounced (than actual) distinctions and potentially misrepresenting trajectories and temporalities of change.

	‘Time-transgressive’ issues	‘Time-transgressive’ scenarios
Absolute chronology	Regional differentiation in the ‘timing’ of the EBA2-MBA1 transition in Central Italy	Earlier dates for MBA1 contexts in northern Tuscany and the Adriatic sphere than in central-southern Tuscany and Lazio (§3.3)
Typochronology (ceramics)	Chronological overlap between (sub)phases, i.e. typo-chronological fuzziness (cf. absolute chronology)	EBA2 (subphase BA2) probably overlaps partly with MBA1 (subphase BM1A) in ceramic traditions of the Central Italian sphere (“Grotta Nuova”) Similarly, the chronological position of MBA1 ceramic traditions of the Southern Italian sphere (“Protoappenninico”) is still ill-defined, but probably overlaps partly with EBA2 in Central Italian sphere.
Typochronology (metalwork)	Uncertain attribution of a fourth phase (“horizon IV”) in EBA metalwork typochronologies, given the ‘floating’ character of metalwork typochronologies (i.e. the general dissociation of metalwork from ceramics)	“Horizon IV” axes and dress-pins are commonly but uneasily dated to the EBA2-MBA1 transition. The few “horizon IV” axe hoards could therefore bridge the gap to the few MBA1 axe hoards, adding up to five horizons for the ‘earlier’ Bronze Age (rather than ‘the’ EBA) hoarding phenomenon, probably with an EBA2 peak in “horizons II-III & III” (§4.1).
Cave use and burial	General lack of absolute dates for cave assemblages and human remains from Abruzzo and Lazio, i.e. the MBA1 peaks in cave use and burial (Table 9.1) are only relatively dated by typochronologies of ceramics.	The start of the trajectories of several funerary contexts (Chapter 5) and caves (Chapter 6) from Lazio have been tentatively dated to the Early-Middle Bronze Age transition. An absolute dating programme should focus on the human remains from numerous MBA cave assemblages in order to corroborate (or reject) the possibility that the trajectories of these places started with funerary practices without associated ceramics in the Early Bronze Age (or not).
Crater lakes	Ambiguity about the attribution of the start of lake-side assemblages in coastal Lazio to the EBA2-MBA1 transition	Whereas deposition at Lago di Mezzano and Lago di Bolsena started in EBA2 (§7.1.3), the start of the trajectories at Lago di Bracciano and Lago Albano have been dated to the EBA2-MBA1 transition, with only circumstantial EBA2 evidence.

Table 9.2: overview of time-transgressive issues and scenarios ‘at’ the Early-Middle Bronze Age transition in Central Italy.

On the one hand, it is likely that the MBA1 ‘peaks’ in archaeological visibility of particular elements (Table 9.1) are somehow related to the past reality of a major network change (§9.1.1). On the other hand, exaggerated differences are not necessarily a good reflection of the degree of actual distinctions between historical situations, or temporalities of change in historical trajectories (cf. Fokkens 2008). Transformation (or a major network change) does not happen overnight but follows a trajectory (Chapter 2). In the case study of Early Bronze Age networks and trajectories (Chapters 3-8) several issues that question the ‘neatness’ of classification and periodisation, were already raised, concerning what happened ‘at’ the Early-Middle Bronze Age transition. These issues were labelled ‘time-transgressive’ due to the unclarity whether particular elements refer to historical situations in EBA2 and/or MBA1 (Table 9.2). These ‘time-transgressive’ issues are brought together here and discussed in terms of ‘time-transgressive’ scenarios that can shed a different light on trajectories (i.e. network changes) from Early into Middle Bronze Age networks. It will be argued that, from a network perspective on historical trajectories, ‘time-transgressive’ issues are not only a problem, but can also turn out to be the starting-point for a solution. If a ‘time-transgressive’ issue can be interpreted as a ‘transitional’ phenomenon, the pieces of ‘conflicting’ evidence can be put into their proper place in the ‘four-dimensional jigsaw’, situated in a ‘transitional’ phase in historical trajectories. Epistemologically, it is archaeological classification itself that helps to identify (by creating) ‘conflicting’ evidence, but ‘time-transgressive’ issues can only be resolved independently by diachronic ‘multi-sited’ analysis from a network perspective. The discussion starts with ‘time-transgressive’ issues in typochronologies of ceramics and metalwork, as these constitute the basic interpretive frameworks for the ‘earlier’ Bronze Age in Central Italy as a whole. Subsequently, the ‘time-transgressive’ issues that refer to place-making, i.e. cave use, burial and lake-side deposition (Table 9.2), will be discussed in the light of network changes at the Early-Middle Bronze Age transition (§9.2).

Ceramics typochronologies

Absolute dating is one independent framework for assessing ‘time-transgressive’ issues. In the study of Italian Bronze Age trajectories, however, relative chronologies tend to be favoured over absolute chronologies. Conflicting evidence, i.e. discrepancies between radiocarbon dates and typochronologies, are often resolved by interpreting absolute dates as ‘anomalies’, contrary to the independent character

of absolute dating. Because of this form of interpretive ‘escapism’ it has not been fully appreciated that the radiocarbon dates currently available for ‘early’ MBA1 assemblages from Central Italy show a pattern of regional differentiation that questions the neatness of classification. The respective dates from northern Tuscany and the northern Adriatic sphere are ‘earlier’ than those from southern Tuscany and Lazio (§3.3). This ‘time-transgressive’ issue was not addressed in the case study because of the general lack of absolute dates for assemblages from Abruzzo and Lazio, but should still be taken into account as a possibility, in order to understand Early Bronze Age trajectories in a supra-regional context. The implication of regional differentiation in the chronological position of the Early-Middle Bronze Age transition in Central Italy is that the places that made up ‘early’ MBA1 networks in northern Tuscany and the Adriatic sphere, were (partly) contemporary with places that made up ‘late’ EBA2 networks in southern Tuscany and Lazio. This means that a network analysis on the ‘supra-regional’ scale of Central Italy as a whole should take into account both EBA2 and MBA1 assemblages simultaneously. The ‘time-transgressive’ issue is that some of these assemblages are attributed to distinctive spatio-temporal entities (hence reconstructions of historical situations) in typo-chronological classification, although they were actually contemporary and part of the same networks of places. The ensuing ‘time-transgressive’ scenario is that ‘early’ dates for MBA1 assemblages (§3.3) could indicate that ‘late’ EBA2 ceramics and ‘early’ MBA1 ceramics circulated in the same networks.

The risk is that the ‘neatness’ of classification results in trajectories that mistake cultural differentiation for chronological differentiation. Appreciating the ‘time-transgressive’ possibility that regional differentiation could exist in typo-chronological sequences and result in ‘fuzziness’, counterbalances the tendency of neatness in archaeological classification that wrongly creates chronological differentiation in situations where cultural differences should be expected. Based on the absolute dates available (see above), the ‘time-transgressive’ scenario is postulated that ‘late’ EBA2 and ‘early’ MBA1 traditions of ceramics initially followed a spatial pattern of regional (but not chronological) differentiation, until MBA1 traditions fully replaced EBA2 traditions in southern Tuscany and Lazio. In order to test this ‘time-transgressive’ scenario of regional differentiation between the Tyrrhenian and Adriatic spheres in typo-chronological sequences ‘at’ the Early-Middle Bronze Age transition, the data-rich synthesis of Early Bronze Age networks and trajectories provides a starting-point. Regional differentiation was postulated for the prior situation in Central Italy, in the sense that two (or three) separate spheres seem to have existed in EBA2 (§3.2). It was also argued that this made sense in a data-rich understanding of Early Bronze Age networks and trajectories in Abruzzo and Lazio (Chapter 8). This underscores that things could be (and were) different on opposite sides of the peninsula and that, as such, the EBA2 situation is not incompatible with a scenario of regional differentiation in trajectories from Early to Middle Bronze Age networks. Because of the lack of absolute dates for relevant contexts from Abruzzo and Lazio (§3.3), however, a different approach is required to test (i.e. reject or corroborate) this ‘time-transgressive’ scenario for the Early-Middle Bronze Age transition. Here the methodology of typo-chronological networks, or ‘typo-networks’, used as proxy for networks in Central Italy as a whole (§3.2), comes into play again. The visual representation of spatial relationships between assemblages in terms of typological connections based on shared vessel types can shed light on ‘time-transgressive’ issues. Moreover, a ‘typo-network’ can be regarded as an independent framework because of its ‘non-selective’ aim to include as large a sample of places as possible.

Resorting to relative dates and typo-chronology, the ‘typo-network’ of vessel types attributed to subphase BM1A shows the same pattern of regional differentiation (Figure 9.1a) as ‘early’ dates for MBA1 assemblages in absolute chronology (see above). The spatial distribution of assemblages dated to subphase BM1A is fairly even throughout Central Italy, including many caves and open-air sites in southern Tuscany and Lazio, but the connections based on shared vessel types show a pattern of regional differentiation that to a large extent excludes southern Tuscany and Lazio. The strongest sense of ‘ceramic’ connectivity (i.e. the fattest lines) involves places in precisely those parts of Central Italy with ‘earlier’ dates for the Early-Middle Bronze Age transition, i.e. northern Tuscany and the Adriatic sphere (Figure 9.1a). To be more precise, ‘early’ radiocarbon dates (see above) concern samples from the same ‘early’ MBA1 assemblages, but this does not do away with the independent character of absolute and relative dating. The coincidence in spatial patterns based on absolute and relative chronologies reinforces the impression of regional differentiation. This means that there is a strong possibility that subphase BM1A is crucial in typo-chronological sequences in northern Tuscany and the Adriatic sphere, but probably less relevant in southern Tuscany and northern Lazio (Figure 9.1b). It should be stressed that a ‘time-transgressive’ scenario for the Early-Middle Bronze Age transition in

Central Italy does not change the general sense of order in periodisation. Based on the coincidence with patterns of regional differentiation in EBA2 (see above), chronological overlap between EBA2 and MBA1 should be interpreted as partial, circumscribed to the Early-Middle Bronze Age transition. Neither does the postulated ‘time-transgressive’ scenario reject existing typochronologies. Instead, it interprets the corroborated ‘time-transgressive’ issue of regional differentiation as an ‘episode’ of cultural differentiation in trajectories from Early to Middle Bronze Age networks, following the prior structure of regional differentiation between the Tyrrhenian and Adriatic spheres in EBA2.

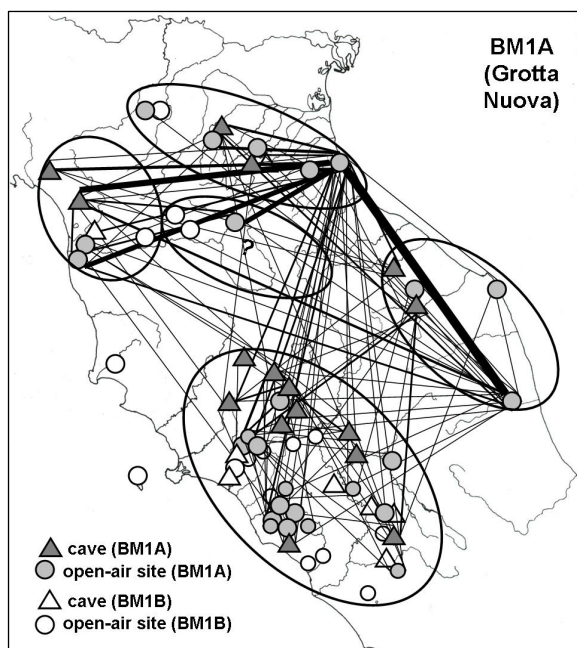


Figure 9.1a (above): ‘typo-network’ based on vessel types attributed to subphase BM1A, highlighting caves and open-air sites (in shades of grey), in relation to reconstructed cultural groups within the Central Italian “Grotta Nuova” sphere [compiled after Cocchi Genick 2001, 2002]. Sites dated to subphase BM1B (in white) have been included for comparison. Connecting lines indicate that at least one vessel type is shared between two sites [linewidth increases with the number of connections].

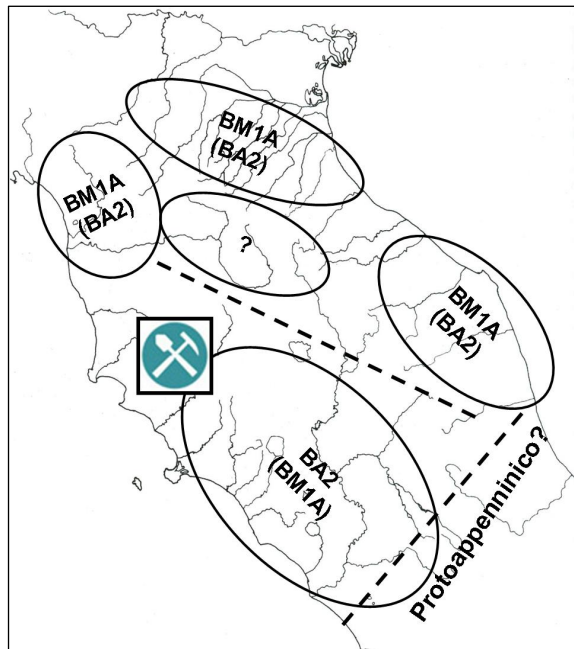


Figure 9.1b (below): ‘time-transgressive’ scenario for regional differentiation in typochronological sequences ‘at’ the Early-Middle Bronze Age transition, highlighting the position of the COLLINE METALLIFERE and cultural boundaries. It postulates that the MBA1 traditions of ceramics (i.e. “Grotta Nuova” and “Protoappenninico”) emerged outside southern Tuscany and northern Lazio where EBA2 traditions of ceramics ‘persisted’ and ‘early’ MBA1 ceramics were mainly introduced from the other parts of Central Italy.

The spatial pattern of regional, cultural differentiation at the Early-Middle Bronze Age transition is exemplified by the places that are ‘dead ends’ of strong connectivity (i.e. the fattest lines) in the ‘typo-network’ of subphase BM1A (Figure 9.1a). Rather than ‘dead ends’, it is more likely that these places would actually have connected to a network of places in southern Tuscany and northern Lazio where EBA2 ceramics remained predominant (Figure 9.1b). In other words, so-called ‘dead ends’ can be interpreted as nodes of ‘cross-cultural’ interaction and implicated in the constitution of cultural boundaries (i.e. boundary work). The same scenario has implications for the emergence of a ‘new’ cultural boundary between the larger Central and Southern Italian spheres that divide the peninsula in MBA1 (i.e. subphases BM1-2), the “Grotta Nuova” and “Protoappenninico” spheres (or ‘facies’), respectively (cf. Cocchi Genick 1995). There seems to have been a northward shift in the location of the main cultural boundary dividing the peninsula in EBA2 and MBA1 networks, as a consequence of which Abruzzo was incorporated as a whole in the Southern Italian sphere (Figure 9.1b). Again,

because of the lack of absolute dates for assemblages from Abruzzo and southern Lazio, the chronological position of the emergence of a cultural boundary between the larger “Grotta Nuova” and “Protoappenninico” spheres remains ill-defined (Table 9.2).³¹⁷ On the Adriatic side of the peninsula, however, it seems likely that the open-air site (CASTEL DEL LAMA) at the TRONTO river, seemingly at a ‘dead-end’ in emergent “Grotta Nuova” networks (Figure 9.1a), was a node in ‘cross-cultural’ interaction and involved in boundary work with the emergent “Protoappenninico” sphere in Abruzzo, notably the ‘early’ MBA1 settlement of TORRE DE’ PASSERI (cf. Fratini 1997a) in the UPPER PESCARA valley. To sum up, the ‘time-transgressive’ issue apparent as regional differentiation in absolute and relative dates (see above) should be interpreted as a pattern of cultural differentiation. This ‘time-transgressive’ interpretation brings meeting-places, ‘cross-cultural’ interaction and boundary work into play, otherwise lost in the neatness of classification, but crucial for conceptualising the Early-Middle Bronze Age transition as a trajectory (§9.2.3).

Metalwork typochronologies

The second main typochronology, based on so-called ‘horizons’ of metalwork (§4.1), is to an even larger extent a ‘floating’ chronology than ceramics typochronologies. Following from depositional patterns that tend to dissociate metalwork from ceramics in Early Bronze Age archaeological records (Chapter 4), metalwork typochronologies cannot in themselves test the ‘time-transgressive’ scenario postulated for the Early-Middle Bronze Age transition on the basis of ceramics and absolute dates (see above). The ‘floating’ character of metalwork typochronologies is exemplified by uncertainties about the chronological position of pieces of metalwork attributed to a ‘final’ Early Bronze Age ‘horizon IV’ (Table 9.2). Axes and dress-pins attributed to this horizon are commonly regarded as a ‘transitional’ phenomenon, with respect to earlier, Early Bronze Age and later, Middle Bronze Age types. As a consequence, they are implicitly, sometimes explicitly linked to the Early-Middle Bronze Age transition. The question is how this ‘time-transgressive’ issue concerning ‘horizon IV’ metalwork relates to the ‘time-transgressive’ scenario for the Early-Middle Bronze Age transition (Figure 9.1b). At the same time, another ‘time-transgressive’ scenario should be explored for Early Bronze Age hoards attributed to ‘horizon III’ (§4.1), given the ‘floating’ character of metalwork typochronologies. A ‘time-transgressive’ possibility is opened up by the spatial coincidence of the pattern of regional differentiation between the Tyrrhenian and Adriatic sides of the peninsula in typochronological sequences based on ceramics with the Early Bronze Age metallurgical spheres in Central Italy, separated by the APENNINES (Chapter 4). The question is whether ‘Tuscan’ axes of the ‘horizon III’ tradition were still produced in southern Tuscany and northern Lazio, when ‘early’ MBA1 ceramics were predominant in northern Tuscany and the Adriatic sphere (Figure 9.1b). To reiterate, not the general sense of chronological order is at stake in this ‘time-transgressive’ scenario, but the ‘self-inflicted’ boundaries constructed in typological classification and periodisation, in particular, in relation to the ‘four-dimensional jigsaw’ of Early to Middle Bronze Age trajectories.

The Early Bronze Age trajectory of the emergence of a ‘metal-work’ in Central Italy (Chapter 8) was largely based on the reconstruction of two metallurgical spheres (§4.1). One sphere was situated on the Tyrrhenian side of the peninsula and focused on central-southern Tuscany where axes and ingots were produced, and the other on the Adriatic side where axes with a distinctive compositional signature circulated and metal-hilted daggers were introduced in the peninsula. The percolated distributions of ‘Tuscan’ axes in the Adriatic sphere and ‘Adriatic’ metal-hilted daggers in the Tyrrhenian sphere were regarded as an indication of the articulation of an axis of connectivity between these metallurgical spheres (§4.4). The general sense of chronological order is that in EBA1 a central area of axe and ingot production emerged in central-southern Tuscany. This preceded the metalwork-related cross-APPENNINE axis of connectivity in EBA2, the latter coinciding with the peak in ‘Tuscan’ axe production (i.e. ‘horizon III’). Given the ‘floating’ character of metalwork typochronologies, however, the question is whether the two-way exchange of ‘Tuscan’ axes and ‘Adriatic’ metal-hilted daggers could actually have been a later phenomenon and would have coincided with the Early-Middle Bronze Age transition. This ‘time-transgressive’ scenario would situate the introduction of metal-hilted daggers (and ‘true’ bronze metallurgy) to the Tyrrhenian sphere in the same ‘cross-cultural’ context as the circulation of ‘early’ MBA1 ceramics in and from the Adriatic sphere (see above). This scenario is prompted by the

³¹⁷ The ‘earlier’ date range established for the EBA2, “Avellino” eruption of SOMMA-VESUVIUS (§3.4) could indicate an ‘earlier’ date for the ‘end’ of the “Palma di Campania” tradition of ceramics, which prevails in villages buried by the event. This leaves room in the ‘timespace’ of typochronological sequences for an ‘earlier’ emergence of the “Protoappenninico” sphere.

spatial coincidence of the COLLINE METALLIFERE (Figure 9.1b) with the ‘gap’ between northern Tuscany and southern Tuscany in the ‘typo-network’ of subphase BM1A (Figure 9.1a).

The COLLINE METALLIFERE in central Tuscany had been the focus of the ‘typo-networks’ based on Early Bronze Age ceramics (§3.2) and it seems unlikely that this strong sense of connectivity between northern and southern Tuscany in the Tyrrhenian sphere disappeared ‘temporarily’ at the Early-Middle Bronze Age transition (Figure 9.1a).³¹⁸ Rather, this ‘gap’ in Tuscany adds another spatial coincidence to the ‘time-transgressive’ scenario of regional differentiation at the Early-Middle Bronze Age transition, postulated on the basis of ceramics and absolute dates (see above). Based on this further coincidence in spatial patterns, it is likely that metalwork should be included in the ‘time-transgressive’ scenario. In other words, similar to the EBA2 tradition of ceramics (Figure 9.1b), the production of ‘horizon III’ axes persisted in southern Tuscany and northern Lazio,³¹⁹ whereas ‘horizon IV’ axes were produced in the ‘early’ MBA1 context of northern Tuscany and the Adriatic sphere (Table 9.3). This seems to be corroborated by the location of two ‘late’ Early Bronze Age axe hoards from Central Italy, one attributed to ‘horizon III-IV’ (“TERNI”) at the heart of Umbria (Bietti Sestieri & Macnamara 2007, 39 [nos. 52-59]) and the other to ‘horizon IV’ (PUGLIANELLA) in northern Tuscany (Cocchi Genick 1998 [no. 15]). Their location is linked to the main cultural boundaries in the ‘time-transgressive’ scenario for the Early-Middle Bronze Age transition (Figure 9.1b). This indicates that these ‘late’ EBA2 axe hoards were linked to ‘early’ MBA1 networks in northern Tuscany and the Adriatic sphere.³²⁰ In other words, ‘horizon IV’ axes were contemporary with a ‘final’ phase in the production of ‘horizon III’ axes in Tuscany and they circulated at the same time and in the same networks as ‘early’ MBA1 ceramics and ‘late’ EBA2 ceramics (Table 9.3).

	southern Tuscany-northern Lazio	northern Tuscany	Adriatic sphere
ceramics	‘late’ EBA2 ceramics predominant	‘early’ MBA1 ceramics (subphase BM1A) predominant	‘early’ MBA1 ceramics (subphase BM1A) predominant
metalwork	‘horizon III’ axes (& ingots), ‘horizon III’ metal-hilted daggers [“dal Tevere” & Cervara Alfina hoard?] & ‘horizon IV’ dress-pin [Lago di Mezzano]; introduction of ‘true’ bronze metallurgy?	‘horizon IV’ axes [Puglianello hoard]	‘horizon IV’ axes [“Terni” hoard], ‘horizon III’ axes [Valle della Vibrata?], ‘horizon III’ metal-hilted daggers [Loreto Aprutino hoard?] & ‘horizon IV’ dress-pin [Faraone]

Table 9.3: overview of the classes and types of objects implicated in the time-transgressive scenario of regional differentiation ‘at’ the Early-Middle Bronze Age transition in Central Italy [cf. Figure 9.1b].

Turning to metal-hilted daggers, the question is how these should be placed with respect to the Early-Middle Bronze Age transition.³²¹ Although the situation is less clear because of their lower numbers (§4.1), a revised typochronology for metal-hilted daggers suggests that one of two ‘Adriatic’ hoards (i.e. RIPATRANSONE in southern Marche) predated the other (i.e. LORETO APRUTINO in Abruzzo). Metal-hilted daggers in the Tyrrhenian sphere were generally contemporary with the LORETO APRUTINO hoard, as most of the respective types are represented in the latter (De Marinis 2001, 266-275). This was used to corroborate the scenario that the articulation of the Tyrrhenian and Adriatic metallurgical spheres into a larger ‘metal-work’ took place in EBA2 (Chapters 4 & 8). Given the ‘floating’ character of metalwork typochronologies, however, the ‘time-transgressive’ issue is whether the extension of the distribution of metal-hilted daggers to include the Tyrrhenian sphere should perhaps be placed in the final phase of EBA2, ‘at’ the Early-Middle Bronze Age transition. The inclusion of the LORETO APRUTINO hoard in southern Abruzzo (Appendix 1 [#5]) in the ‘time-

³¹⁸ The ‘typo-network’ based on ceramics dated to subphase BM1B does show such a strong sense of connectivity in the Tyrrhenian sphere (cf. Van Rossenberg forthcoming).

³¹⁹ Here it should be recalled that Early Bronze Age hoards attributed to ‘horizon II-III’ and ‘horizon III’ were considered as a single phase, following the principle that the latest object in a ‘horizon II-III’ hoard dates the act of deposition (§4.1). By lumping these ‘horizons’ together, differentiation between an ‘earlier’ and a ‘later’ EBA2 phase in the hoarding phenomenon may have been lost.

³²⁰ The consistent presence of cobalt (Co) as a trace element (Hook 2007 [nos. 52-59]) in the axes from the “TERNI” hoard (Table 4.8) distinguishes these from ‘Tuscan’ axes (§4.1) and links this hoard at the heart of Umbria to the metallurgical sphere of ‘Adriatic’ metal-hilted daggers (Table 4.10).

³²¹ Typochronologically simple daggers are more ambiguous and tend to be attributed generically to the Early or Middle Bronze Age, respectively (cf. Bianco Peroni 1994). Without a more detailed analysis of the composition analyses available for Middle Bronze Age simple daggers in relation to metallurgical spheres (cf. Van Rossenberg forthcoming), it is difficult to relate these to the Early-Middle Bronze Age transition.

transgressive' scenario would mean that it was part of 'boundary work' at the Early-Middle Bronze Age transition, to be more precise, the emergence of the cultural boundary between the "Grotta Nuova" and "Protoappenninico" spheres on the Adriatic side of the peninsula (Figure 9.1b). Because of the virtual absence of Early Bronze Age evidence from 'coastal' Abruzzo (§7.1.1) it is tempting to interpret this particular dagger hoard as a connecting element (i.e. boundary work) between the 'early' MBA1 open-air sites (CASTEL DEL LAMA; TORRE DE' PASSERI), situated on the 'margins' of the newly established cultural spheres (see above), but for the same reason of absence of further evidence this part of the scenario cannot be tested (i.e. rejected or corroborated).

A similar intermediate position between these 'early' MBA1 open-air sites in the Adriatic sphere is occupied by 'Tuscan' axes (§4.3) from the VIBRATA valley (Appendix 1 [#2.2-4]). These were used to corroborate two-way exchange of metalwork in EBA2 (§4.4). The question is whether these followed the EBA2 axis of connectivity between the 'Tuscan' and 'Adriatic' metallurgical spheres (§4.4) and should be linked to the few 'early' types of metal-hilted dagger in Tuscany, which are also represented in the RIPATRANSONE hoard (see above). Alternatively, the 'time-transgressive' possibility remains that 'later' types of metal-hilted dagger in northern Lazio, such as those from the CERVARA ALFINA hoard (Appendix 1 [#26]) and the one dredged from the TIBER (Appendix 1 [#46]), should be placed in the same networks as 'late' EBA2 ceramics and 'early' MBA1 ceramics (Table 9.3). Such a distinction between two phases among metal-hilted daggers in the Tyrrhenian sphere (i.e. EBA2 and the Early-Middle Bronze Age transition) does not only refer to the general possibility of a 'time-transgressive' scenario. It also refers to the particular position in Bronze Age trajectories of the introduction of 'true' bronze metallurgy to the Tyrrhenian sphere, for which at present 'Adriatic' metal-hilted daggers are the main, if not the only candidate (Chapter 4). The 'earlier' metal-hilted daggers that arrived in Tuscany do not seem to have prompted a change in the composition of raw material for the production of 'Tuscan' axes. This leaves the possibility open that the transfer of technological knowledge for 'true' bronze metallurgy should not be linked to 'earlier', but to 'later' metal-hilted daggers in the Tyrrhenian sphere and, as a consequence, perhaps to as late as the Early-Middle Bronze Age transition.

Finally, dress-pins are few, but especially those dated to 'horizon IV' (or the Early-Middle Bronze Age transition) should be taken into consideration as a 'time-transgressive' issue (Table 9.2). It was highlighted that the spatial distribution of dress-pins follows a cross-APENNINE axis and that their Northern Italian, perhaps continental European connotations suggests an 'Adriatic' provenance, similar to metal-hilted daggers. Based on these spatial considerations, it was argued that they should be regarded as part of the emergence of a larger 'metal-work' connecting the Adriatic and Tyrrhenian metallurgical spheres in EBA2 (§4.4). However, two of these dress-pins, one from FARAONE (Appendix 1 [#3]) on the Adriatic side and the other from LAGO DI MEZZANO (Appendix 1 [#27.6]) on the Tyrrhenian side, have been dated explicitly to the Early-Middle Bronze Age transition. If their reconstructed route from Northern Italy through the 'northern' Adriatic sphere is correct, the dress-pin that ended up at LAGO DI MEZZANO could have followed a 'time-transgressive' route, moving through 'early' MBA1 networks but ending up in 'late' EBA2 networks (Figure 9.1b). Incidentally, the same would have been the case, if it had arrived at LAGO DI MEZZANO through northern Tuscany from Northern Italy (or further north). In other words, these two particular, 'transitional' dress-pins probably circulated at the same time and in the same networks as 'late' EBA2 ceramics and 'horizon III' axes in the Tyrrhenian sphere, as well as 'early' MBA1 ceramics and 'horizon IV' axes in northern Tuscany and the Adriatic sphere (Table 9.3).

To sum up, the metalwork-related 'time-transgressive' issues (Table 9.2) are not incompatible with the 'time-transgressive' scenario of regional differentiation postulated for the Early-Middle Bronze Age transition on the basis of ceramics and absolute dates (Figure 9.1b). This is not only due to the 'floating' and flexible character of typo-chronologies of metalwork. In fact, precisely those typo-chronological issues that are explicitly related to the Early-Middle Bronze Age transition (as a result of the neatness of classification), seem to be resolved by allowing for a spatial pattern of regional differentiation. This underscores the paradox that 'time-transgressive' issues can help to get pieces of 'conflicting' evidence (Table 9.2) into place in the 'four-dimensional jigsaw' of historical trajectories, because they tend to refer to 'transitional' phenomena (Table 9.3). It should be stressed that the inclusion of metalwork in the 'time-transgressive' scenario for the Early-Middle Bronze Age transition has not changed the general sense of chronological order in the Early Bronze Age trajectory of the emergence of a larger 'metal-work' (Chapter 8). The incipience in EBA1 of 'large-scale' metalwork production, focused on the COLLINE METALLIFERE in central Tuscany, in the Tyrrhenian metallurgical

sphere (§4.1) preceded its articulation with the Adriatic sphere into a larger ‘metal-work’ in EBA2 (§4.4). This already included exchange of metal-hilted daggers, but the question is whether the transfer of the technological knowledge for ‘true’ bronze metallurgy to the Tyrrhenian sphere should actually be dated to the Early-Middle Bronze Age transition (see above). Moreover, the attribution of some of the many ‘horizon III’ axe hoards to a ‘late’ EBA2 phase, contemporary with ‘early’ MBA1 networks and ‘horizon IV’ axe hoards elsewhere (Table 9.3), has not changed the general impression that ‘Tuscan’ axe and ingot production intensified towards a ‘peak’ in EBA2.³²² The redistribution of ‘horizon III’ axe (and ingot) hoards, to let some of them coincide with the Early-Middle Bronze Age transition, creates a trajectory that bridges a ‘gap’ to the even fewer axe hoards from Central Italy dated to MBA1, postdating this ‘transitional’ phase (cf. Van Rosenberg forthcoming). Similarly, extending the trajectory of the circulation of metal-hilted daggers to the Early-Middle Bronze Age transition (Table 9.3) bridges a ‘gap’ to the introduction of swords from Northern and Southern Italy to the Adriatic sphere of Central Italy in MBA1 (§9.3.1).

9.2 Reassembling the Early-Middle Bronze Age transition

The paradox is that ‘time-transgressive’ issues can at first sight seem to highlight a problem of imprecision (Table 9.2), but can nonetheless on closer inspection give rise to a ‘time-transgressive’ solution that provides a more precise understanding of historical trajectories. So far, I have argued that typochronological issues ‘at’ the Early-Middle Bronze Age transition can be resolved by interpreting the emergence of MBA1 traditions of ceramics in Central Italy as a trajectory with a high degree of regional differentiation (§9.1.2). This does not change the general sense of order in periodisation (from EBA2 to MBA1 networks), but it does seem provide the opportunity to subdivide EBA2 between a main phase that is relevant for Central Italy as a whole, and a ‘final’ phase that is mainly relevant in southern Tuscany and northern Lazio (Figure 9.1b). The postulated ‘time-transgressive’ scenario can be tested (i.e. rejected or corroborated) by cross-checking to what extent the same scenario can resolve other ‘time-transgressive’ issues than the basic chronological ones (§9.1.2) and gets other pieces of the ‘four-dimensional jigsaw’ into place, too. Other ‘time-transgressive’ issues ‘at’ the Early-Middle Bronze Age transition include uncertainties about the start of trajectories of cave use, (other) funerary contexts and lake-side cult places (Table 9.2). It is striking that the remaining ‘transitional’ issues concern precisely those elements from cultural landscapes that seem to increase in archaeological visibility between EBA2 and MBA1 (Table 9.1). This seems to corroborate that these forms of place-making were implicated in network changes between EBA2 and MBA1 (§9.1.1). At the same time, resolving ‘time-transgressive’ issues for these particular pieces of the ‘four-dimensional jigsaw’ holds the promise of making a diachronic comparison that is less dichotomous than one between two generalised, ‘ahistorical’ situations (Table 9.1). In other words, it brings a conceptualisation of the Early-Middle Bronze Age transition as a trajectory closer at hand.

The preliminary analysis of archaeological records highlighted that metalwork deposition was no longer the only prominent form of depositional practices in MBA1 (§9.1.1) and that other forms of place-making also show a MBA1 ‘peak’ in archaeological visibility, i.e. funerary practices, cave use and lake-side deposition, in Abruzzo and Lazio (Table 9.1). Several questions concerning these changes from Early to Middle Bronze Age networks will be addressed here. Was the increase in each of these forms of place-making ‘immediate’, right at the Early-Middle Bronze Age transition, or did it follow a more gradual trajectory? Were these changes concerted and did they add up to a major network change, as suggested on the shared cosmological connotations of these forms of place-making (§9.1.1), or not? The main question to be addressed here is how these changes were related to the ‘time-transgressive’ scenario for the Early-Middle Bronze Age transition, postulated on the basis of coincidences in patterns of regional differentiation in ceramics, absolute dates and metalwork (§9.1.2). ‘Time-transgressive’ issues that were highlighted for other forms of place-making in the case study (Table 9.2) concern ambiguity about the start of the trajectories of several funerary contexts (Chapter 5), caves (Chapter 6) and depositional zones at crater lakes (Chapter 7). In some cases their start has been dated explicitly to the Early-Middle Bronze Age transition and the question is how the respective places should be positioned with respect to the Early-Middle Bronze Age transition, given the ‘time-transgressive’ scenario (§9.1.2). To be more precise, it entails a closer look at those places where

³²² The virtual absence of MBA1 metalwork from northern Lazio, with the exception of the fourth axe in the series from LAGO DI MEZZANO (cf. Van Rosenberg forthcoming), could suggest that ‘Tuscan’ axes of Early Bronze Age tradition remained in production (or circulation) even after the Early-Middle Bronze Age transition.

‘early’ MBA1 ceramics ended up, and this will bring the notions of typo-chronological fuzziness, regional differentiation and ‘cross-cultural’ interaction to bear on place-making.

Apart from ‘time-transgressive issues’ (Table 9.2), the general lack of articulation between the “Grotta Nuova” and “Protoappenninico” spheres makes it difficult to synchronise the respective typo-chronological sequences, because it results in the emergence of a cultural boundary in MBA1 (Figure 9.1b). Whereas the first phase of one sphere (i.e. “Grotta Nuova”) has been subdivided in two subphases, i.e. BM1A and BM1B (Table 9.4), the first phase of the other (i.e. “Protoappenninico”) is generally not subdivided, i.e. BM1 (Table 9.5). Recent syntheses of ‘border zones’, notably the FUCINO BASIN (Ialongo 2007) and southern Lazio (Alessandri 2007, 2009; Angle & Mancini 2007), have presented a number of so-called ‘culturally mixed’ assemblages, incorporating ceramics attributed to both the “Grotta Nuova” and “Protoappenninico” spheres. However, these syntheses have neither addressed the issue of the synchronisation of the respective first phases in MBA1 typo-chronologies, nor taken into account the possibility of a ‘time-transgressive’ scenario of partial overlap between EBA2 and MBA1 (§9.1.2; Figure 9.1b). In the end, ‘mixed’ MBA1 assemblages will prove invaluable for sorting out these typo-chronological issues, but not without first highlighting and exploring the ‘time-transgressive’ issues that are at stake at the Early-Middle Bronze Age transition, in comparison with EBA2 patterns (see below). Here I will follow the cultural divide and start the discussion of these issues with a consideration of place-making in those parts of Lazio that are situated in the emergent “Grotta Nuova” sphere (§9.2.1). This will be followed a consideration of place-making in Abruzzo and those parts of Lazio that are situated in the “Protoappenninico” sphere (§9.2.2). Because the latter sphere is mainly situated in Southern Italy and it lacks the typo-chronological resolution of the “Grotta Nuova” sphere, the focus will be on place-making in relation to the emergence of a cultural boundary between these larger spheres. Finally, the implications of ‘time-transgressive’ issues and scenarios for the study of Early to Middle Bronze Age trajectories in Central Italy will be highlighted (§9.2.3).

9.2.1 The emergent Grotta Nuova sphere

Different from the ‘dichotomous’ impression of a dramatic increase in place-making in Abruzzo and Lazio between EBA2 and MBA1 (§9.1.1; Table 9.1), the ‘earliest’ MBA1 assemblages from several caves and crater lakes and a rock-cut tomb in those parts of Lazio that are situated in the “Grotta Nuova” sphere (Table 9.4) are linked to places with an EBA2 connotation. The increase in place-making in northern Lazio seems mainly related to the subsequent subphase (i.e. BM1B). In this respect, the trajectory of the type site of the larger sphere, the cult place at GROTTA NUOVA, stands out with the largest number of vessel types, but this act of place-making postdated the Early-Middle Bronze Age transition (Table 9.4). This ‘diachronic’ pattern underscores the apparent ‘irrelevance’ of subphase BM1A in typo-chronologies for southern Tuscany and northern Lazio (§9.1.2; Figure 9.1a). At the same time, it shows that the ‘earliest’ MBA1 ceramics initially ended up in EBA2 assemblages (or together with EBA2 ceramics). This could corroborate the ‘time-transgressive’ scenario of overlap between ‘late’ EBA2 ceramics in the Tyrrhenian sphere and ‘early’ MBA1 ceramics in the Adriatic sphere and northern Tuscany (Figure 9.1b) and prompts a closer look at the select group of places from Lazio involved in the emergence of the “Grotta Nuova” sphere (Table 9.4). Starting with the largest assemblage in terms of the number of vessel types, the rock-cut tomb at PRATO DI FRABULINO (Appendix 2 [#13]) was already discussed as one of the few Early Bronze Age contexts of burial (Chapter 5).³²³ Its ‘time-transgressive’ issue is that its EBA2 trajectory has been presumed on the basis of interpreting the large assemblage of ‘early’ MBA1 ceramics in its corridor as a closing deposit, in its turn closed by a layer of stones, perhaps a full-fledged cairn. In addition, its use as a collective tomb presupposes a longer trajectory that extended back to EBA2, which is corroborated by associated surface finds of EBA2 ceramics (Appendix 4 [#45]) and ‘early’ MBA1 ceramics (Table 9.4). Among the grave goods inside the tomb, partly found spatially dissociated from the human remains of at least four individuals, three silver ornaments and a necklace of eighty-four glassy faïence beads stand out (Casi et al. 1995). The compositional signature of the latter (Santopadre & Verità 1995, 2000) links them to Early Bronze Age ‘glass’ production in Northern Italy and continental Europe (Angelini et al. 2006a; Bellintani et al. 2006, 1515 [fig. 5]; Angelini 2011).

³²³ Nuccia Negroni Catacchio, Matteo Aspesi, Christian Metta & Giulia Pasquini: “Una nuova necropoli del Bronzo Antico-Medio a Roccia (Farnese, Vt)” have recently reported a second funerary context dated to the Early-Middle Bronze Age transition from the same area, presented at the 10th PREISTORIA E PROTOSTORIA IN ETRURIA conference, 10-12 September 2010, http://www.preistoria.it/ppe_x/PPE_X_Programma.pdf [last viewed 17 April 2012] (presumably published in the conference proceedings available at the 2012 conference).

	EBA2	BM1A	BM1A-1B	BM1B	References
Coastal Lazio (north)					
Lago di Bolsena-Grancaro & Promontorio del Grancaro (VT)			1? & 1? [BM1]		Tamburini 2006
Lago di Bolsena- Monte Senano (sub) & Ragnatoro (VT)	3				Cocchi Genick 1998, 2001, 2002
Lago di Mezzano (VT)	64	4	2	2	
Prato di Frabulino (VT) [rock-cut tomb]	X	1 [12]			Cocchi Genick 2001, 2002
Felcetone (VT) [rock fissure]	?		2		
Grotta dell'Infernetto (VT)	?		1	4	
Grotta Nuova (VT)				17	
Grotta di Don Simone (VT)	?		1		
Riparo di Ponte dell'Abbadia (VT)				4	
Cavernette dell'Agro Falisco (VT)				2	Cocchi Genick 2001, 2002
Lago di Bracciano-Vigna Grande (VT)		1		1	
Lago di Bracciano-Vicarello (VT)	?		1	3	
Pontone della Noce (VT) [rock fissures]				1	
Pian Sultano (RM) [rock fissures]	X	3		1	
Intermontane region					
Grotta Scura (RI)			1	1	Cocchi Genick 2001, 2002
Grotta Rocco di Prospero (RI)	?			3	
Coastal Lazio (south)					
Grotta di Mora Cavorso (RM)		?	X	?	Rolfo et al. 2009, 2010
Grotta dello Sventatoio (RM)	?	9		1	Cocchi Genick 2001, 2002
Grotta Polesini (RM)	1		1		Cocchi Genick 1998, 2001, 2002
Lago Albano-Villaggio delle Macine (RM)	X			4	Angle et al. 2007

Table 9.4.: overview of the trajectories of cave use (intersecting with burial), lake-side cult places and a rock-cut tomb in Lazio at the Early-Middle Bronze Age transition in the emergent “Grotta Nuova” sphere [including the number of vessel types attributed to each subphase].

This ‘Northern Italian’ (or ‘continental European’) connotation situates the glass beads from PRATO DI FRABULINO in the same sphere as metal-hilted daggers and dress-pins (§9.1.2). It indicates that the closing deposit of ‘early’ MBA1 ceramics was placed in a funerary context with prior, EBA2 objects showing links to Northern Italy (either through the Adriatic sphere or northern Tuscany). Alternatively, if the necklace of glassy faïence beads should not be interpreted as grave goods in EBA2 burials, but as a ‘secondary’ act of structured deposition, it would have been contemporary with the closing deposit of ‘early’ MBA1 ceramics in the corridor of the tomb (see above). Such a ‘time-transgressive’ scenario includes the necklace in a structured act that decommissioned the tomb as a place of repetitive burial. In this respect, it should be recalled that the only other silver ornament than those from PRATO DI FRABULINO has been reported from the cult-place of LAGO DI MEZZANO (Appendix 1 [#27]). This piece of silver was part of an act of structured deposition inside an EBA2 vessel (§7.1.3) that, incidentally, had originally been dated to ‘early’ MBA1 (i.e. subphase BM1). It is striking that all of these acts of deposition were related to the exchange of rarities (or even novelties) at the time that the Tyrrhenian and Adriatic spheres were articulated into a larger ‘metal-work’ in EBA2 (Chapter 8). The association of these objects with the few places in northernmost Lazio where ‘early’ MBA1 ceramics ended up, highlights the possibility that they were related to networks in the Tyrrhenian sphere where EBA2 ceramics remained predominant and ‘early’ MBA1 networks in the Adriatic sphere (Figure 9.1b). Turning to ceramics deposition at LAGO DI MEZZANO (§7.1.3), the number of ‘early’ MBA1 vessel types is low in comparison with the high number of EBA2 vessel types at the cult place itself (Table 9.4) and with the number of ‘early’ MBA1 vessels in the PRATO DI FRABULINO assemblage. Following the ‘time-transgressive’ scenario (§9.1.2), this seems to indicate that ‘early’ MBA1 vessels from elsewhere were incorporated at LAGO DI MEZZANO in a persistent tradition of EBA2 ceramics deposition. In other words, the supra-regional connotation of the cult place was preserved at the Early-Middle Bronze Age transition, but ceramics from the Adriatic sphere (or northern Tuscany) had already changed from EBA2 to MBA1 traditions.

At the same time, the low number of ‘early’ MBA1 vessel types in the assemblage from LAGO DI MEZZANO indicates that immediately after the Early-Middle Bronze Age transition this cult place was not the main focus of deposition that it used to be, especially in comparison with the new cult place established at GROTTA NUOVA in subphase BM1B (Table 9.4). This indicates that in northernmost Lazio the dramatic increase in place-making in MBA1 (§9.1.1; Table 9.1) should be interpreted as a redistribution of ceramics deposition, previously focused on LAGO DI MEZZANO, over a larger number

of places (Table 9.4). The increase in place-making in MBA1 can be explored further by taking a closer look at the select group of ‘new’ places at crater lakes and caves with trajectories that started at the Early-Middle Bronze Age transition (Table 9.4). Starting with crater lakes, it was argued that the emergence of deposition at these places with a subsurface connotation in northernmost Lazio (LAGO DI MEZZANO; LAGO DI BOLSENA) was linked to the articulation of ‘new’ cosmologies in EBA2 (§8.3). The ‘time-transgressive’ question is how this relates to similar places at LAGO DI BRACCIANO in ‘southern’ northern Lazio (§7.1.3) and LAGO ALBANO in ‘northern’ southern Lazio (§7.1.4), both with ‘time-transgressive’ trajectories that started ‘at’ the Early-Middle Bronze Age transition (Table 9.2). Given the presence of the feature of a stone cairn at VICARELLO (Appendix 4 [#103]), similar to several such lake-side features at LAGO DI BOLSENA (§7.1.3), this location at LAGO DI BRACCIANO is most closely related to the ‘original’ acts of place-making at crater lakes in northernmost Lazio. As the putative Early Bronze Age date for VICARELLO is not borne out by ceramics typochronology, however, another location (VIGNA GRANDE) can be regarded as the ‘first’ act of place-making at LAGO DI BRACCIANO involving ceramics at the Early-Middle Bronze Age transition (Table 9.4). This does not preclude the scenario that the start of building a cairn at VICARELLO, as part of the transfer of traditions of depositional practices at crater lakes from LAGO DI BOLSENA (§7.1.3), including cosmological knowledge (§8.3), preceded the ‘first’ ceramics deposition and should be regarded as the ‘original’ act of place-making at LAGO DI BRACCIANO, before this cairn became a focus for ceramics deposition in subphase BM1B (Table 9.4).

The postulated directionality that place-making at LAGO DI BRACCIANO derived from LAGO DI BOLSENA, perhaps a form of ‘shrine franchising’ (cf. Insoll 2006), is compatible with the general sense of chronological order. First connectivity between the Adriatic and Tyrrhenian spheres was metalwork-related and focused on an axis towards southern Tuscany and northernmost Lazio, in the case of the latter exemplified by the supra-regional cult place of LAGO DI MEZZANO (Chapter 8). Subsequently, cross-APENNINE connectivity became more dispersed at the Early-Middle Bronze Age transition. A similar sequence can be proposed for LAGO ALBANO in ‘northern’ southern Lazio (§7.1.4), where the trajectory of VILLAGGIO DELLE MACINE started with an act of structured deposition and a mixed assemblage of both EBA2 and ‘early’ MBA1 ceramics (Appendix 4 [#173]). Although the ‘earliest’ vessel types published so far have been attributed to subphase BM1B (Table 9.4), it seems likely that the typochronologically ‘mixed’ assemblage from LAGO ALBANO should be interpreted, in the light of the ‘time-transgressive’ scenario of overlap between ‘late’ EBA2 and ‘early’ MBA1 (Figure 9.1b), as a ‘cross-cultural’ act of place-making and as secondary to the tradition of ceramics deposition at crater lakes in northernmost Lazio. Obviously, the final publication of the assemblage from VILLAGGIO DELLE MACINE, as well as the reported absolute dating sequence (§3.3), will be invaluable and is eagerly awaited. A sequence for LAGO ALBANO that starts at the Early-Middle Bronze Age transition (rather than EBA2), would also fit in the reconstructed shift in settlement patterns towards the interior in EBA2, away from the ALBAN HILLS, to the north of the LOWER ANIENE valley (Chapters 7 & 8). In this respect, it is significant that the main cult place in this area (GROTTA DELLO SVENTATOIO) includes the second largest assemblage of ‘early’ MBA1 vessel types (Table 9.4) and was linked into the Adriatic sphere (Figure 9.1a). This cross-APENNINE sense of connectivity further corroborates the scenario that the metal-hilted dagger (“DAL TEVERE”), dredged from the TIBER in the vicinity, should be linked to the trajectory of community formation to the north of the LOWER ANIENE valley that started in EBA2 (Chapter 8).

The trajectory of the LOWER ANIENE community is exemplified by the two-phase deposit from TENUTA RADICOLI DEL BENE-ACCORRABONE (Appendix 4 [#145]), with one phase dated to EBA2 and the other to the Early-Middle Bronze Age transition (§7.1.4). The presence of “Palma di Campania” vessel types in the later phase of the deposit indicates that this ‘facies’, traditionally dated to EBA2, partly overlapped with ‘early’ MBA1. This does not only add another element to the typochronologically mixed and ‘cross-cultural’ character of the ‘late’ EBA2 and/or ‘early’ MBA1 assemblage from TENUTA RADICOLI, but it can also shed light on the chronological position of the Early-Middle Bronze Age transition in the Adriatic sequence. The absolute dates for ‘early’ MBA1 assemblages in the Adriatic sphere and northern Tuscany (§3.3) would situate the Early-Middle Bronze Age transition relatively soon after the date proposed for the AVELLINO eruption that buried several “Palma di Campania” villages (§3.4).³²⁴ At the same time, it could help to resolve the issue of a lack of

³²⁴ In turn, such an early date for the Early-Middle Bronze Age transition could make the reported EBA2 range for two dates from the bottom of a pit at TENUTA RADICOLI MAFFEI-AREA 86 (§3.3), at least 50-100 years after the eruption (§3.4), less

articulation between the emergent MBA1 spheres (see above) and more or less synchronise the emergence of the Southern Italian “Protoapenninico” sphere (§9.2.2), ‘successor’ to the “Palma di Campania” facies, with the emergence of the Central Italian “Grotta Nuova” sphere. Another site in trajectory of the LOWER ANIENE community includes one or a few EBA2 vessels (TENUTA RADICICOLI MAFFEI-AREA 106 [#146]) but no less than twenty-three vessels dated to subphase BM1 (Barbaro & Di Gennaro 2008, 12-13, 22-32 [fig. 11-17]). Given the relative abundance of ‘early’ MBA1 vessels in such a small area, it is likely that the micro-regional trajectory that linked these open-air sites (TENUTA RADICICOLI MAFFEI-AREA 106; TENUTA RADICICOLI DEL BENE-ACCORRABONE) also includes the establishment of the cult place at GROTTA DELLO SVENTATOIO (see above). This situates the ‘original’ act of place-making at this particular cave at the Early-Middle Bronze Age transition, a second stage in the trajectory of community formation. In turn, it was followed by acts of place-making at LAGO ALBANO-VILLAGGIO DELLE MACINE (see above), at another cave (GROTTA DI MORA CAVORSO) in the UPPER ANIENE valley, where a complete vessel was placed upside down in association with a fire-place and a burnt spindle-whorl (Rolfo et al. 2010, 13-14), and at two further caves in the foothills of the Rieti province (GROTTA SCURA; GROTTA ROCCO DI PROSPERO), ‘en route’ to the Adriatic sphere, on the same bank of the TIBER river as the LOWER ANIENE (Table 9.4).

On the basis of regional settlement patterns (§7.2) and the ‘multi-sited’ analysis (Chapter 8), it was argued that the LOWER ANIENE community also used the cult place at the rock fissures of PIAN SULTANO, on the coastal side of the TOLFA MOUNTAINS in northern Lazio, as a meeting-place with the EBA2 community in northernmost Lazio. It remains to be seen whether the scenario of such a ‘coastal’ axis can be corroborated and extended to the Early-Middle Bronze Age transition by typological connections of the TENUTA RADICICOLI assemblages (Barbaro 2008; Barbaro & Di Gennaro 2008). Because the excavators have not used the wider framework of Cocchi Genick’s typochronologies (1998, 2001, 2002), the predominance of typological connections to southern Tuscany and the ‘Adriatic’ sphere that they have established, cannot in itself be interpreted as a move away from the reconstructed ‘coastal’ axis that connected the LOWER ANIENE community to northernmost Lazio, in favour of the second, reconstructed ‘interior’ axis (Chapter 8). What did happen at the Early-Middle Bronze Age transition in the TOLFA MOUNTAINS micro-region, however, is the emergence of a cluster of open-air sites with assemblages that include ‘early’ MBA1 ceramics (Figure 9.1a), sometimes in association with house-like structures. It was argued that the series of axe depositions in the area (§4.2.3), in combination with the emergence of a cult place at PIAN SULTANO should be interpreted as ‘boundary work’ in EBA2 (Chapter 8). If the series of axe depositions in the TOLFA MOUNTAINS is regarded as a trajectory (Chapter 4),³²⁵ the ‘early’ MBA1 start of a trajectory of community formation postdated the ‘original’ use of the area for intercommunal interaction, including metalwork exchange (Chapter 8). The emergence of a settled community in an unsettled ‘border zone’ is not unprecedented in the region. It was also argued that an EBA2 community emerged in the ‘nodal zone’ in northernmost Lazio with a deep history of intercommunal interaction that reached to the Copper Age (Chapters 7 & 8). ‘Early’ MBA1 ceramics in several of these EBA2 open-air assemblages, such as CASALE CARCARELLO (Appendix 4 [#69]) and PIANO DELLA SELVA (Appendix 4 [#72]), highlight that the community that settled in northernmost Lazio, persisted at the Early-Middle Bronze Age transition, similar to the LOWER ANIENE community.

The addition of an ‘early’ MBA1 community in the TOLFA MOUNTAINS micro-region (see above) can only mean that the structure of the ‘regional’ network in ‘coastal’ Lazio as a whole would have changed at the Early-Middle Bronze Age transition. It seems likely that intercommunal interaction shifted away from the TOLFA MOUNTAINS micro-region and took place elsewhere. The possibility that LAGO ALBANO was an ‘early’ MBA1 meeting-place was excluded (see above), but LAGO DI BRACCIANO situated in the immediate vicinity of the TOLFA MOUNTAINS, is a candidate for a newly established regional meeting-place (Table 9.4). Intercommunal place-making at LAGO DI BRACCIANO is in line with scenario that the tradition of lake-side deposition and cairns was transferred from LAGO DI BOLSENA involving the community settled in northernmost Lazio (see above). Moreover, the construction of the ‘early’ MBA1 cairn at VICARELLO was, given its size (18m x 28m), in all likelihood

‘anomalous’ (*contra* Nijboer 2008). Although these dates do definitely not refer to the MBA2 assemblage, they could refer to the original depositional context (i.e. the pit from which the dated samples derive) of three complete MBA1 vessels that were (re)used as a foundation deposit for a later, MBA2 house-like structure at the same site (Barbaro & Di Gennaro 2008, 17 [fig. 7-8], 31, 33 [fig. 18]).

³²⁵ The ‘time-transgressive’ alternative is to regard all of the EBA2 axe depositions as part of the ‘early’ MBA1 trajectory of community formation in the TOLFA MOUNTAINS.

an intercommunal effort. Another reason to interpret LAGO DI BRACCIANO as a regional meeting-place, is its position with respect to the secondary, ‘early’ MBA1 axis of connectivity that seems to have emerged between the southernmost “Grotta Nuova” site in the Adriatic sphere (CASTEL DEL LAMA) and the TOLFA MOUNTAINS, based on the ceramic connections through the RIETI BASIN (Figure 9.1a). Filling the ‘gap’ in EBA2 site distributions in the Rieti province that indicated a cross-APENNINE axis through Umbria (Chapter 8), several open-air assemblages with ‘early’ MBA1 ceramics have been reported from the RIETI BASIN itself, as well as a connecting site (MOJE DI CASTELLANO) on the TIBER left bank (cf. Cocchi Genick 2001, 2002). The latter indicates a river crossing into the interior of northern Lazio where LAGO DI BRACCIANO is a likely, if not the only destination at the Early-Middle Bronze Age transition, given the persistent ‘gap’ in ‘early MBA1’ site distributions on the TIBER right bank (Figure 9.1a). Because the TIBER left bank had constituted a metalwork-related interior axis between southern Tuscany and the LOWER ANIENE valley, even before the emergence of a settled community in EBA2 (Chapter 8), it is not an unlikely scenario that the LOWER ANIENE community took a similar route across the TIBER to LAGO DI BRACCIANO and the TOLFA MOUNTAINS community, to the detriment of the ‘coastal’ axis and LAGO ALBANO (see above).

The apparent ‘decline’ of LAGO DI MEZZANO as a supra-regional cult place, given the low number of ‘early’ MBA1 vessel types (Table 9.4) also argues in favour of interpreting LAGO DI BRACCIANO as a regional meeting-place in northern Lazio, situated on a new interregional axis connecting the Tyrrhenian and Adriatic spheres. This refines the ‘time-transgressive’ scenario of overlap between ‘late’ EBA2 and ‘early’ MBA1 ceramics (Figure 9.1b). The insertion of an ‘early’ MBA1 community in the TOLFA MOUNTAINS micro-region and the establishment of a new regional meeting-place at LAGO DI BRACCIANO indicates that it is not the region as a whole where the tradition of EBA2 ceramics persisted, but only to the north of the former area of intercommunal interaction in EBA2 (Chapter 8). This would explain that the presence of ‘early’ MBA1 ceramics in northernmost Lazio is limited to a few places, notably PRATO DI FRABULINO and LAGO DI MEZZANO (see above), a cult place and a collective tomb that had been a focus of deposition since EBA2. Other caves in this micro-region (FELCETONE; GROTTA DELL’INFERNETTO; GROTTA DI DON SIMONE) with trajectories that putatively started in EBA2, actually seem to postdate subphase BM1A (Table 9.4). It is not unlikely that the start of these three trajectories of cave use should be interpreted as part of the later network change, after the Early-Middle Bronze Age transition, that is highlighted by the emergence of a new major, supra-regional cult place at GROTTA NUOVA in subphase BM1B. This is exemplified by GROTTA DELL’INFERNETTO, situated in the immediate vicinity of GROTTA NUOVA and with intimate connections to the major cult place in terms of shared vessel types (cf. Cocchi Genick 2001, 2002). At GROTTA DI DON SIMONE and the rock fissure of FELCETONE, however, the presence of the remains of at least seven and fourteen buried individuals, respectively (cf. Van Rosenberg 2008, 162 [Table 17.2]), is at odds with the limited date range of the associated ceramics (Table 9.4). Similar to the closing deposit at the rock-cut tomb of PRATO DI FRABULINO (see above), these limited assemblages at FELCETONE and GROTTA DI DON SIMONE seem to have closed (rather than ‘opened’) trajectories of cave use that could previously have entailed funerary practices without ceramics deposition.

Given the presence of large samples of human remains, a future prospect is that the ‘time-transgressive’ issue of ambiguity about the start and duration of trajectories of cave use (Table 9.2) can be resolved by an absolute dating programme. It should be stressed, however, that future dating results can give rise to a range of alternative scenarios. Alternative places of burial are absent from northernmost Lazio, based on the lack of human remains from cave assemblages (GROTTA NUOVA; GROTTA DELL’INFERNETTO) that postdate the Early-Middle Bronze Age transition (Table 9.4). In this respect, the ‘early’ MBA1 date range for ceramics from GROTTA DI DON SIMONE and FELCETONE could as easily refer to an act of place-making, i.e. the start of funerary cave use without associated ceramics deposition. In other words, this possibility is the reverse of the notion of a closing deposit of ceramics (see above). A third possibility is that the burial of human remains was secondary and coincided with the act of ceramics deposition. In the case of FELCETONE, from which mainly skull and jaw fragments have been reported, the scenario of a single act of secondary burial, closed by a single act of ceramics deposition, is plausible. A source for human remains subjected to secondary burial and incorporated in place-making can, for instance, be found in caves with funerary evidence (GROTTA SCOGLIETTO; PUNTA DEGLI STRETTI), to the west and northwest, along the coast of southern Tuscany (Cocchi Genick 1998, 81-82 [nos. 37-38]), that were abandoned at the Early-Middle Bronze Age tradition (cf. Cocchi Genick 2001, 2002). The ‘time-transgressive’ scenario (§9.1.2) would date the abandonment of GROTTA SCOGLIETTO and PUNTA DEGLI STRETTI to ‘late’ EBA2 and in coincidence

with the ceramics (i.e. ‘early’ MBA1) associated with the disarticulated human remains from FELCETONE and GROTTA DI DON SIMONE (Table 9.4). Obviously, secondary burial of prior, older human remains limits the potential of an absolute dating programme to establish date ranges for their trajectories of use. The bigger problem, however, is that not even one date is available for the large samples of human remains from Middle Bronze Age cave assemblages in Lazio and Abruzzo (§3.3).

Scaling up

To sum up, the ‘time-transgressive’ issues ‘at’ the Early-Middle Bronze Age transition related to place-making (Table 9.2) are not only a problem. In those parts of Lazio that are situated in the “Grotta Nuova” sphere (see above), many of these issues can be resolved by allowing for regional differentiation in a ‘time-transgressive’ scenario (§9.1.2; Figure 9.1b). It should be stressed that appreciating this ‘time-transgressive’ possibility, related to the emergence of the “Grotta Nuova” sphere in Central Italy, would not have been possible without adopting a data-rich and multi-sited approach to studying Early Bronze Age networks and trajectories (Chapter 8). A detailed understanding of EBA2 patterns is necessary to recognise and interpret ‘early’ MBA1 patterns, as they are intimately linked to prior, EBA2 places and networks (see above). In this respect, the relatively thick description highlighted the ‘cross-cultural’ character of acts of place-making at the Early-Middle Bronze Age transition. This is compatible with a ‘time-transgressive’ scenario (§9.1.2) that does not mistake cultural for chronological differences. Still, further corroboration can and should be sought in a data-rich and multi-sited analysis that is less selective than this thick description (see above), takes as many places as possible into consideration and also includes a diachronic comparison with subsequent phases (i.e. BM1B and onwards). Here a final attempt at corroboration of the ‘time-transgressive’ scenario is made by scaling the interpretation of the emergent “Grotta Nuova” sphere up again (Figure 9.2). The ‘time-transgressive’ scenario itself was postulated on the basis of the spatial coincidence of patterns of regional differentiation in Central Italy as a whole (§9.1.2). In addition, the ‘cross-cultural’ character of place-making in Lazio at the Early-Middle Bronze Age transition (see above) underscores that a ‘flat’ understanding and approach of networks (*sensu* Latour 2005), in which the interrelatedness of phenomena over large distances can be appreciated, is possible.

The ‘time-transgressive’ scenario was postulated on the basis of the ‘typo-network’ of vessel types attributed to subphase BM1A (Figure 9.1a), in combination with differentiation in absolute dates (§9.1.2). The incorporation of handle types in this ‘typo-network’, as well as connections from more recent syntheses of ‘early’ MBA1 assemblages in the FUCINO BASIN (Ialongo 2007) and ‘coastal’ southern Lazio (Alessandri 2007, 2009), does not change the impression of a ‘gap’ in connectivity between northern and southern Tuscany (Figure 9.2a). The introduction of ‘early’ MBA1 handle types to the ‘typo-network’ reinforces the strong sense of connectivity (i.e. the fattest lines) between northern Tuscany and the Adriatic sphere and only adds isolated connections (i.e. the thinnest lines) from these regions to southern Tuscany and northern Lazio (Figure 9.2a). Adding the connections of ‘mixed’ assemblages from the recent syntheses of areas at the southern margins of the “Grotta Nuova” sphere shows that ‘boundary’ work at the Early-Middle Bronze Age transition included more places, situated closer to the “Protoappenninico” sphere (§9.2.2), but it does not resolve the ‘gap’ in connectivity in Tuscany (Figure 9.2a). In other words, a ‘time-transgressive’ scenario that allows for regional differentiation in the persistence of EBA2 ceramics (Figure 9.1b) is still plausible. Moreover, the ‘thick’ description (see above) refined this scenario. It was argued that the EBA2 ‘boundary’ in northern Lazio, reconstructed in the TOLFA MOUNTAINS micro-region (Chapter 8), is also the most likely candidate for a cultural boundary between ‘late’ EBA2 and ‘early’ MBA1 in the Tyrrhenian sphere (Figure 9.2b), because it follows a prior pattern that emerged from a ‘multi-sited’ analysis. From a data-rich understanding of the prior situation in EBA2 (Chapter 8), it is not a coincidence that a new settled community emerged in this micro-region at the Early-Middle Bronze Age transition, thus adding a third settlement core in ‘coastal’ Lazio transition to the ones that persisted in northernmost Lazio and to the north of the LOWER ANIENE valley (see above).

Incidentally, this also seems to resolve the conundrum of the limited assemblages that make up a regionally specific group of decorated ceramics (i.e. the later phase of the so-called “Luni Tre Erci-Norchia” style), connecting northern Lazio and ‘northernmost’ southern Lazio (§7.2). This tradition has been dated alternatively to EBA2 (Di Gennaro & Pacciarelli 1996) or ‘early’ MBA1 (cf. Cocchi Genick 1998, 2001, 2002). As a third alternative, it was argued that these limited assemblages were ‘isolated’ acts of ceramic deposition (§7.2), akin to ‘isolated’ acts of metalwork deposition (Chapter 8). The ‘time-transgressive’ scenario suggests that a trajectory of community formation in the

TOLFA MOUNTAINS that started at the Early-Middle Bronze Age transition, provides an appropriate social context. The spatial distribution of decorated ceramics of the later phase of the “Luni Tre Erci-Norchia” style, is consistent with a role in intercommunal interaction between the three settled communities in ‘coastal’ Lazio within the emergent “Grotta Nuova” sphere. This is exemplified by the

largest assemblage from NORCHIA, placed in between the settled communities in northernmost Lazio and the TOLFA MOUNTAINS and with connections to the closing deposit of ‘early’ MBA1 ceramics at the rock-cut tomb of PRATO DI FRABULINO (cf. Cocchi Genick 2001, 2002).

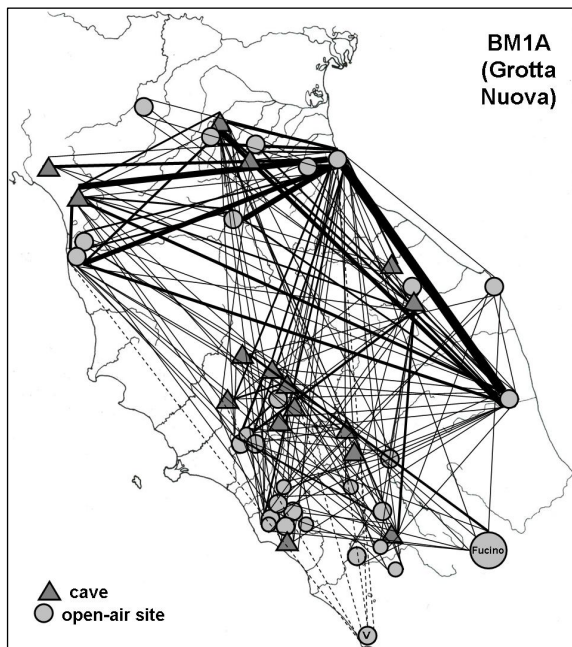


Figure 9.2a (above): completed ‘typo-network’ based on vessel and handle types attributed to subphase BM1A, highlighting caves and open-air sites (in shades of grey) [cf. Figure 9.1a for reconstructed cultural groups within the Central Italian “Grotta Nuova” sphere; compiled after Cocchi Genick 2001, 2002], with typochronological attributions from recent micro-regional syntheses of the FUCINO BASIN (Ialongo 2007) and coastal southern Lazio, i.e. dashed lines (Alessandri 2007, 2009). Connecting lines indicate that at least one vessel type is shared between two sites [lineweight increases with the number of connections].

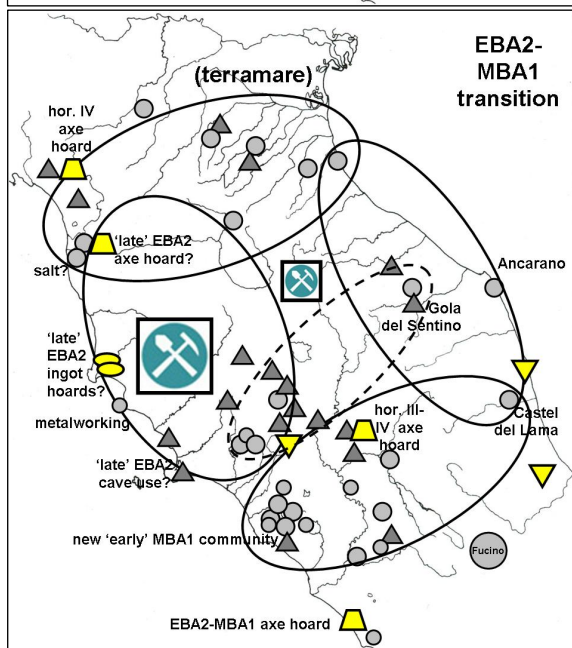


Figure 9.2b (below): interpretation of the emergent “Grotta Nuova” sphere at the Early-Middle Bronze Age transition in the ‘time-transgressive’ scenario of overlap between ‘late’ EBA2 and ‘early’ MBA1 ceramics [cf. Figure 9.1b], including ‘late’ EBA2 axe and ingot hoards (in yellow) [and metal-hilted dagger hoards (triangles) for comparison]. The ‘gap’ in Tuscany in the ‘typo-network’ of subphase BM1A is filled by a postulated ‘late’ EBA2 group. The series of ‘late’ EBA2 and ‘early’ MBA1 phenomena along the Tyrrhenian coast suggests an increase of seaborne traffic at the Early-Middle Bronze Age transition.

“Grotta Nuova” groups (Figure 9.1) reconstructed by Cocchi Genick (2001, 2002), but from a network perspective in terms of five spheres (Figure 9.2b). The patterns in connectivity based on ‘early’ MBA1 ceramics (Figure 9.2a) indicate that the three cultural groups in northern Tuscany and the Adriatic sphere (Figure 9.1) can be interpreted as two larger spheres that overlapped in the northern Adriatic (Figure 9.2b). The ‘northern Adriatic’ focal point in connectivity between these two ‘early’ MBA1 spheres is consistent with the start of trajectories that constituted the so-called ‘terramare’ phenomenon in Northern Italy in the subsequent phase (cf. Bernabò Brea 1997; Bernabò Brea et al. 1997; Pearce 1998). This coincidence will be discussed in the wider context of Copper Age-Middle Bronze Age trajectories in Europe and the Mediterranean (§9.3.1). A third sphere is the axis of the connectivity that

Scaling up the ‘time-transgressive’ scenario, I propose to interpret the ‘typo-network’ (Figure 9.2a) not in terms of five

emerged between the Adriatic and Tyrrhenian spheres, constituting the southern margin of the emergent “Grotta Nuova” sphere at the Early-Middle Bronze Age transition (Figure 9.2b). It was argued that the emergence of this cross-APENNINE axis was secondary to the reconstructed EBA2 axis through Umbria based on metal-hilted daggers, but perhaps coincided with the extension of the distribution of metal-hilted daggers to include northern Lazio (see above). This axis was linked to the establishment of cult places at GROTTA DELLO SVENTATOIO, in connection with the persistent LOWER ANIENE community in ‘northern’ southern Lazio, and at LAGO DI BRACCIANO, in coincidence with the new TOLFA MOUNTAINS community in ‘southern’ northern Lazio (Figure 9.2b). To the north, another cross-Appennine axis connected central Marche in the Adriatic sphere, where a new ‘early’ MBA1 complex of caves emerged in the GOLA DEL SENTINO (cf. Lucentini 1997; Cocchi Genick 2001, 2002), to the persistent group of cult places at caves in southeastern Tuscany (Figure 9.2b) and actually extends to include the closing deposit of ‘early’ MBA1 ceramics at the rock-cut tomb of PRATO DI FRABULINO (Figure 9.2a). Differentiating between these two cross-APENNINE axes of connectivity, one through northern Umbria and the other through southern Umbria and the RIETI BASIN (Figure 9.2b), could help to resolve typochronological issues related to metalwork in relation to the Early-Middle Bronze Age transition (§9.1.2).

The deeper history of the ‘northern’ axis is indicated by the location of two ‘horizon II’ axe hoards (Figure 4.3), one from Umbria (CITTÀ DEL CASTELLO) and the other from Marche (FERMIGNANO). The latter hoard is not only distinguished by axes with the ‘Adriatic’ compositional signature (§4.1), but also by its spatial proximity to the deposition of an extra-large metal-hilted dagger at FOSSOMBRONE (§4.4), as well as the ‘isolated’ EBA2 open-air site (ANCARANO) at the coast of central Marche (Figure 4.3). This spatial pattern suggests that the cross-APENNINE axis between central Marche and southeastern Tuscany was the route followed by the few ‘earlier’ metal-hilted daggers that ended up in the Tyrrhenian sphere in the latter region (see above). At the same time, the connection with an ‘exceptional’ metal-hilted dagger and an ‘exceptional’ EBA2 open-air site could indicate that the production of ‘horizon II’ axes in the Adriatic sphere (§4.1) persisted in EBA2. By contrast, the ‘southern’ axis was highlighted by a cross-APENNINE distribution of ‘horizon III’ axe hoards between Tuscany and Marche (§4.1), the presence of ‘Tuscan’ axes in the Adriatic sphere and the presence of metal-hilted daggers in northern Lazio (§4.4). To be more precise, the axe hoards on this ‘southern’ axis are actually mixed in terms of ‘horizon II-III’ types, which could refer to cultural rather than chronological differentiation. It would be in line with the scenario that they highlight the articulation of the ‘Tuscan’ and ‘Adriatic’ spheres into a larger ‘metal-work’ (Chapter 8). The impression of a network change is in line with the abandonment of ANCARANO (Figure 9.2b), ‘excluded’ from the ‘typo-network’ at the Early-Middle Bronze Age transition, in favour of CASTEL DEL LAMA to the south (Figure 9.2a). The location of this ‘early’ MBA1 node in the Adriatic sphere, situated on the ‘southern’ cross-APENNINE axis and in between the two largest metal-hilted dagger hoards in the Adriatic sphere (Figure 9.2b), suggests an intimate link with the metal-hilted daggers that ended up in northern Lazio. In other words, these objects should be interpreted as a significant element in ‘first contact’ with the EBA2 communities in northernmost Lazio (i.e. the CERVERA ALFINA dagger hoard) and at the LOWER ANIENE valley (i.e. the larger dagger dredged from the TIBER river).

The ‘southern’ cross-APENNINE axis was extended to the Tyrrhenian coast by the emergence of the TOLFA MOUNTAINS community. This created the same situation as the ‘far northern’ axis that connected northern Tuscany to the ‘northern’ Adriatic focal point (Figure 9.2a). Together these cross-APENNINE axes ‘sandwiched’ the COLLINE METALLIFERE at the Early-Middle Bronze Age transition, leaving these copper sources at the heart of the ‘late’ EBA2 sphere (Figure 9.2b), postulated in the ‘time-transgressive’ scenario (§9.1.2). This fifth and only Tyrrhenian sphere in Central Italy linked up with the ‘dead ends’ (of the fattest lines) in the ‘typo-network’ in northern Tuscany (Figure 9.2a) and extended to include the ‘late’ EBA2 community in northernmost Lazio (Figure 9.2b), where LAGO DI MEZZANO persisted but had ceased to be the supra-regional cult place that it used to be. It was argued that in this sphere the production of EBA2 ceramics persisted as a regional tradition, similar to the production of ‘Tuscan’ axes of ‘horizon III’ types (see above), whereas elsewhere ‘horizon IV’ types of axes were in production and circulation (Figure 9.2b). The question is whether, contrary to traditional axes, ‘Tuscan’ raw material was still in demand and copper production from the COLLINE METALLIFERE persisted at the Early-Middle Bronze Age transition. It was shown that the ‘horizon III-IV’ axe hoard from “TERNI” in Umbria did pertain to the ‘Tuscan’ metallurgical sphere because of the pronounced presence of lead as a major element (§4.1), but at the same time not because of the relative lack of zinc and arsenic as major elements (Table 4.8). In addition, the presence of cobalt and nickel as

a trace element links these axes to the sphere of ‘Adriatic’ axes and metal-hilted daggers (§4.1). Incidentally, this composition is consistent with the analyses of two copper ‘slags’ from an Iron Age site of metalwork production in the UPPER TIBER valley (Gliozzo et al. 2011), in the same area of SANSEPOLCRO where a group of open-air sites started to emerge in subphase BM1B (cf. Cocchi Genick 2001, 2002). This suggests that the ‘Adriatic’ metallurgical sphere was extended further into the intermontane region, following the articulation of the ‘Adriatic’ and ‘Tuscan’ spheres into a larger ‘metal-work’ in EBA2 (Chapter 8), as part of network changes at the Early-Middle Bronze Age transition (§9.3.1).

At the same time, it makes the scenario of the absence of a ‘horizon III’ tradition of ‘Adriatic’ axe production plausible, with a tradition of ‘horizon II’ axes (FERMIGNANO) that persisted in EBA2 (see above), produced from the same intermontane source in the UPPER TIBER valley (Figure 9.2b) as ‘horizon III-IV’ axes (TERNI). The same signature of the pronounced presence of lead but a relative lack of zinc and arsenic, with respect to ‘Tuscan’ axes, can be found in the axes that constituted the ‘horizon III’ hoard (VERUCCA) from northern Tuscany, albeit without cobalt as a trace element (Table 4.7). Given its greater compositional similarity to the ‘horizon III-IV’ hoard from “TERNI” than axes in the ‘Tuscan’ tradition (see above) and its location at the intersection of ‘late’ EBA2 and ‘early’ MBA1 spheres in northern Tuscany (Figure 9.2b), the VERUCCA hoard should probably be regarded as a ‘late’ EBA2 hoard and dated to the Early-Middle Bronze Age transition. Finally, ‘late’ EBA2 axes (including a hoard) attributed to ‘horizon III’ and ‘horizon III-IV’ from the VESUVIUS environs in Campania do seem to have been of ‘Tuscan’ provenance and tradition, given the presence of both lead and zinc as major elements (Albore Livadie et al. 2000, 11 [tab. I]). All of these compositional signatures add up to the existence of (at least) two metallurgical traditions in the Tyrrhenian sphere at the Early-Middle Bronze Age transition (if not before). This seems to have included the extension of the ‘Adriatic’ sphere to the Tyrrhenian side of the peninsula, following the reconstructed articulation of the ‘Tuscan’ and ‘Adriatic’ spheres into a larger ‘metal-work’ (Chapter 8). Moreover, the presence of axes of ‘Tuscan’ raw material in Campania, as far south as the BAY OF NAPLES, highlights that seaborne distribution of raw material or finished objects is a strong possibility. The intensification of seaborne connectivity in the northern Tyrrhenian has traditionally been regarded as the rationale for the emergence of a settled community in the TOLFA MOUNTAINS micro-region, but it is the ‘time-transgressive’ scenario that substantiates this presumption in terms of network changes in Central Italy.

A series of stopping points can be recognised along the Tyrrhenian coast at the Early-Middle Bronze Age transition (Figure 9.2b). The ‘far northern’ cross-APENNINE axis from the Adriatic connected to the coastal area of COLTANA (i.e. one of the ‘dead ends’ in the ‘typo-network’) in northern Tuscany. Here salt production has been dated, on the basis of associated ceramics, to as far back as the Early-Middle Bronze Age transition (Di Fraia & Secoli 2000; Pasquinucci & Menchelli 2002). Further down the coast, copper and axe production related to the COLLINE METALLIFERE persisted in the ‘late’ EBA2 sphere that extended from northern Tuscany to northern Lazio (see above). Recently, direct evidence for a location of Bronze Age metalwork production in relation to the COLLINE METALLIFERE has been reported from the coastal site of PUNTA ALA (Figure 9.2b) and radiocarbon dated to the Early-Middle Bronze Age transition. Here a small vessel containing raw material, preserved in a pit, indicates the location of a workshop (Aranguren s.a.). This recalls the two ‘undated’ ingot hoards from the same coastal area (Figure 9.2b), one hoard (TORRENUOVA) consisting of thirty-five ingots contained in a vessel and the other (SAN MICHELE) of twelve ingots (Cocchi Genick 1998, 85 [nos. 26-27]). The location of these hoards is ‘isolated’ from the core in the distribution of ingot finds in southern Tuscany (§4.1; Figure 4.1). This spatially differentiated pattern could indicate chronological differentiation between EBA2 production in southern Tuscany and ‘late’ EBA2 production at the COLLINE METALLIFERE, or alternatively cultural differentiation related to the side-by-side existence of distinctive metallurgical traditions (see above). The next stopping point in the ‘late’ EBA2 sphere seems to have been the two caves at the coast of southern Tuscany (Figure 9.2b). It was argued that these would have been abandoned after the Early-Middle Bronze Age transition, in coincidence with the dramatic increase in cave use in the interior, focused on GROTTA NUOVA, in subphase BM1B (see above). The next, ‘time-transgressive’ stopping point is constituted by the new, ‘early’ MBA1 community in the TOLFA MOUNTAINS micro-region (Figure 9.2b), which had emerged on the opposite end of the cross-APENNINE axis from CASTEL DEL LAMA in the Adriatic sphere (see above). The “Palma di Campania” vessel (Belardelli et al. 2007, 375) reported from the cult place at PIAN SULTANO (Appendix 3 [#26]) could also refer to the Early-Middle Bronze Age transition, given the ceramic fragment from one of the ‘early’ MBA1 assemblages in the lower Aniene community (see above).

Next, the lagoonal strip along the coast of southern Lazio (cf. Alessandri 2007, 2009) would have provided for excellent stopping points.

Seaborne connectivity could make the series of EBA2 axe depositions in connection with this lagoonal strip (§4.2), in an area that had been largely unsettled (§7.1.4), less enigmatic. A ‘time-transgressive’ scenario for the typonomologically ‘mixed’ axe hoard from CASALÀZZARA (Figure 9.2b), consisting of two ‘horizon III’ axes linked to the TOLFA MOUNTAINS (Appendix 1 [#48]) and a third, MBA1 axe, could mean that it after all did constitute a single act of deposition (§4.2). Here it should be recalled that these ‘coastal’ axe depositions were already linked to a ‘cross-cultural’ sphere on the basis of the thick description of cultural landscapes in ‘coastal’ Lazio (§7.2). It was highlighted that the ‘coastal’ distribution of decorated ceramics attributed to the “Luni Tre Erci-Norchia” style (see above) intersected at the LOWER ANIENE community with the predominantly ‘interior’ axis constituted by the distribution of “Palma di Campania” ceramics in southern Lazio. Their joint distribution (Figure 7.9) was paralleled by the ‘coastal’ sense in the distribution of EBA2 axes, extending from the TOLFA MOUNTAINS to the ‘horizon IV’ axe (Appendix 1 [#61]) from the ‘transitional’ lake-side assemblage at LA CASARINA (Appendix 4 [#207]) in the far south of Lazio. This axe can be added to the ‘mixed’ EBA2-MBA1 hoard (CASALÀZZARA), the “Luni Tre Erci-Norchia” style of decorated ceramics and the “Palma di Campania” ceramics from PIAN SULTANO and the LOWER ANIENE community, already discussed in the light of the ‘time-transgressive’ scenario (see above). Taken together, all of these elements seem to refer to the Early-Middle Bronze Age transition, when a series of coastal sites emerged in southern Lazio (cf. Alessandri 2007, 2009). Three of these ‘coastal’ assemblages (LA CAMPANA; COLLE PARITO; CAPROLACE) from southern Lazio constitute the southernmost distribution of ‘early’ MBA1 ceramics in the “Grotta Nuova” sphere, linking them into the ‘typo-network’ of subphase BM1A (Figure 9.2a). These ‘outliers’ with isolated typological connections to both northern Tuscany and the northern Adriatic on the ‘far northern’ cross-APENNINE axis become less enigmatic in the context of seaborne connectivity along the Tyrrhenian coast at the Early-Middle Bronze Age transition (Figure 9.2b). At the same time, as coastal stopping points, these assemblages bridge the ‘gap’ to the ‘horizon III’ and ‘horizon III-IV’ axes with a ‘Tuscan’ signature from the VESUVIUS environs in Campania (see above). This is underscored by the “Palma di Campania” affinities reported for another ‘early’ MBA1 assemblage (CACAMELE) in the coastal series (Alessandri 2009), attributed to the “Protoappenninico” sphere (§9.2.2).

To sum up, it seems likely that apart from cross-APENNINE connectivity following several axes (Figure 9.2a) seaborne connectivity became more pronounced in the form of coastal stopping points in the Tyrrhenian sphere at the Early-Middle Bronze Age transition (Figure 9.2b). The strong sense of connectivity between the two main ‘early’ MBA1 sites in the Adriatic sphere (Figure 9.2a) indicates a parallel increase in the significance of seaborne connectivity. From the perspective of a ‘flat’ understanding of networks, the overall increase in connectivity, both cross-APENNINE and seaborne, should be interpreted as one and the same phenomenon at the Early-Middle Bronze Age transition. In fact, this transition and the emergence of the “Grotta Nuova” sphere was constituted by acts of place-making that were ‘cross-cultural’ in character (see above). The ‘time-transgressive’ scenario that was postulated on the basis of discrepancies between absolute and relative dates (§9.1.2), resolves several typonomological issues related to both ceramics and metalwork, by interpreting these issues as ‘transitional’ phenomena. This scenario for the Early-Middle Bronze Age transition goes a long way toward putting pieces of ‘conflicting’ evidence into place in the ‘four-dimensional jigsaw’ of network changes and trajectories (see above). Above all, it corroborates the data-rich synthesis of EBA2 networks and network changes in Abruzzo and Lazio (Chapter 8). So many network changes in the emergent “Grotta Nuova” sphere are metalwork-related (see above) that they seem to be a self-evident extension of the reconstructed trajectory of the articulation of the Tyrrhenian and Adriatic spheres of Central Italy into a larger ‘metal-work’ in EBA2 (Chapter 8). This apparent concern with metalwork will be discussed in the wider context of Copper Age-Middle Bronze Age trajectories in Europe and the Mediterranean (§9.3.1). The question is to what extent the sequence postulated by the ‘time-transgressive’ scenario hides further issues, in the sense that it could have wrongly interpreted chronological differentiation as cultural ones. Still, the ‘time-transgressive’ scenario did unexpectedly trace a plausible copper source for the ‘Adriatic’ metallurgical sphere (Figure 9.2b) by following network changes in a Latourian sense (§2.3). This revealed a further ‘time-transgressive’ issue concerning the chronological position of ‘horizon II’ axes in the Adriatic sphere. These seem to have remained in production and circulation in EBA2 until they were replaced by ‘horizon IV’ axes at the Early-Middle Bronze Age transition (see above).

A ‘truly’ data-rich and multi-sited synthesis, including a diachronic comparison of the Early-Middle Bronze Age transition with the subsequent phase in the Middle Bronze Age sequence (i.e. BM1B), is the next step to check for where and which pieces of the ‘four-dimensional jigsaw’ do not fit and/or have been misplaced (cf. Van Rosenberg forthcoming). At the same time, a comparison with the parallel trajectory of the “Protoappenninico” sphere (§9.2.2) is invaluable for understanding the emergence of a cultural boundary with the “Grotta Nuova” sphere, situated in Abruzzo and Lazio, from a network perspective.

9.2.2 The emergent Protoappenninico sphere

The typo-chronological sequences for the “Grotta Nuova” and “Protoappenninico” spheres have traditionally been synchronised in the general sense that they both cover the full duration of the first main phase of the Middle Bronze Age (i.e. BM1-2), followed by MBA2 (i.e. BM3). Such a synchronisation is not self-evident from the perspective of Central Italy. The number of vessel and handle types that define the “Protoappenninico” facies is significantly lower than the number of “Grotta Nuova” vessel types (cf. Cocchi Genick 1995, 2001, 2002). This is illustrated by the relatively weak sense of connectivity in the ‘typo-network’ based on “Protoappenninico” vessel and handle types (i.e. generically BM1-2) in the northern half of the Southern Italian sphere (Figure 9.3a), in comparison with, for instance, the ‘typo-network’ of a single subphase in the “Grotta Nuova” sphere (Figure 9.2a). This difference can in part be explained by the connections that are left out by the ‘self-inflicted’ truncation of the network (i.e. leaving out the southern half of the Southern Italian sphere), but not in full. The generally low number of “Protoappenninico” vessel types suggests that, different from the four phases in the “Grotta Nuova” sequence, the full “Protoappenninico” sequence does not refer to as many (sub)phases as the “Grotta Nuova” sequence. In itself, this ‘discrepancy’ indicates that the synchronisation of the typo-chronological sequences for the two larger MBA1 spheres in the Italian peninsula is not straightforward. In addition, “Protoappenninico” assemblages tend to be dated to MBA1 (i.e. BM1-2) only generically and thereby presented as pertaining to a single phase (e.g. Angle & Mancini 2007). By contrast, the compilers of recent syntheses of the PESCARA valley (Fratini 1997a), the FUCINO BASIN (Ialongo 2007) and coastal southern Lazio (Alessandri 2007, 2009) do make an effort to be more precise. Following the initial attempt at synthesis (Damiani 1995), the recent syntheses differentiate between an earlier phase (i.e. BM1) and a later phase (i.e. BM1B-2A). This suggests that the typo-chronological sequence consisted of two subphases, at least in the northern “Protoappenninico” sphere.

Secondly, the chronological position of the start of the “Protoappenninico” sequence with respect to the end of the Early Bronze Age is still ill-defined. However, two of the recent syntheses have presented culturally ‘mixed’ assemblages, consistent with the location of the FUCINO BASIN (Ialongo 2007) and coastal southern Lazio (Alessandri 2007, 2009) at the reconstructed boundary of the “Grotta Nuova” and “Protoappenninico” spheres (Poggiani Keller 1995). The existence of culturally ‘mixed’ assemblages holds the promise of resolving both these typo-chronological issues, on the one hand, the typo-chronological articulation of the larger MBA1 spheres and, on the other hand, dating the Early-Middle Bronze Age transition in the peninsula as a whole. The culturally ‘mixed’ assemblages tend to incorporate ceramics dated to the first phase in the “Protoappenninico” sequence (i.e. BM1) and in the “Grotta Nuova” sequence (i.e. BM1A), but generally not EBA2 ceramics. The connections of these ‘mixed’ assemblages to the emergent “Grotta Nuova” sphere were already incorporated in the respective ‘typo-network’ (Figure 9.2a). The increasing evidence for a recurrent association of ‘early’ MBA1 ceramics from both the Central Italian and the Southern Italian sphere suggests that the first phase in both these sequences can be regarded as broadly contemporary (i.e. partially overlapping) at the least, if not synchronised (i.e. completely overlapping). The same association seems to indicate that these assemblages were ‘cross-cultural’ in character, which is consistent with their location in the ‘border zone’ between the two larger cultural spheres (cf. Guidi et al. 2002). This recalls the ‘cross-cultural’ character of place-making in the ‘time-transgressive’ scenario for the emergent “Grotta Nuova” sphere (§9.2.1). The acts of place-making in Abruzzo, the intermontane region and southern Lazio, situated on the northern margins of the “Protoappenninico” sphere (Table 9.5; Figure 9.4), will be sketched below. First the bigger picture of the situation in the northern half of the larger Southern Italian sphere is outlined (Figure 9.3), with cross-references to the discussion of the emergent “Grotta Nuova” sphere (§9.2.1).

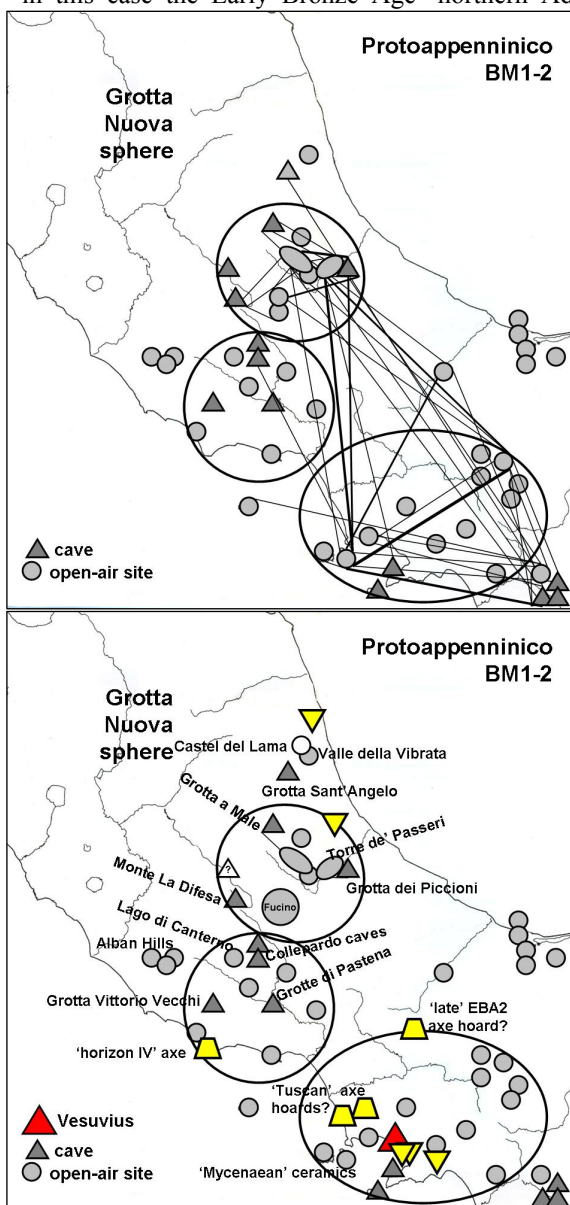
The overview starts on the Adriatic side of the peninsula where culturally ‘mixed’ assemblages are absent. Here the main cultural boundary has been reconstructed as coinciding with the

TRONTO river (cf. Damiani 1995; Poggiani Keller 1995), because it divides the southernmost “Grotta Nuova” site (CASTEL DEL LAMA) on its left bank from the relatively ‘isolated’ occurrences of “Protoappenninico” ceramics in the VIBRATA valley, running parallel to the TRONTO, and at GROTTA SANT’ANGELO, both on its right bank (Figure 9.3b). The temptation to interpret the metal-hilted dagger hoard in southern Abruzzo (LORETO APRUTINO) as a ‘cross-cultural’ and ‘time-transgressive’ act of place-making (§9.1.2) was based on its location in between CASTEL DEL LAMA and the ‘early’ MBA1 settlement at TORRE DE’ PASSERI in the UPPER PESCARA valley (Figure 9.3b). The latter site has been dated explicitly to ‘early’ MBA1 (i.e. BM1) in the “Protoappenninico” sequence (cf. Fratini 1997a), but the consistency of its assemblage, including a series of houses, suggests that it should not be interpreted as a single-phase, but at least a two-phase settlement. Adding an ‘initial’ phase to the trajectory of TORRE DE’ PASSERI, the ‘time-transgressive’ scenario of overlap between ‘late’ EBA2 and ‘early’ MBA1 (§9.1.2) seems to apply to both larger spheres (§9.2.1). This does not only synchronise the start of the “Grotta Nuova” and “Protoappenninico” sequences, but it also brings the ‘later’ metal-hilted daggers into play again at the Early-Middle Bronze Age transition. In this respect, direct evidence for metalwork production from TORRE DE’ PASSERI, in the form of several ‘tuyères’ (Fratini 1997a), connected to a subsurface cult place (Recchia 2003), helps to substantiate the scenario that metal-hilted daggers were related to the exchange of technological knowledge between metallurgical spheres (§4.4), in this case the Early Bronze Age ‘northern Adriatic’ sphere and the “Protoappenninico” sphere.

Following the axis of connectivity between the UPPER PESCARA valley and Campania in the ‘typo-network’ for “Protoappenninico” ceramics (Figure 9.3a), the exchange of technological knowledge could have implicated communities in the VESUVIUS environs on the Tyrrhenian side of the peninsula. This link is underscored by the presence of metal-hilted daggers to the south of the volcano (Figure 9.3b), but another cross-APPENNINE axis (than the one through the FUCINO BASIN) was postulated for their presence in Campania on the basis of the general distribution of metal-hilted daggers (§4.4).

Figure 9.3a (above): ‘typo-network’ based on vessel and handle types, generically attributed to subphases BM1-2, highlighting caves and open-air sites (in shades of grey), in relation to cultural groups reconstructed in the northern part of the “Protoappenninico” sphere (Southern Italy) [compiled after Cocchi Genick 1995]. Connecting lines indicate that at least one vessel or handle type is shared between two sites [lineweight increases with the number of connections]. This ‘typo-network’ is truncated, excluding connections to the southern half of the sphere.

Figure 9.3b (below): interpretation of the northern “Protoappenninico” sphere, with reference to elements discussed in the context of the emergence of the “Grotta Nuova” sphere (§9.2.1). Metal-hilted daggers are included for comparison (yellow triangles). Sites on small islands extend the series of stopping points along the northern Tyrrhenian coast [cf. Figure 9.2b] into the BAY OF NAPLES.



It was argued that a shorter, more direct axis between the Adriatic and Tyrrhenian spheres through the region of Molise, to the south of Abruzzo, is more likely (§4.4). This is underscored by the location of the ‘horizon III’ axe hoard of VINCHIATURO in Molise (Santone 2009), at the watershed of the BIFERNO valley with Campania (Figure 9.3b). This indirect route, connecting southern Abruzzo to a cross-APENNINE axis between Molise and Campania, is underscored by a “Protoappenninico” connection between the UPPER PESCARA micro-region and the BIFERNO valley (Figure 9.3a). It is also in line with the reconstructed extension of the UPPER PESCARA tradition of Copper Age-EBA1 metalwork deposition to include the southern surroundings of the MAJELLA MOUNTAINS in EBA2 (§4.2; Figure 4.6). Given the ‘time-transgressive’ possibility that both ‘horizon III’ axes and ‘later’ metal-hilted daggers could refer to ‘late’ EBA2 (§9.2.1), the articulation of a metalwork-related axis between Molise and Campania is a plausible interpretation for the metal-hilted daggers in the VESUVIUS environs (Figure 9.3b).³²⁶ At the same time, it situates the proliferation of metal-hilted daggers in the emergent “Protoappenninico” sphere, similar to the Early-Middle Bronze Age transition in the emergent “Grotta Nuova” sphere (§9.2.1). Moreover, it sheds a different light on the interpretation of the UPPER PESCARA micro-region as a persistent node in cross-APENNINE connectivity, which had become increasingly metalwork-related in EBA2 (§4.2). What remains to be seen, is the chronological position of the emergence of the TORRE DE’ PASSERI community (Figure 9.3b) with respect to the ‘time-transgressive’ possibility that ‘horizon II’ axes could still have been produced in the Adriatic sphere in EBA2 (§9.2.1). This may shed a different light on the introduction of the Early Bronze Age hoarding phenomenon, i.e. ‘horizon II’ axe hoards, to the UPPER PESCARA micro-region (§4.2). In the ‘multi-sited’ analysis (Chapter 8) it was argued that the tradition of metalwork deposition in the UPPER PESCARA micro-region (§4.2) was related to the presence of a major, persistent cult place at GROTTA DEI PICCIONI (Chapter 6). For this reason, the micro-region was singled out as a likely candidate for an area where metalwork exchange had taken place since the Copper Age and technological knowledge was (made) available periodically (§4.4). It is striking that a settled community with such metallurgical knowledge (TORRE DE’ PASSERI) emerged in this area in ‘early’ MBA1 (see above). Incidentally, it parallels the emergence of the TOLFA MOUNTAINS community on the Tyrrhenian side of the peninsula at the Early-Middle Bronze Age transition (§9.2.1) in a ‘border zone’ with similar connotations (Chapter 8).

	EBA2	BM1	References
Coastal Abruzzo			
Grotta Sant’Angelo (TE)	10	?	Cocchi Genick 1995, 1998
Grotta dei Piccioni (PE)	3	I=2	Cocchi Genick 1998; Ialongo 2007 (I)
Intermontane region			
Grotta a Male (AQ)	[gap]	?	Cocchi Genick 1995; Fratini 1997a; Ialongo 2007
Monte La Difesa (AQ)		?	
Grotta Beatrice Cenci (AQ)	?	X	Ialongo 2007
Coastal Lazio (south)			
Grotta Vittorio Vecchi (LT)	X	X	Rosini 2007
Lago di Canterno (FR)		?	Angle 2007c; Angle et al. 2010
Grotta Regina Margherita (FR)		X	Angle et al. 2010
Grotta-Riparo del Peschio Tornera (FR)	X	X	Alessandri 2009
Grotte di Pastena (FR)		X	Biddittu et al. 2006a, 2007b; Angle et al. 2010a

Table 9.5: overview of the trajectories of cave use (including burial) and a lake-side cult place in Abruzzo and Lazio in the emergent “Protoappenninico” sphere at the Early-Middle Bronze Age transition [including the number of vessel types attributed to each subphase].

Returning to the Adriatic side of the peninsula, the ‘typo-network’ highlights that the UPPER PESCARA valley was also connected to the intermontane region, i.e. the TIRINO-ATERNIO watershed, the UPPER ATERNO valley and the FUCINO BASIN (Figure 9.3a), following the Early Bronze Age pattern (Chapter 7). These connections substantiate that a cross-Appennine axis through the FUCINO BASIN persisted to connect to the UPPER PESCARA valley and highlight that the UPPER PESCARA community was involved in the act of place-making that reinstated GROTTA A MALE as the main cult place in the UPPER ATERNO valley after the Early Bronze Age ‘gap’ in its trajectory (Chapter 6). At the same time,

³²⁶ Incidentally, interpreting the location of the mixed hoard including a metal-hilted dagger, with the enigmatic provenance of “MASCION, provincia Campasso, Italia Centrale” (Appendix 1 [#15]), as a reference to MASCIONE in the province of Campobasso (Molise) would situate it in the same area as the VINCHIATURO hoard and further substantiate that this cross-APENNINE axis was metalwork-related.

the rock shelter of MONTE LA DIFESA, situated at the boundary with the “Grotta Nuova” sphere (Figure 9.3a), was part of this network, which singles the UPPER LIRI valley out as a potential ‘cross-cultural’ meeting-place. These acts of place-making (GROTTA A MALE; MONTE LA DIFESA) are part of a series at the cultural boundary with the “Grotta Nuova” sphere (Table 9.4) that can be followed to the other side of the peninsula (Figure 9.3b). A cave (GROTTA REGINA MARGHERITA) with funerary evidence (Guidi 1981; Angle et al. 2010) was added to those with Early Bronze Age traces of use in the area of COLLEPARDO (§6.1). GROTTA VITTORIO VECCHI in the LEPINI MOUNTAINS persisted but with the addition of a prominent role as a place of burial (Rubini et al. 1990; Guidi 1991/1992). At the same time, a new major “Protoappenninico” cult place was established at GROTTA DI PASTENA, incorporating a subsurface river stretch, at the Early-Middle Bronze Age transition (Bidditu et al. 2006a, 2007b; Angle et al. 2010a). Finally, structured acts of deposition at LAGO DI CANTERNO, where a stream disappeared from the surface in a karstic environment (Angle 2007c), complete the cross-APENNINE series of place-making at the boundary with the “Grotta Nuova” sphere (Table 9.4; Figure 9.3b). In general, these acts of place-making recall the cosmological connotation of similar place-making in EBA2 (§8.3) and seem to show an even more pronounced and intimate link to boundary work.

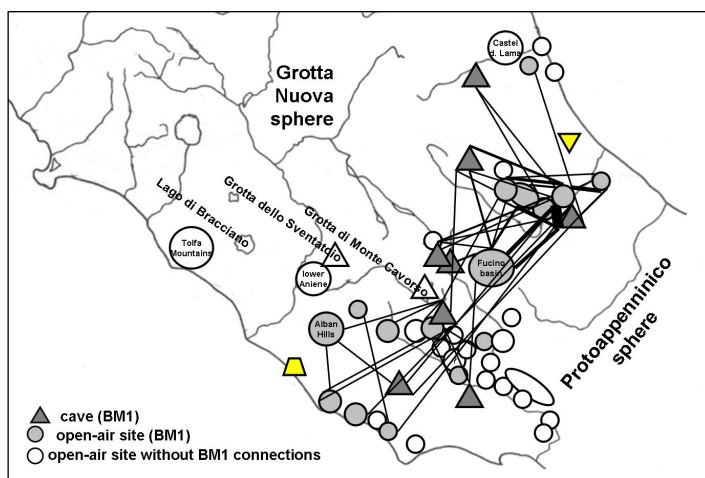


Figure 9.4: ‘typo-network’ in Abruzzo and Lazio based on vessel and handle types attributed to subphase BM1 (“Protoappenninico”) [compiled after Fratini 1997a; Ialongo 2007; Alessandri 2007, 2009; cf. references in Table 9.5 for individual sites], highlighting caves and open-air sites (in shades of grey) and unconnected “Protoappenninico” sites (in white). Connecting lines indicate that at least one vessel or handle type is shared between two sites [lineweight increases with the

number of connections]. This ‘typo-network’ is truncated by the boundary zone of the “Grotta Nuova” sphere with the “Protoappenninico” sphere. The ‘mixed’ EBA2-MBA1 axe hoard (CASALÀZZARA) and the ‘horizon III’ metal-hilted dagger hoard (LORETO APRUTINO) are included for comparison.

Scaling down and up again

The general impression that place-making at the northern margins of the “Protoappenninico” sphere (Table 9.5) was related to boundary work with the emergent “Grotta Nuova” sphere (Figure 9.3b) can be corroborated by scaling down to the cross-APENNINE border zone in Abruzzo and Lazio (Figure 9.4). Different from the ‘typo-network’ (Figure 9.3a) based on the initial synthesis of “Protoappenninico” ceramics (Damiani 1995), a ‘typo-network’ based on ‘early’ MBA1 ceramics (i.e. BM1) was made (Figure 9.4) on the basis of typochronological attributions in the three recent syntheses for micro-regions that constituted this border zone, i.e. the PESCARA valley in southern Abruzzo (Fratini 1997a), the FUCINO BASIN in the intermontane region (Ialongo 2007) and coastal southern Lazio (Alessandri 2007, 2009). This ‘typo-network’ highlights that the two northernmost groups in the “Protoappenninico” sphere (Figure 9.3a) can be incorporated into a single sphere that followed a cross-APENNINE axis through the FUCINO BASIN (Figure 9.4). This recalls the interpretation of the northernmost “Grotta Nuova” groups as a single sphere that connected northern Tuscany and the ‘northern Adriatic’ (Figure 9.2b), as well as the cross-APENNINE axis that emerged between CASTEL DEL LAMA and the TOLFA MOUNTAINS community at the Early-Middle Bronze Age transition (§9.2.1). Taken together, this means that the cultural boundary between the two larger spheres is delimited by two parallel cross-APENNINE axes of connectivity between the Adriatic and Tyrrhenian coasts that ‘sandwich’ the LOWER ANIENE community (Figure 9.4). It was argued that the trajectory of community formation to the north of the LOWER ANIENE valley in EBA2 (§8.4), had situated this community on a ‘coastal’ axis to the cult place of PIAN SULTANO in the TOLFA MOUNTAINS micro-region, as well as on

an ‘interior’ axis to southeastern Tuscany in the northwest and to the Frosinone province (and Campania) in the southeast. Its axis of connectivity to the FUCINO BASIN was less well-defined, perhaps initially an indirect route following the ‘interior’ axis into the Frosinone province, where a larger settled community seems to have emerged at the Early-Middle Bronze Age transition (Figure 9.4).

Some of the open-air sites in the Frosinone province, in the ‘interior’ of southernmost Lazio, that make up a larger settled community at the Early-Middle Bronze Age transition than before, were already discussed (§7.1.4), as the start of their trajectories tend to be dated tentatively to EBA2 (Table 7.6). However, given the “Protoappenninico” affiliations of these assemblages, this community should probably be regarded as ‘early’ MBA1 in date, following a trajectory of community formation that had started with the act of “Palma di Campania” ceramics deposition at GROTTA DEL CANE (Appendix 3 [#34]), in the light of the earlier date for the AVELLINO eruption (§3.4). By contrast, the LOWER ANIENE community had emerged before (and thereby ‘prompted’) the percolated distribution of “Palma di Campania” ceramics in southern Lazio (§7.2; Figure 7.9), the latter an indication of its position on the axis linking this community to metalwork production and exchange in southern Tuscany (§8.4). In turn, the ‘early’ MBA1 community that emerged in the SACCO and MIDDLE LIRI valleys can be related to place-making at GROTTA DI PASTENA as the new main “Protoappenninico” cult place, at the new cave (GROTTA REGINA MARGHERITA) at COLLEPARDO as the main place for burial and at LAGO DI CANTERNO as a lake-side cult place (see above). This community was connected to the ‘early’ MBA1 community at TORRE DE’ PASSERI on the opposite side of the peninsula, following the cross-APENNINE axis through the FUCINO BASIN, and at the same time seems to have been linked into the series of coastal sites at the lagoonal strip of southern Lazio (Figure 9.4). “Protoappenninico” connectivity to the ALBAN HILLS would have postdated the Early-Middle Bronze Age transition, given the absence of the ‘earliest’ “Grotta Nuova” ceramics (i.e. BM1A) from the LAGO ALBANO assemblage (Table 9.4). Apart from a potentially ‘time-transgressive’ date for the “Palma di Campania” ceramics from one of the TENUTA RADICICOLI assemblages (§9.2.1), the SACCO-LIRI community cannot be linked to the adjacent LOWER ANIENE community in the emergent “Grotta Nuova” sphere. Similarly, the closest connections for the earliest “Grotta Nuova” ceramics in the culturally ‘mixed’ assemblages in the FUCINO BASIN can be found in the TOLFA MOUNTAINS micro-region and by-pass the LOWER ANIENE community (Figure 9.2a).

This indicates a major network change with respect to the direct sense of connectivity between northernmost Lazio and the FUCINO BASIN in the ‘typo-network’ based on EBA2 ceramics (§7.2; Figure 7.6) that would have involved the LOWER ANIENE community (§8.4). The culturally ‘mixed’ EBA2 and ‘early’ MBA1 assemblage on top of an EBA2 assemblage at one of the TENUTA RADICICOLI sites (§9.2.1) seems to have marked this network change. Apart from the few ‘mixed’ assemblages in the FUCINO BASIN and at the coastal sites of southern Lazio (Figure 9.2a), the initial lack of ‘cross-cultural’ interaction between the emergent “Grotta Nuova” and “Protoappenninico” spheres on the Tyrrhenian side of the peninsula in all likelihood resulted from the cross-APENNINE focus in two parallel axes of connectivity (Figures 9.2b & 9.3b). The insertion of the cross-APENNINE axis of connectivity that constituted the southern margins of the emergent “Grotta Nuova” sphere, seems to have ‘blocked’ the previously direct axis between the FUCINO BASIN and northernmost Lazio (§7.2; Figure 7.6) and involved the affiliation of the LOWER ANIENE community with the Central Italian sphere. The parallel ‘exclusion’ of the FUCINO BASIN from this sphere at the Early-Middle Bronze Age transition is underscored by the virtual absence of ceramics dated to the subsequent phase (i.e. BM1B) in the “Grotta Nuova” sequence (cf. Ialongo 2007). In other words, the FUCINO community (§7.1.2) had shifted its affiliations to the larger Southern Italian sphere, in coincidence with the emergence of an ‘early’ MBA1 settled community in the UPPER PESCARA valley (see above). Given the cross-APENNINE sense of directionality in the ‘typo-network’ for the earliest “Protoappenninico” ceramics (Figure 9.4), the scenario of an indirect route for the provenance of the earliest “Grotta Nuova” ceramics in the culturally ‘mixed’ assemblages in the FUCINO BASIN (Figure 9.2a) is more likely than the alternative of a more direct route, although the possibility of ‘cross-cultural’ place-making in the UPPER LIRI valley (MONTE LA DIFESA; GROTTA BEATRICE CENCI) cannot be excluded (Table 9.5; Figure 9.3b). Before the establishment of LAGO ALBANO as a major, ‘cross-cultural’ cult place in subphase BM1B (cf. Van Rosenberg forthcoming), ‘cross-cultural’ exchanges between the emergent spheres to have taken place at the series of stopping points in seaborne connectivity in the Tyrrhenian (Figures 9.2b & 9.3b) that included the coastal sites with culturally ‘mixed’ assemblages in southern Lazio (Figure 9.4).

Given the ‘cross-cultural’ connotation of metal-hilted daggers, the cross-APENNINE axis that defines the northern margin of the “Protoappenninico” sphere (Figure 9.4) can be excluded as an

alternative route for those that ended up in Campania. However, the presence of two axe hoards with a ‘Tuscan’ signature (Albore Livadie et al. 2000) to the north of the VESUVIUS (§9.2.1) does indicate that a seaborne route, following the series of stopping-points in the Tyrrhenian (Figures 9.2b & 9.3b) is also a possibility instead of the one reconstructed through the region of Molise (see above). The only multiple find in Campania consists of three ‘later’ metal-hilted daggers (NOCERA DI PAGANI) and has been explicitly dated to the Early-Middle Bronze Age transition in the revised typochronology because of affinities with daggers in both the LORETO APRUTINO hoard and the CERVERA ALFINA hoard (De Marinis 2001, 266-275). The presence of ‘late’ types, including one that is exclusive to the Tyrrhenian sphere, makes the alternative seaborne route for the ‘metal-hilted’ daggers that ended up in the NOCERA DI PAGANI ‘burial’ (or hoard), more than plausible. It also fits the scenario that seaborne traffic along a series of coastal stopping points in the Tyrrhenian at the Early-Middle Bronze Age transition (Figures 9.2b & 9.3b) was ‘cross-cultural’ in character. The ‘early’ MBA1 community that emerged in the TOLFA MOUNTAINS micro-region on the cross-APENNINE axis of ‘later’ daggers in Central Italy, seems the most likely provenance before shipment for the dagger of CERVERA ALFINA type in the NOCERA DI PAGANI ‘burial’ (or hoard), perhaps with exchange taking place at the cult place of PIAN SULTANO (§9.2.1). By contrast, the ‘Tuscan’ axes (or raw material) from the hoards in northern Campania (Figure 9.3b) could have ‘boarded’ at the COLLINE METALLIFERE further to the north (Figure 9.2b). The ‘cross-cultural’ character of seaborne axis of connectivity in the northern Tyrrhenian is exemplified by the culturally ‘mixed’ assemblages along the coast of southern Lazio (Figures 9.2a & 9.4). These were situated at the main cultural boundary, or rather, the meetings and exchanges that took place at these locations were ‘boundary work’ and helped to create the emergent cultural boundary between the “Grotta Nuova” and “Protoappenninico” spheres on the Tyrrhenian side of the peninsula.

It is tempting to extend the scenario of ‘cross-cultural’ seaborne connectivity and coastal exchanges in the Tyrrhenian to include the northernmost occurrence of the earliest “Mycenaean” ceramics on the Tyrrhenian side of Southern Italy (Bietti Sestieri 1988; Bettelli et al. 2006), at one of the islands in the BAY OF NAPLES (Figure 9.3b), turning it into a so-called ‘international’ affair. In order to corroborate this, however, another typochronological issue has to be resolved, the synchronisation of the “Protoappenninico” and “Late Helladic” sequences. This can partly be found in connections in the ‘typo-network’ (Figure 9.3a) between this particular island in the BAY OF NAPLES and the ‘early’ MBA1 settlement of TORRE DE’ PASSERI in the UPPER PESCARA valley (see above), thereby potentially dating a presence of “Mycenaeans” to the Early-Middle Bronze Age transition. Moreover, it has been established that all of the earliest “Mycenaean” ceramics in Southern Italy on the Tyrrhenian side of the peninsula were genuine imports in terms of raw material (Bettelli et al. 2006). It remains to be seen, however, whether these ‘imports’ arrived by “Mycenaean” ships, or were part of a regional tradition of seaborne traffic involving smaller islands in the southern Tyrrhenian (Copat et al. 2010), or land-based networks (Cazzella & Recchia 2009). By contrast, the evidence for a regional tradition of seaborne traffic at the Early-Middle Bronze Age transition is more conclusive in the northern Tyrrhenian (Figures 9.2b & 9.3b). It was argued that the increase in (or the increased visibility of) this regional tradition of seaborne connectivity was intimately related to network changes in the emergent “Grotta Nuova” and “Protoappenninico” spheres themselves. There is no indication whatsoever that network changes in Central Italy at the Early-Middle Bronze Age transition were prompted by a “Mycenaean connection” (Bietti Sestieri 1988), in search for raw materials such as copper. This is exemplified by the distribution of the earliest “Mycenaean” ceramics that is limited to Southern Italy and does not extend into Central Italy (Bettelli et al. 2006). The opposite, that the “Mycenaeans” were prompted by the presence of a regional tradition of seaborne traffic in the northern Tyrrhenian that shipped metalwork (and/or raw materials) to northern Campania in the southern Tyrrhenian, following a series of coastal stopping points (Figures 9.2b & 9.3b), is by far more likely.

9.2.3 The Early-Middle Bronze Age transition as a trajectory

Not only did a lot of things change in MBA1, as suggested by the diachronic comparison of archaeological records (§9.1.1), but many of these acts of place-making can also be situated more precisely at the Early-Middle Bronze Age transition (§9.2.1; §9.2.2). Following a ‘time-transgressive’ scenario (§9.1.2), such a redistribution of MBA1 place-making is crucial for conceptualising this transition as a trajectory. The ‘thick’ description of networks and network changes at the Early-Middle Bronze Age transition indicates that much place-making was related to the historical situation of the emergence of the “Grotta Nuova” sphere in Central Italy (§9.2.1) and the “Protoappenninico” sphere in Southern Italy (§9.2.2). At the same time, it shows the different potential of ‘rich’ and ‘poor’

archaeological records (§9.1.1). A data-rich and multi-sited synthesis of the full Middle Bronze Age sequence will inevitably be thicker and richer than the Early Bronze Age sequence and expand beyond the scope of the case study (Chapters 3-8). Apart from differences, however, there will also be similarities, both epistemological and methodological in character, because - for richer or poorer - the objective to arrive at historical trajectories does not change. With the increase in volume of archaeological bodies of evidence, the chances that pieces of evidence are ‘conflicting’ and on closer inspection do not (yet) fit in the ‘four-dimensional jigsaw’, increase, too. Subdivision in periodisation is a construct of classification and it increases the number of ‘self-inflicted’ boundaries between spatio-temporal entities, thereby also increasing the number of times that fuzziness between (sub)phases should be allowed for. It can be expected that a ‘time-transgressive’ scenario is not only reasonable for the Early-Middle Bronze Age transition (§9.1.2), but for each of the six subphases of the Middle Bronze Age in the Central Italian sequence (Van Rossenberg forthcoming). Epistemologically, the ‘neatness’ of classification creates pieces of ‘conflicting’ evidence and ‘time-transgressive’ issues, especially when synchronisation is required between typo-chronologies that are ‘floating’ in character (§9.1.2), as so often is the case in Bronze Age studies with sequences based on metalwork.

The extension of the case study (§9.2.1; §9.2.2) illustrates that such an increase in ‘conflicting’ evidence and ‘time-transgressive’ issues is not necessarily a problem. The paradox is that trajectories of change would have been lost in a perfect classification. Without pieces of ‘conflicting’ evidence, transitions would have to be conceptualised as ‘clear-cut’ and ‘instant’ shifts from one historical situation to another and network changes, constitutive of historical trajectories, would remain enigmatic. This is in line with the notion that networks can only be traced when they change and leave traces (*sensu* Latour 2005), which applies to diachronic comparison from a network perspective in archaeology. The extension of the case study to include the Early-Middle Bronze Age transition (§9.2.1; §9.2.2) has made clear that, with the increase in the number of pieces (including ‘conflicting’ evidence), the chances at getting these pieces into place in the ‘four-dimensional jigsaw’ of historical trajectories increase, too. ‘Time-transgressive’ issues highlighted which pieces could on closer inspection be regarded as out of place, or which pieces could as easily be put in another place (Table 9.2), by following up on these issues from the perspective of a ‘time-transgressive’ scenario (§9.1.2). A Latourian take on diachronic comparison in archaeology is impossible without a data-rich understanding of the historical situations being compared. Whereas a more selective approach takes periodisation for granted and tends to overlook ‘time-transgressive’ issues, a non-selective, data-rich and multi-sited approach sets out to reveal these issues. The combination of tracing pieces of ‘conflicting’ evidence, appreciating regional differentiation and allowing for fuzziness in typo-chronological sequences, remedies the ‘self-inflicted’ neatness of classification and thus brings the conceptualisation of transitions as trajectories closer at hand.

The bias towards deposition and network changes

Another thing to be stressed is the general impression that so much place-making at the Early-Middle Bronze Age transition was ‘cross-cultural’ character (§9.2.1; §9.2.2). This is not only an analytical construct, resulting from the adoption of a ‘time-transgressive’ scenario that tries to avoid mistaking cultural for chronological differences (§9.1.2). ‘Cross-cultural’ place-making at the Early-Middle Bronze Age transition recalls (and corroborates) the ‘multi-sited’ understanding of Early Bronze Age cultural landscapes and social networks (Chapter 8). Relatively long distances had to be covered and large ‘gaps’ had to be crossed in social interaction between settled communities, given the punctuated character of Early Bronze Age settlement patterns (Chapter 7). The same ‘gaps’ provided a condition of possibility for the emergence of new settled communities that changed networks (§9.2.1; §9.2.2). Moreover, the ‘cross-cultural’ character of place-making is consistent with the bias towards deposition in archaeological records, especially Bronze Age records (§2.1.3). One period-specific bias results from the Bronze Age concern with incorporating rarities or, more in general, ‘non-local’ items of material culture in acts of deposition. As a consequence, acts of place-making that constituted changes in networks (by adding new places), are almost by definition ‘cross-cultural’ in character. It was argued that this period-specific bias towards deposition in Bronze Age archaeological records helps to interpret cultural landscapes in terms of networks of places (Chapter 2) and, in turn, it helps to conceptualise historical trajectories as constituted by network changes. To reiterate, following Latour (2005), networks can be studied by tracing network changes (see above) and Bronze Age network changes become archaeologically visible because of the bias towards deposition. In particular, it is the selective deposition of ‘non-local’ items of material culture that creates ‘time-transgressive’ issues and

‘conflicting’ evidence, as these items selected for deposition often do not seem to fit in ‘local’ typhochronological sequences precisely because of their ‘exotic’ character.

The multi-sited analysis of Early Bronze Age cultural landscapes highlighted that ‘non-local’ items tend to end up at the boundaries of settled communities (Chapter 8). It was argued that such acts of place-making refer to ‘boundary work’ (or meeting-places) and constituted intermediate nodes in social networks that linked Early Bronze Age communities. This period-specific bias in deposition created spatially differentiated distributions that can be used to trace the structure of both cultural landscapes and social networks. The focus in the ‘thick’ description of networks at the Early-Middle Bronze Age transition was on such forms of place-making, notably metalwork deposition and cave use (§9.2.1; §9.2.2). In the light of a ‘time-transgressive’ scenario (§9.1.2), it is not a coincidence that they were linked to (and constituted) network changes. The ‘cross-cultural’ character of these particular acts of place-making can be interpreted as the increasing integration of the communities settled on the Adriatic and Tyrrhenian sides of the peninsula (§9.2.1; §9.2.2), following the articulation of the respective metallurgical spheres in EBA2 (Chapter 8). The scenario of articulation followed by integration is underscored by the emergence of a series of cross-APPENNINE axes of connectivity (Figure 9.2b; Figure 9.4), or rather their increase in visibility because of the period-specific bias towards deposition in Bronze Age archaeological records. These considerations concerning period-specific, structural properties of archaeological records shed another light on the diachronic comparison of the visibility of elements in cultural landscapes as a proxy for network changes. They can help to make the proxy for a major network change between EBA2 and MBA1 (§9.1.1) historically specific.

The extension of the case study of Early Bronze Age networks to the Early-Middle Bronze Age transition shows that changes in archaeological visibility can be quite dramatic and relatively abrupt, in this case related to the historical situation of the ‘parallel’ and ‘synchronised’ emergence of the larger “Grotta Nuova” and “Protoappenninico” spheres (§9.2.1; §9.2.2), but still interpreted as a trajectory, following the ‘time-transgressive’ scenario (§9.1.2). By appreciating regional differentiation and allowing for fuzziness in typhochronological sequences, the seemingly abrupt change from ‘poorer’ to ‘richer’ records between EBA2 and MBA1 (§9.1.1; Table 9.1) can be interpreted as a trajectory in itself. On the one hand, acts of place-making at the Early-Middle Bronze Age transition followed spatial patterns that could already be related to ‘boundary work’ in Early Bronze Age networks (Chapter 8). On the other hand, they did constitute dramatic network changes, in particular the emergence of several cross-APPENNINE and coastal axes of connectivity (§9.2.1; §9.2.2), or made these more visible archaeologically. In this respect, it is unlikely that regional traditions of seaborne connectivity had disappeared between ‘Bell Beaker’ times and the Early-Middle Bronze Age transition (§9.3.1), but they return into sight in ‘richer’ archaeological records related to network changes (see above). This is in line with recent contemplations about the relationship between temporalities of change and archaeological records (Olivier 2001; Fokkens 2008). It has been acknowledged that acts of place-making related to network changes are overrepresented in archaeological records (Olivier 2001). At the same time, it has been acknowledged that innovations, including the introduction of novelties, take time to become visible (or ‘materialise’) in archaeological records (Fokkens 2008). I would argue that the extension of the case study to include networks at the Early-Middle Bronze Age transition (§9.2.1; §9.2.2) shows that the ‘enigmatic’ character of the initial phase in innovation (i.e. when novelties were actually novelties) is partly ‘self-inflicted’ and due to the neatness of classification that attributes particular elements to one historical situation or the other. Appreciating that fuzziness should be allowed for in typhochronologies, a multi-sited and data-rich approach to diachronic comparison restores the ‘cross-cultural’ and ‘time-transgressive’ character of innovation.

Methodological implications

The extension of the diachronic comparison to networks at the Early-Middle Bronze Age transition was selective and not data-rich. Nonetheless, it shows that allowing for ‘time-transgressive’ possibilities in the reconstruction of network changes in Central Italy as a whole (§9.2.1; §9.2.2) should have consequences for the study of regional and micro-regional trajectories. It was already argued that sub-regional units of analysis are not appropriate for the study of Early Bronze Age networks in Central Italy, because differences in the spatial distributions of distinctive forms of place-making can only be recognised on regional to supra-regional scales (Chapter 8). Present ‘boundary work’, delimiting a research area at those major rivers or mountainous areas (with caves) that had served as a focus for acts of deposition and constituted meeting-places in social networks, hides past ‘boundary work’. Similarly, ‘time-transgressive’ issues at the Early-Middle Bronze Age transition can only be recognised as

patterns of regional differentiation on regional to supra-regional scales (§9.1.2). If acts of place-making that constituted such a ‘time-transgressive’ issue (see above), are situated outside the sub-regional entity selected for study, they can be overlooked on a micro-regional scale, but this does not mean that they are inconsequential. These methodological issues can be resolved by adopting a ‘flat’ approach to studying networks (*sensu* Latour 2005) and following the traces that are left by network changes wherever they may lead. The potential of this approach is underscored by what resulted from following the traces (i.e. ‘time-transgressive’ issues) left by the case study of Early Bronze Age networks in Abruzzo and Lazio (Table 9.2) to network changes at the Early-Middle Bronze Age transition. For instance, the high degree of regional differentiation in metalwork typochronologies between the Tyrrhenian and Adriatic spheres (§9.2.1), had not emerged from the data-rich case study, although the latter did substantiate the existence of distinctive metallurgical traditions on opposite sides of the peninsula (Chapter 4). Rather than a multi-sited analysis and a data-rich synthesis of networks in Abruzzo and Lazio (Chapter 8), it was scaling up to account for the ‘time-transgressive’ possibility of overlap between ‘late’ EBA2 and ‘early’ MBA1 patterns that revealed that ‘horizon II’ axes were in all likelihood replaced by ‘horizon IV’ axes in the ‘Adriatic’ sphere (§9.2.1). In turn, these traces unexpectedly led to a plausible copper source for Early Bronze Age metalwork (Figure 9.2b), by following traces left by network changes in the subsequent phase.

Unanticipated results and revisions of interpretations should not come as a surprise, if the reconstruction of network changes and trajectories takes ‘neat’ and ‘bounded’ spatio-temporal entities from periodisation and typochronological classification for granted and uses them as a proxy for historical sequences. Archaeologists should expect ‘time-transgressive’ scenarios, keeping in mind Barrett’s caveat not to ‘equate long-term sequences of material conditions [...] with the structuring of history’ (2004, 14), conceptualising material conditions as ongoing outcomes (Arroyo-Kalin 2004) and for that reason allowing for fuzziness in typochronological sequences. This does not mean that the ‘time-transgressive’ scenario for the Early-Middle Bronze Age transition (§9.1.2) is corroborated by the ‘thick’ description of network changes (§9.2.1; §9.2.2). This test was selective and excluded the majority of open-air sites from the equation. It does mean that these can be used to further test (i.e. corroborate or reject) the ‘time-transgressive’ scenario of overlap between ‘late’ EBA2 and ‘early’ MBA1 in a multi-sited analysis and a ‘truly’ data-rich synthesis. The assumption is that current reconstructions of changes in settlement patterns and micro-regional trajectories have to be brought in line with this ‘time-transgressive’ scenario for the Early-Middle Bronze Age transition. On several occasions in the extended case study (§9.2.1; §9.2.2) it was stressed that the general sense of order, that EBA2 (or the Early Bronze Age) preceded MBA1 (or the Middle Bronze Age), is not at stake. However, this depends on the extent of overlap (i.e. partial or full) between (sub)phases and can therefore not be stated for each of the (sub)phases within a given period, without having checked for ‘time-transgressive’ issues. These are not exclusive to the Early-Middle Bronze Age transition and in Central Italy each transition to another (sub)phase in the Middle Bronze Age sequence seems to have been implicated in a ‘time-transgressive’ scenario (cf. Van Rosenberg forthcoming). In general, periodisation and typochronologies are idealised sequences on supra-regional to regional scales, but it would be a misconception to regard ‘time-transgressive’ issues as irrelevant in the long term and geographically wide scope of typochronologies. Until these sequences have been checked for ‘time-transgressive’ issues based on patterns of regional differentiation, they cannot be used as a proxy for chronological order in historical trajectories on a micro-regional scale.

Methodologically, it would not be sound to ignore patterns of regional differentiation that define ‘conflicting’ evidence and can help to get pieces into the ‘four-dimensional jigsaw’ of historical trajectories on supra- to micro-regional scales (see above). Apart from adding settlement patterns to networks at the Early-Middle Bronze Age transition (§9.2.1; §9.2.2), the ‘time-transgressive’ scenario (§9.1.2) can be tested (i.e. corroborated or rejected) by revisiting the stratigraphical relationships of the ceramics from cave assemblages that are the backbone of Early and Middle Bronze Age typochronologies. Revisiting, while keeping ‘time-transgressive’ issues in mind, should establish to what extent ‘late EBA2’ and ‘early’ MBA1 ceramics have been found in association in these cave assemblages, but separated for the sake of neatness in typological classification. At the same time, the polythetic dimension of these assemblages that is related to their dual role as ‘collectors’ in cultural landscapes and ‘connectors’ in social networks (Chapter 6), should be kept in mind. Caves were particular places, selected for deposition and situated at cultural boundaries. Bringing cultural differences to bear on an act of deposition at such a place may not have been a coincidence and these should not be mistaken for chronological differences and explained away by postdepositional

processes. The ‘cross-cultural’ dimension of ‘boundary work’ in the past (i.e. selective deposition of novelties and/or ‘non-local’ rarities) should not be overlooked in archaeological ‘boundary work’ (i.e. the search for neatness in a perfect classification). Another cave-related test concerns the reconstructed increase in the use of these places for burial, especially in Lazio, in the Middle Bronze Age (§9.1.1). This diachronic pattern should be tested independently and not only be based on relative dates of associated ceramics. It can be expected that an absolute dating programme on human remains from Middle Bronze Age cave assemblages will increase the number of pieces of ‘conflicting’ evidence (§9.2.1), but these new pieces will only help to put (or keep) other pieces of the ‘four-dimensional jigsaw’ in place. By contrast, establishing a definite date for the AVELLINO eruption of SOMMA-VESUVIUS (§3.4) would create only one piece, but not the easiest to put into the ‘four-dimensional jigsaw’ of networks and historical trajectories. The thought that the awakening of a remnant volcano could have stirred Early Bronze Age networks to leave traces, would probably not be lost on Latour.

9.3 Implications for the study of Bronze Age trajectories

A concern with ‘time-transgressive’ issues in multi-sited analysis and data-rich synthesis is not only necessary to get distribution maps right and thereby enrich interpretations of Early Bronze Age networks and network changes in Central Italy. From a network perspective, the implications of data-rich synthesis reach further and can be brought to bear on the study of Bronze Age trajectories elsewhere in Europe and the Mediterranean. The question is, for instance, what impact the corroboration of a ‘time-transgressive’ scenario in Central Italy would have on typochronologies in other regions, outside the Italian peninsula. It was already highlighted that the ‘focal’ point in “Grotta Nuova” connectivity in the northern Adriatic at the Early-Middle Bronze Age transition (Figure 9.2a) was related to network changes in Northern Italy, seemingly preceding (or coinciding with) the start of the so-called ‘*terramare*’ phenomenon (§9.1.1). In order to establish a relationship between network changes in Central and Northern Italy, the data-rich synthesis would have to be extended, because interregional synchronisation of ‘idealised’ typochronologies does not provide the best starting-point, if these have not been checked for ‘time-transgressive’ issues and scenarios (§9.2.3).

In order to underscore the implications of a multi-sited and data-rich approach for the conceptualisation of exchange networks and metallurgical spheres, first the Copper Age-Middle Bronze Age sequence in Central Italy will be revisited and situated in a wider, European and Mediterranean context (§9.3.1). The focus will lie on metalwork-related issues that seem to have been a prominent feature of ‘Bell Beaker’ and ‘earlier’ Bronze Age networks and network changes. At the same time, a brief comparison will be made with ‘later’ Bronze Age trajectories in Central Italy, including its integration in the so-called Urnfield phenomenon. By scaling up and extending the network perspective on Bronze Age trajectories in the case study (Chapter 3-8; §9.1; §9.2) to Europe and the Mediterranean, I will further underscore the contribution that data-rich synthesis makes to Bronze Age studies in general (§9.3.2), if not the discipline as a whole.

9.3.1 Networks, nodes and boundary work

Starting from the open-ended character of networks (§2.2), the data-rich synthesis of Early Bronze Age networks and trajectories in the case study can be extended and linked up with other regions, as well as later phases. Here the Central Italian sequence is situated in the wider context of Europe and Mediterranean Bronze Age studies. Revisiting the emergence of an Early Bronze Age ‘metal-work’ in Central Italy (Chapter 8), the focus lies on metalwork-related issues. This helps to bring the case study to bear on the ‘Bell Beaker’ phenomenon, as well as the emergence of a central area of metalwork production in the eastern ALPINE region. In addition, the postulated links between metallurgy, place-making and cosmologies in the Early Bronze Age (§8.3) and at the the Early-Middle Bronze Age transition (§9.2) are followed to network changes in the ‘later’ Bronze Age. ‘Earlier’ and ‘later’ Bronze Age trajectories in Central Italy will be compared with a focus on the relationship between ‘rich’ archaeological records, place-making and network changes (§9.2.3) and its alternation with ‘poor’ archaeological records (§9.1.1). This discussion will highlight how data-rich synthesis of ‘earlier’ Bronze Age networks can shed light on ‘later’ Bronze Age network changes. In particular, it concerns network changes related to the extension of the so-called Urnfield phenomenon to include Central Italy that disengaged both funerary practices and metalwork-related issues from caves.

From Bell Beaker phenomenon to Early Bronze Age ‘metal-work’

The presumption has traditionally been that the long-distance networks that are made visible by items of ‘Bell Beaker’ material culture, were intimately linked to metallurgy (Harrison 1980), but recent work has shown that there is so much more to the ‘Bell Beaker’ phenomenon (e.g. Nicolis 2001; Czebreszuk 2004; Vander Linden 2006). It was already discussed that in Central Italian sequence the ‘Bell Beaker’ phenomenon extended into the Early Bronze Age (Nicolis & Mottes 1998; Sarti 1998; Sarti & Martini 1998; Leonini 2004; Sarti 2004; Lemerrier et al. 2007). Its distribution was almost exclusively linked to the Tyrrhenian sphere and extended from northern Tuscany to the northern margins of Lazio, where two comprehensive assemblages (FOSSO CONICCHIO; TORRE CROGNOLA) were interpreted as nodes (or meeting-places) in supra-regional connectivity, also in the light of their location in connection with a prior, Copper Age ‘nodal’ area (Chapter 7). It was argued that ‘Bell Beaker’ items of material culture were incorporated in existing exchange networks and should not be interpreted as the settlement of ‘Bell Beaker’ people in northernmost Lazio. ‘Bell Beaker’ items of material culture were exchanged from Northern Tuscany along the same axis of connectivity as copper metalwork (§4.4), given that copper mines in Liguria (Figure 4.1) are a likely source for Copper Age metalwork in the northern Tyrrhenian (§4.1). Scaling up beyond Italy, it is not a coincidence that the mines in Liguria occupy an intermediate position in the ‘Bell Beaker’ distribution, between a ‘core’ area in southern France (Lemerrier 2012) and a ‘core’ area in northern Tuscany that was connected to Northern Italy (Nicolis & Mottes 1998; Lemerrier et al. 2007). The Northern Italian area of copper mining had occupied a similar position in between distinctive ‘spheres’ of Southern French and Northern Italian flint daggers in the Late Neolithic-earlier Copper Age (cf. Honegger & de Montmollin 2010, 131 [fig. 2]). It seems that a Late Neolithic-Copper Age structure in interregional connectivity was injected with greater archaeological visibility by ‘Bell Beaker’ material culture, given their ‘non-local’, ‘international’ connotations and supra-regional spatial distributions. In other words, from a network perspective, the notion of ‘Bell Beaker’ networks as an entirely separate phenomenon is a misnomer (cf. Vander Linden 2004).

The notion that the ‘Bell Beaker’ phenomenon only increases the archaeological visibility of prior connectivity is underscored by debates on the earliest metallurgy and mining in the Mediterranean (e.g. Ambert & Vaquer 2005; Maggi & Pearce 2005) that have started to delve deeper into the past. Similarly, an earlier date has been proposed for the emergence of a regional tradition of copper metallurgy in Central Italy, based on ‘earlier’ dates on human remains, associated with copper metalwork in Copper Age cemeteries, including northernmost Lazio (Dolfini 2010). There is a flaw in this interpretation, however, in the sense that the earlier date redistributes the same volume of copper metalwork over a longer trajectory. This makes copper metallurgy more rare, perhaps too rare for a full-fledged ‘regional’ tradition of metalwork. Given the volumes of copper produced at the Ligurian mines (Campana et al. 2006), these remain a likely source for the majority of raw material and/or finished pieces of copper metalwork that ended up in northern Lazio (§4.4). The spatial distribution of the ‘Bell Beaker’ phenomenon in Central Italy shows that interregional connections stretched from northern Tuscany to northernmost Lazio (see above). This is also visualised in the ‘typo-network’ for ‘early’ EBA1, or late ‘Bell Beaker’ ceramics (§3.2.1; Figure 3.1) that shows connections from TORRE CROGNOLA and FOSSO CONICCHIO in northernmost Lazio to caves in the Tuscan-Ligurian ‘border zone’. Although the possibility of copper exploitation from the COLLINE METALLIFERE in the Copper Age cannot be excluded, it was argued that the coincidence of the abandonment of the Ligurian mines with the Copper Age-Early Bronze Age transition is compatible with the emergence of the Early Bronze Age hoarding phenomenon in Tuscany (§4.1). The apparent shift from Ligurian to Tuscan sources would have increased copper production from sources in the COLLINE METALLIFERE, with respect to a potential Copper Age tradition. Moreover, the lack of the ‘Tuscan’ compositional signature of ‘early bronze’ axes and ingots (§4.1) in copper metalwork from Lazio (§4.3) argues in favour of a Ligurian source of Copper Age raw material. This ‘Central Italian’ trajectory of network changes at the Copper Age-Early Bronze Age transition can be used as a comparandum in the context of Copper and Bronze Age studies at large, in Europe and the Mediterranean. The case study highlighted that the transition from copper metallurgy to tin-based metallurgy in the Tyrrhenian part of Central Italy (Chapter 4) took place within the sphere of the Italian ‘Bell Beaker’ phenomenon.

It would be interesting to chart the presence of a ‘Tuscan’ compositional signature (§4.1; §4.3) in other regions, outside Central Italy. This may, for instance, provenance the tin resources that were used as raw material in these ‘early bronzes’, whether in the COLLINE METALLIFERE themselves or elsewhere in Italy, Europe or the Mediterranean. It should be stressed, however, that the reconstruction

of the emergence of an Early Bronze Age ‘metal-work’ in Central Italy (Chapter 8) was not only based on metallurgical spheres, but on a multi-sited analysis. Network changes seem to have been predominantly metalwork-related, but this only showed in a ‘multi-sited’ analysis, by taking all forms of place-making into account simultaneously and making a comparison of their distinctive spatial distributions. The emergence of a central area of metalwork production in Tuscany initially showed in the ‘typo-networks’ based on EBA1 and EBA2 ceramics (§3.2.1). These showed a focus in connectivity on Tuscany, particularly in connections over long distances between caves, constitutive of a ‘supra-regional’ network of cult places to which LAGO DI MEZZANO was added in EBA2. At the same time, the spatial distribution of metal-hilted daggers indicates the introduction of ‘true bronze’ metallurgy to Central Italy, but also the articulation of the ‘Tuscan’ and ‘Adriatic’ metallurgical spheres into a larger ‘metal-work’ (§4.4; Chapter 8). At a later stage, the ‘time-transgressive’ scenario differentiated between an ‘earlier’ and a ‘later’ phase among these “Vollgriffdolche” with a continental European connotation and situated the latter at intersections in network changes at the Early-Middle Bronze Age transition.

These network changes created a structure of connectivity in Central Italy with a focal point in the far northern Adriatic and, at the same time, increased connectivity between the Central and Southern Italian spheres (§9.2). As such, the emergence of a more pronounced cultural boundary between the ‘early’ MBA1 “Grotta Nuova” and “Protoappenninico” spheres should be interpreted as ‘boundary work’. This cultural boundary was not a dividing line, but an emergent phenomenon from ‘cross-cultural’ exchanges. From a ‘multi-sited’ and ‘time-transgressive’ perspective, it was argued that the parallel increase in archaeological visibility of cross-APENNINE and seaborne axes of connectivity was part of the same emergent phenomenon at the Early-Middle Bronze Age transition, with a key role for metal-hilted daggers in ‘cross-cultural’ exchanges, according to their historically specific, spatially punctuated distribution (§9.2). The overall increase in archaeological visibility of connectivity underscores that networks in Central Italy at the Early-Middle Bronze Age transition were better integrated in the larger continental European and Mediterranean spheres (see above). The so-called ‘terramare’ phenomenon in Northern Italy cannot be disconnected from the emergence of an even larger ‘metal-work’ in Central Italy, as the former would have connected the latter to the intensification of Early-Middle Bronze Age copper production in the ALPINE region and perhaps to Central European tin resources beyond (cf. Vandkilde 2005). At the same time, Southern Italian networks started to show more pronounced connections to the Eastern Mediterranean at the Early-Middle Bronze Age transition (cf. Bettelli et al. 2006).

To reiterate, it should be appreciated that these structures of connectivity (or routes) were not ‘new’, but they seem to have been injected with archaeological visibility. The relatively strong sense of cross-APENNINE connectivity between northern Tuscany and Northern Italy was, for instance, already indicated by the distribution of the ‘Bell Beaker’ phenomenon, as well as the ‘localised’ persistence of this tradition of decorated ceramics into EBA2 (Sarti 2004). Nonetheless, from the perspective of Central Italy as a whole (§9.2), the sense of connectivity along this ‘far northern’ axis seems to have become stronger, apparently related to the emergence of coastal salt production in northern Tuscany at the Early-Middle Bronze Age transition (Figure 9.2b). The overall stronger sense of connectivity in Central Italy as a whole cannot be disconnected from the more consistent presence of domestic horse remains in MBA1 faunal samples. Horses would have constituted a major innovation in connectivity, shortening the (same) distances in travel, thereby ‘speeding up’ network changes by making them ‘instantly’ visible archaeologically over larger areas. Given the stronger sense of connectivity with the Eastern Mediterranean that emerged in Southern Italy (see above), a parallel innovation in sail-based shipping (cf. Tiboni 2005) could have made seaborne connectivity archaeologically visible over larger areas than before. The case of Central Italy at the Early-Middle Bronze Age transition (§9.2) shows what can happen when two such innovations in connectivity, one land-based and the other seaborne, come together. Perhaps it also indicates that horses and ships were brought together into a single set of cosmologies and shared between Europe and the Mediterranean (cf. Kristiansen & Larsson 2005; Brück 2011).

From ‘earlier’ to ‘later’ Bronze Age networks

Without a data-rich synthesis of Early Bronze Age networks (Chapter 8), based on non-selective, thick descriptions in the case study (Chapters 3-7), the trajectory of a ‘metal-work’ could not have been traced to the Early-Middle Bronze Age transition (§9.2). Following subdivisions in periodisation and making a comparison between EBA2 and MBA1 (§9.1.1) was not enough to conceptualise this

transition as a trajectory, although it did help to create enough pieces of ‘conflicting’ evidence for a ‘time-transgressive’ scenario (§9.1.2). It was not “one damn thing [i.e. the Middle Bronze Age] after another [i.e. the Early Bronze Age]”, but a series of network changes that constituted a trajectory. On the basis of a ‘multi-sited’ analysis of Early Bronze Age cultural landscapes, it was appreciated that particular forms of place-making constituted ‘boundary work’ (Chapter 8). Cave use, lake-side deposition, funerary practices and metalwork deposition occupied intermediate positions in settlement patterns, situating these places in between settled communities and thereby underscoring their role as connecting elements. The role of these forms of place-making in ‘boundary work’ could be traced to network changes at the Early-Middle Bronze Age transition (§9.2). To be more precise, they actually constituted network changes by adding ‘new’ nodes to ‘prior’ networks, at the intersection of (i.e. creating connections between) groups or larger spheres.

So far the cosmological connotations of ‘boundary work’ (§8.3) were left implicit in the discussion of network changes at the Early-Middle Bronze Age transition, in favour of stressing the cross-cultural character of place-making and the metalwork-related character of connectivity. Without denying the cosmological connotations of acts of place-making that were part of ‘boundary work’, that created connectivity and resulted in the proliferation of cave use and lake-side deposition at the Early-Middle Bronze Age transition (§9.2), it is in the subsequent phase that the cosmological integration of the larger ‘early’ MBA1 spheres comes full circle in ‘coastal’ Lazio. With the establishment of major cult places at LAGO ALBANO in ‘northern’ southern Lazio and at GROTTA NUOVA in northernmost Lazio in subphase BM1B (§9.2.1), the former crater lake linked the latter as a major cult place at the heart of the “Grotta Nuova” sphere to GROTTA DI PASTENA in the “Protoappenninico” sphere (§9.2.2). Both GROTTA DI PASTENA and GROTTA NUOVA carry an internal river course that served as a focus for depositional practices. Given the ‘early’ MBA1 start of the trajectory of the former cave, this particular concern with subsurface water was ‘transferred’ from there to the latter cave. This indicates that cosmological knowledge was shared across the main cultural boundary, linking cult places in the “Grotta Nuova” and the “Protoappenninico” spheres into a supra-regional network covering the Italian peninsula as a whole.

At the same time, swords were introduced to Central Italy from Northern and Southern Italy to end up in a stretch of the PESCARA river in southern Abruzzo (D’Ercole 1997b) on the Adriatic side of the peninsula. Both the cosmological integration of ‘coastal’ Lazio and the introduction of swords in the Adriatic sphere would not have been possible without ‘cross-cultural’ place-making that constituted network changes that, in turn, facilitated connectivity over longer distances at the Early-Middle Bronze Age transition (see above). Swords followed metal-hilted daggers as large blade-like pieces of metalwork with ‘international’ connotations and in their connection to major rivers. These particular bodies of water had been ‘avoided’ in Early Bronze Age metalwork deposition, apart from ‘oversized’ metal-hilted daggers from rivers (FOSSOMBRONE in central Marche and “DAL TEVERE” in ‘northern’ northern Lazio), both with ‘international’ connotations and associated with cross-APENNINE axes of connectivity at the Early-Middle Bronze Age transition (§9.2.1). The exceptional find of a MBA1 axe and a dagger from the subsurface river stretch at the “Protoappenninico” cult place of GROTTA DI PASTENA (Biddittu et al. 2006a) ‘frames’ the notion that metalwork deposition in association with particular bodies of water was significant in a cosmological sense. At the same time, the so-called Early Bronze Age hoarding phenomenon of axes faded away (§4.1), parallel to an increase in the number of depositional zones for MBA1 metalwork at intermontane lakes, such as in the FUCINO BASIN, and as a significant part of the cult place at LAGO ALBANO (cf. Van Rosenberg forthcoming). This underscores that metalwork deposition persisted as a form of place-making at larger bodies of water, with more pronounced cosmological connotations and that MBA1 connectivity and interregional interaction was metalwork-related. This was already argued on the basis of the ‘multi-sited’ EBA2 pattern of ‘parallel’ increases in metalwork deposition at river sources and in cave use at cross-APENNINE axes of connectivity (Chapter 6).

The culmination of this ‘multi-sited’ pattern in the Early Bronze Age ‘metal-work’ (Chapter 8) is direct evidence for Middle Bronze Age metalwork production, in the form of moulds, in association with cult places at caves (cf. Pearce 2007, chapter 5 for Northern Italy). On the opposite bank from the cult places at caves in the MIDDLE FIORA valley in northernmost Lazio (§9.2.1), metalwork production at SCARCETA (Poggiani Keller 1999) seems to have started in subphase BM2A (cf. Cocchi Genick 2001, 2002). On the Adriatic side of the peninsula, moulds have been reported from the group of caves in the GOLA DEL SENTINO in central Marche (Lucentini 1997) and from GROTTA A MALE in the UPPER ATERNO valley, at the highest peaks of the APENNINES (Pannuti 1969), both ‘new’ cult places (or

reinstated) at the Early-Middle Bronze Age transition (§9.2.1; §9.2.2). The location of metalwork production in association with major cult places at caves makes sense from the ‘multi-sited’ understanding of Early Bronze Age networks that these places constituted significant nodes (or ‘hinges’) in connectivity where boundary work took place (Chapter 8), and it underscores that connectivity remained metalwork-related in the Middle Bronze Age and metalwork itself ‘connected’ and ‘cosmological’ in character. From the same ‘multi-sited’ perspective, the dramatic decrease in cave use in the ‘later’ Bronze Age (cf. Guidi 1991/1992) can be linked to the introduction of cremation as the main funerary practice in Central Italy at the Middle-Late Bronze Age transition. The abandonment of caves, did not only entail a transfer of funerary practices (cf. Van Rossenberg 2005), but also a breakdown of the ‘multi-sited’ pattern that linked caves and metalwork production (and exchange). As a consequence, cave use in Lazio was relatively short-lived, Middle Bronze Age phenomenon, but this only helps to underscore the role of caves as nodes in Early and Middle Bronze Age cultural landscapes and social networks, better than in areas where cave use seems to have persisted (cf. Guidi 1991/1992) but depositional practices did decrease in volume.

To reiterate, the data-rich understanding of Early Bronze Age networks helps to appreciate the multi-sited character of network changes. It sheds a different light on the extension of the so-called Urnfield phenomenon to Central Italy, by way of the ‘*terramare*’ phenomenon in Northern Italy (if not from continental Europe), following the axis of connectivity that had become more pronounced at the Early-Middle Bronze Age transition (see above). Different from ‘retrospective’ approaches (§1.2), a data-rich approach to diachronic synthesis and the reconstruction of Bronze Age trajectories, in following chronological order, can appreciate that the spatial distribution of the ‘first generation’ of cemeteries with cremation burials (or ‘urnfields’) in Central Italy is as punctuated in character as the distribution of areas of cave use. The ‘first’ open-air cemeteries were intimately linked to places and areas that had served as nodes in Early and Middle Bronze Age connectivity and where boundary work had taken place (cf. Van Rossenberg in prep.). A data-rich and multi-sited approach can also better appreciate the distinctive conditions of possibility that cremation provided as a form of place-making, making a diachronic comparison with funerary cave use. The disengagement of burial (and metalwork production) from caves highlights that open-air cemeteries constituted one of the new forms of place-making in ‘later’ Bronze Age cultural landscapes, hence in archaeological records, with a parallel shift in depositional practices at settlements (cf. Van Rossenberg 2005). A ‘multi-sited’ understanding of ‘earlier’ Bronze Age networks adds the notion that ‘later’ Bronze Age cemeteries could also emerge in areas that had previously lacked appropriate subsurface places, due to the physically circumscribed distribution of caves. This condition of possibility of cremation underscores that a transfer of funerary practices from caves was not simply one “damn” form of burial after another, but that it held the promise of a major network change, creating nodes in different areas than before and potential changes in the directionality of connectivity. Another ‘multi-sited’ question is whether the resumption of wetter conditions after the EBA2-MBA1 climatic ‘dry event’ (§3.4) had also created conditions of possibility for filling ‘gaps’ in Middle Bronze Age site distributions, following changes in hydrological regimes that would have recharged ‘extinct’ sources of water.

Above all, the general notion taken from the ‘extended’ case study of networks at the Early-Middle Bronze Age transition, that there is an intimate connection between network changes and archaeological records (§9.2.3), also applies to the ‘later’ Bronze Age. The introduction of new forms of place-making in the ‘later’ Bronze Age, in particular the Final Bronze Age, did not only result in network changes, but also in a change from ‘poorer’ to ‘richer’ archaeological records (cf. Olivier 2001). In retrospect, such a relationship between place-making and network changes casts doubts on the generalisation that ‘poor’ and ‘rich’ archaeological records alternated (§9.1.1). It would imply that a ‘poor’ archaeological record equals a period without network changes, but this is at odds with the notion that trajectories do not stop and do not have ‘gaps’. The data-rich synthesis of Early Bronze Age networks shows that this was not the case, that something did change in the course of this so-called ‘poor’ or ‘transitional’ period (Chapter 8). We cannot exclude Early Bronze Age people in Central Italy from the course of history. Adding single finds of metalwork to Cocchi Genick’s synthesis (1998), the Early Bronze Age hoarding phenomenon is definitely a prominent element in cultural landscapes and archaeological records (Chapter 4). Creating connectivity by tin-based, bronze-alloy metalwork did change the overall structure of connectivity in Central Italy (Chapter 8) and provided conditions of possibility for a stronger sense of directionality to both continental Europe and the Mediterranean at large at the Early-Middle Bronze Age transition (§9.2) and subsequent network change in the Middle Bronze Age. But did we not already know that?

9.3.2 Getting your networks right: the Bronze Age as an archipelago

In general, interregional comparison in Bronze Age studies hinges on typochronological connections between objects that covered the longest distances, notably metalwork. However, the extension of the case study (§9.2.1; §9.2.2) highlighted that, in order to get such ‘cross-cultural’ pieces into the ‘four-dimensional jigsaw’ of regional historical trajectories, ‘time-transgressive’ issues are to be expected and should be resolved. Such ‘time-transgressive’ issues can be expected elsewhere, too, given the pattern of selective deposition of metalwork in Europe as a whole, generally dissociated from ceramics (e.g. Bradley 1990; Fontijn 2001/2002; Harding 2007). This means that interregional comparison of regional trajectories is less straightforward than currently understood and that an even greater effort is required to get ‘supra-regional’ networks right. From a network perspective, the ideal approach would be to scale up ‘regional’ multi-sited analyses, such as the case study (Chapters 3-8), and look for ‘cross-cultural’, ‘interregional’ meeting-places, on which ‘regional’ networks and network changes, based on typochronological sequences of ‘regional’ traditions of ceramics, can be hinged. It was argued that meeting-places are those places where ‘time-transgressive’ issues are perhaps the most pronounced and problematic, but if these ‘collectors’ of ‘odd’ pieces can be put in the larger ‘four-dimensional jigsaw’, they will also be the starting-point for an interregional solution. A multi-sited and data-rich approach would be a significant improvement with respect to current forms of interregional comparison of generalised and idealised sequences for ‘bounded’ spatial entities, which do not pay due respect to the ‘hinges’ at the boundaries of these entities. Such an approach would be a first step towards a ‘flat’ understanding of networks (*sensu* Latour 2005) on inter- and supra-regional scales. At the same time, it would change the black-box notion of exchange networks in Bronze Age studies (§2.1.2) into one that appreciates that these are networks, too. Networks are one and the same in the sense that exchange networks can be conceptualised as emerging from connections between places that would also have constituted nodes in other, ‘normal’ networks, in other words, an epiphenomenon of ‘normal’ networks. The same applies to metallurgical spheres, which have to be conceptualised as networks, too, as highlighted by the case study of Early Bronze Age networks and trajectories in Central Italy (Chapters 3-8).

This thesis has also been an attempt at making a cross-over between the focus on connectivity in Mediterranean Bronze Age studies and the focus on cultural landscapes and place-making in European Bronze Age studies. It was argued that the punctuated character of Bronze Age archaeological records should be appreciated and ‘gaps’ in spatial distributions not explained away. A network perspective on Bronze Age cultural landscapes likens land-based networks to seaborne connectivity (cf. Boomert & Bright 2007). From the perspective of Central Italy, traditionally regarded as a connecting element between Europe and the Mediterranean (§1.2.1), Bronze Age Europe was as much an archipelago as the Bronze Age Mediterranean. Such a ‘flat’ understanding of networks (*sensu* Latour 2005) has increasingly been adopted in the field of ‘Bell Beaker’ studies, in order to deal with the ‘enigmatically’ punctuated distributions of this phenomenon, both in Europe and the Mediterranean, and it can and should be extended to Bronze Age studies in general. Seemingly all-encompassing distributions such as the Urnfield phenomenon are no less punctuated than the ‘Bell Beaker’ phenomenon, but this is lost in generalisations with a focus on the similarities in widely shared ‘Urnfield’ cosmologies, rather than differences and trajectories. At the same time, it should be appreciated that the Urnfield was less punctuated, precisely because of ‘earlier’ Bronze Age network changes that had created the conditions of possibility for (or facilitated) connectivity over long distances, including flows of metalwork. The metalwork-based character of interregional connectivity has resulted in an island-like structure of Bronze Age studies, in which ‘regional’ ceramics-based sequences are connected by ‘interregional’ metalwork-based sequences that cover longer distances (see above).

The problem of this island-like structure is that it does not provide an incentive to question ‘bounded’ spatio-temporal entities in Bronze Age studies. Such a tendency towards the reification of ‘self-inflicted’ boundaries in European landscape and Mediterranean network approaches preserves the black-box notion of exchange networks (Chapter 2). By contrast, the data-rich approach to archaeological synthesis that is required for a ‘flat’ understanding of networks (*sensu* Latour 2005), has the potential to trace ‘cross-cultural’ exchanges in the ‘time-transgressive’, yet (if not more) historical situation of networks in Bronze Age trajectories. The boundary work of ‘cross-cultural’ exchanges (or interaction) in the past presupposes that ‘time-transgressive’ issues should be dealt with in the present boundary work that is typochronological classification. Unless an attempt is made at revisiting culture-historical sequences from a network perspective, the epistemological appreciation that cultural

boundaries and transitions (as trajectories) may not have coincided with 'bounded' spatio-temporal entities will remain unfulfilled. Provenance studies of metalwork create connected, yet boundless pieces of the jigsaw that can further underscore the need for a 'flat' understanding of Bronze Age networks on a supra-regional scale, but not deliver it in themselves. New composition analyses of Bronze Age metalwork will add more pieces to be placed in the 'four-dimensional jigsaw', ones that had been missing or ones that create 'conflicting' evidence and prompt 'time-transgressive' scenarios. Similarly, new fieldwork (or publications of earlier research) may yield pieces that are 'missing links' or further complicate traditional understandings of Bronze Age networks. However, these efforts would all remain a waste of time, energy and resources, without non-selective, multi-sited and data-rich synthesis of Bronze Age networks and trajectories, starting from the 'flat' understanding that there are more serious flaws in the current state of the 'four-dimensional jigsaw' than normally accounted for.

I would argue that the solution to this problem is data-rich synthesis, non-selective, multi-sited and appreciative of the period-specific punctuated character of place-making and spatial distributions. Bronze Age archaeologists should fully realise that they are really working on the same problem, a 'four-dimensional jigsaw' on a supra-regional scale. Let's step from our 'regional' islands and plunge in the ocean of networks. Let's follow the traces left by network changes and get things moving, towards a data-rich network perspective on Bronze Age trajectories in Europe and the Mediterranean. Let's saddle the horses and raise the sails, meet halfway and not forget to put Central Italy on our maps.

