Introduction

John Robb and Domenico Marino

Editorial Thoughts

John Robb

Jon Morter's sudden death was tragic for all those who knew him. This volume is dedicated to Jon and, as was his original Ph.D. thesis, to his daughters, Kate and Clare Morter, and to his wife, Hillary Hutchinson. We wish also to remember his parents, Ron and Margaret Morter, and hope that in this book they may understand the high professional and personal esteem in which their son was held by his peers and friends. Yet an academic work cannot be published simply as a fond tribute, however sincerely felt and however worthy the memorial. Capo Alfiere is an extraordinary archaeological site with important implications for the Mediterranean Neolithic. What is more, it had the fortune—all too rare—of being dug by an archaeologist who merited an extraordinary site, who cared about the site, and who excavated it thoughtfully and well. We cannot claim that we are publishing Capo Alfiere as knowledgeably and thoroughly as Jon Morter would have done; but not to publish it at all would be a great loss.

In preparing this posthumous work, we had at our disposal Jon's doctoral thesis—a clear and well-reasoned site report—and a large but not comprehensive archive of site records, drawings, and photographs. Many analyses and inventories were inevitably incomplete; Jon's postdoctoral years were busy ones with many other commitments, and at the time of his death he was only beginning to reconsider the Capo Alfiere materials and their publication. For example, all materials besides ceramics and daub were inventoried fully, and strategic sampling of the pottery allowed Jon to lay clear its fundamental nature; but the task of compiling a single comprehensive inventory of all finds was still to be done. We have attempted to complete these tasks, and we think the present volume needs no apologies; it is a rare testament that the site can be published posthumously in as full a form as most Mediterranean prehistoric sites ever attain.

The principal item we lack, more than any inventory or analysis, is Jon Morter's knowledge and insight into Capo Alfiere. Nobody understands a site like its excavator. This raises the issue of editorial policy. Jon's text has weathered the sixteen years since he wrote it better than most site reports and almost all doctoral dissertations would have done. Yet, inevitably, in re-reading Jon's text, we encountered many points that Jon certainly would have changed for publication. The field has moved on considerably since he wrote his text in 1992; new specialist reports are now available for Capo Alfiere, there has been much new research at other sites, and general theoretical orientations in archaeology have shifted. He frequently posed questions to which we now know the answer, he sometimes uses information now known to be wrong, and in places he engages with questions that have been resolved or now seem dated.

Hence an editorial dilemma: do we amend his text in a way that reflects what he might have done in light of the current state of knowledge, or do we leave it as he penned it? After reflection, we decided it was better to leave Jon's original text, aside from minor edits for the sake of clarity. He wrote informed by a knowledge of the site that nobody else possessed, and we feared that in "improving" the text we might introduce errors or inconsistencies and obscure nuances that might yield insights into how he understood Capo Alfiere. Moreover, texts possess integrality; if one adds more-recent data to a table, one has to then modify the text discussing it, which means modifying the general interpretation of the topic, and potentially, the entire understanding of the site. We had no wish to see Jon's original text unravel to be replaced by a new creation informed by a secondhand knowledge of the site.

Our solution, therefore, is commentary and annotation. In this introduction, we provide a brief summary of Capo Alfiere's local context, of work in the area since 1992, and of some salient points of inter-

pretation that highlight the site's continuing importance. In the text itself, where there are points that require correction, or are confirmed, complemented or contradicted by more-recent information, this is discussed in a footnote signed with the editorial initials. We have complemented Jon's text with supplementary studies from published and archive sources, new specialist studies, photos, drawings, data tables, and a catalog based upon images in the ICA Capo Alfiere archive.

The Neolithic of the Crotone Area

Domenico Marino

The context for Capo Alfiere is the region between the Esaro river to the north and the valley of the Dragone to the west, bounded on the south and east by the Ionian sea. This area consists of a series of low plains and hills upon which ecological and social conditions have maintained a stable economic regime of cereal growing and pastoralism since the agricultural reforms of the 1950s. The rivers of the area are seasonal torrents; the climate is a temperate Ionian-Adriatic one. The Sila Massif to the north modifies the dry, cold north and northeastern winds of winter and leads to winter as well as autumnal rainfall. From other quarters, the western *ponente* and the southwestern *libeccio* are dry, while the southern *scirocco*, the northeastern *grecale* and the eastern *levante* bear moisture. Overall, the region is hot and arid, with abundant autumn rains, adequate winter rains, and almost no rain (less than 15 cm) between spring and summer.

The following section, based upon long-term research on the Neolithic of the Crotone area (Marino 1983, 1989, 1993, 1995, 1996a, 1996b, 1998), summarizes the local context for Capo Alfiere.

Epipaleolithic and Mesolithic

The Epipaleolithic and Mesolithic are known from surface finds and incidental finds during other excavations. At Gravina, on the promontory of Crotone, lithic tools were found during excavation of a Hellenistic habitation in a context probably disturbed either by recent building works or by a 16th century well. In contrast, at the Castello of Crotone on the hill where the Classical Acropolis stands, the lithic assemblage was probably recovered in situ. Both sites revealed a geometric lithic industry with blade segments similar to that of the upper-middle Level L of the Grotta della Madonna at Praia a Mare. At the location

Semaforo di Campione, in a hilly area about 150 m above sea level, a lithic industry was found characterized by small dimensions, with abundant denticulates and few geometric tools. Here the relevant comparison is with the Mesolithic level I of the Grotta della Madonna. The presence of Epipaleolithic and Mesolithic sites in the area of dense Neolithic settlement, and particularly the coincidence of site location with some Neolithic sites, implies a possible continuity of settlement between the two periods.

Neolithic Settlement of the Crotone Area

Surface surveys have revealed numerous Neolithic sites around Crotone in recent years, both with "archaic" Impressed Wares and with Stentinello pottery. The distinction between the two styles is typological. "Archaic" Impressed Wares are characterized by an absence of geometric decoration, while Stentinello Wares feature geometric decorations, often quite elaborate. Stentinello Wares are found throughout the area from the promontory of Crotone in the north to Soverito and the Cutro terrace in the southwest.

In the territory of Crotone, Neolithic settlements seem to be located preferentially at the margins of small, level marine terraces at various altitudes. These level zones are separated by a series of valleys that radiate inland from the coast. These valleys constitute natural borders from the various "territories" occupied by the Neolithic sites, and they form the best route of access to the sea, even for the higher inland sites. Sites are generally close to the coast, with most sites within two km of the sea and almost all within four km, or about an hour of walking.

Southwest of Capo Colonna, a large number of sites are found inland of Capo Alfiere. The distance between sites of this group is sometimes less than 200 m. Given that at Capo Alfiere itself several phases of occupation are found, it is possible that sites very closely spaced may demonstrate a prolonged occupation of a single community gradually moving laterally over time. Neolithic settlements in the Crotone area occupy wide terraces upon which reddish Pleistocene sands offer permeable soils, easily drained and worked and well suited for Neolithic agriculture. The open position of Neolithic sites shows little concern with defense and the control of territory. Social groups were clearly homogeneous and closely related.

The inner highland, centered on the Lago di Sant'Anna, does not seem to contain Neolithic sites, in

spite of the excellent agricultural potential of its soils and abundant water. This area corresponds generally to the territory occupied by woodlands—particularly oaks—until the agricultural reforms of the 1950s. Neolithic peoples may have considered this area as a collective resource for uses other than settlement.

Neolithic Lowland Sites

Only one site in central and southern Calabria has been investigated stratigraphically, and hence data on internal site organization is almost completely lacking. Many other sites, however, are known. Site dimensions vary; this may reflect either functional differences among sites or, perhaps, the lateral movement of sites gradually over time.

Among the Crotone sites, the site of Vrica is notable, located on a terrace south of Crotone 160 m above sea level with a surface area of about a hectare. On this wide area at least eleven concentrations of material—daub, pottery, lithics, and faunal remains—have been found that probably correspond to houses. These may not, however, have all been occupied contemporaneously. Interestingly, obsidian was found in only five concentrations, with polished stone axes and chisels found only at one site. This may indicate chronological or functional differences between households.

Only one Neolithic site has been excavated in the Crotone area—Capo Alfiere—on which work was performed by the Institute of Classical Archaeology under Joseph Coleman Carter, with site direction by Jon Morter. The most significant result of the initial 1987 season was the identification of a large wall in sandstone slabs, which delimits a portion of a structure, although the original size cannot be determined. A considerable area of cobbled pavement was found, along with a house floor with postholes around its perimeter; the large wall seemed to enclose the area of the hut. The site's original extent has been reduced by erosion, plowing and recent buildings (some illegal), and it is difficult to estimate how much the site extended beyond Morter's excavations. As Morter notes, the Capo Alfiere structures bear comparison with the Sicilian sites of Serra del Palco and Piano Vento.

Other results followed during the 1990 campaign (in which this writer participated), particularly the identification of an earlier Neolithic occupation with remains of a cobbled surface. Surface collections by the present writer found numerous daub fragments with the impressions of squarish beams, often up to

5 cm in diameter. In one case there were clear signs of the cords used to tie beams together; in other cases there are reed impressions, and some bear a smoothed surface. Hence we must hypothesize at least one wattle-and-daub structure now destroyed.

Underwater Neolithic Sites

A distinct possibility exists in the Crotone area that there are coastal sites now submerged beneath the ocean. It is known that the coastline has shifted significantly over the ages, through both general sea level rise and local subsidence. The coastal margin of the Crotone peninsula is particularly fragile. Environmental studies have shown that, over the last 80–100 years, erosion has caused a retreat of up to 150 m of the external edge of the peninsula and a lowering of the outside margin of the terraces by as much as 8 m. From this, and from the evidence below, it is clear that Capo Alfiere and other “coastal” sites would not have been on the coast during the Neolithic occupation.

Recent underwater research by this writer has located Neolithic remains at Le Castella (Isola di Capo Rizzuto). Here a rectangular structure outlined by at least nine circular holes cut into the flat rock surface is visible 4–5 m below the present sea level. There is a large grinding stone present, similar to that found in the hut at Capo Alfiere, along with Stentinello pottery and obsidian. Sea level changes are attested here also by numerous quarries for blocks and columns of stone dating to the Classical period (between the 6th and 4th centuries BC), at depths between 3 and 7 m.

Beyond the shore, there are numerous wide submerged reefs along the coast south of Crotone that were originally small islands. Like the modern promontories, these have been progressively eroded and submerged. Remains of structures dating to late antiquity (around the 7th century AD) demonstrate that they were above water throughout the prehistoric period. It is unknown whether they may have been visited during the Neolithic.

Highland Neolithic Sites

Besides these habitation sites, other Neolithic sites are known from findings of obsidian, particularly in the inland mountains. One of the most probable routes in central and southern Calabria for the trade in obsidian from Lipari runs across the peninsula at the Catanzaro gap. This constitutes the shortest pathway—about 30 km as the crow flies—between the Tyr-

rhenian and Ionian coasts. In Central Calabria, obsidian and associated flint industries have been found at Timpa del Gigante (Cotronei), above 1,050 m in the mountainous heart of the Sila Massif, as well as around the Late Neolithic site of Lago Cecita, above 1,140 m. These findings are situated on routes connecting the Ionic and Tyrrhenian coasts, and showed that Neolithic people frequented inland as well as coastal areas. The raw materials for the axes of Capo Alfiere came from the Sila Massif as well, though it is possible that these varied types of rock were found near the coast where they may have been transported in the major rivers, the Neto and the Tacina.

Recent Research on the Calabrian Neolithic

John Robb

Knowledge of the Neolithic in Calabria has grown enormously over the last two decades. A survey of prehistoric sites in 1978 lists nine Neolithic sites (Radmilli 1978). A recent survey of Neolithic sites (Fugazzola Delpino et al. 2004) lists 289, without including a number of additional known sites. However, the vast majority of these sites are surface finds, many of which have not been the subject of professional attention and most of which are poorly dated. Only twenty Neolithic sites have been excavated at all, and eight of these consist of Neolithic or possibly Neolithic remains (often a few flakes of obsidian) found during excavation of sites of other periods ranging from Classical to Paleolithic. Hence only thirteen Neolithic sites have been excavated in Calabria to any real degree. These fall in clusters. Five are from Northern Calabria, principally the Sibari plain and its adjoining hills (Grotta San Michele, Grotta Sant'Angelo, Grotta della Madonna, Grotta della Monaca, and Favella); five are scattered in Central Calabria (Lago di Cecita, Capo Alfiere, Corazzo, Girifalco, and Piano di Curinga); and three are clustered in southern Aspromonte (Umbro, Penitenzeria, Castello di Bova). Knowledge of these sites is summarized briefly in Table I.¹

It is significant that only four of these sites had been excavated and published in 1992 (Grotta Sant'Angelo III, Favella, Grotta della Madonna,

Piana di Curinga); and for Favella and Grotta della Madonna, our knowledge has been greatly broadened by recent reopening of the excavations. Thus, there is now a much greater regional context for Capo Alfiere than there was when Jon Morter was writing.

Pottery, Chronology, and Regions

This expansion of research provides a much more detailed picture of the cultural-historical framework than was available to Morter. The framework developed by S. Tinè in the early 1960s, based on excavations in northern Calabria, posited a general development from Impressed Wares through a sequence of painted wares (bichromes, trichromes, and Serra d'Alto) and finally to Diana Wares. This sequence paralleled that in Puglia and Basilicata, as well as that established in the preceding decade by Bernabò Brea and Cavalier on Lipari, which was the first stratified Neolithic sequence excavated in Sicily. Stentinello Wares were slotted into this scheme in various ways. In one version (shown, for example, in the public display at the Museo Nazionale di Reggio Calabria, following S. Tinè's scheme and the Lipari sequence), Stentinello Wares are considered a local version of Impressed Wares, and hence Early Neolithic. In contrast, Morter, influenced by Sicilian debates over the presence of a pre-Stentinello phase at Grotta dell'Uzzo, saw Stentinello Wares as a Middle Neolithic ware, following an Early Neolithic Impressed Ware.

At the time Morter was writing, Whitehouse had challenged Tinè's ceramic sequence for Puglia on methodological and conceptual grounds deriving from New Archaeology, and it was coming to be acknowledged that it might not fit southern Calabria and Sicily. Morter himself makes these points, but a clear alternative picture had not yet been defined.

Thanks in part to three new projects providing radiocarbon dates (Acconia, Bova Marina, and Capo Alfiere itself), it became apparent that there is a sharp division between northern Calabria and central and southern Calabria. Northern Calabria follows the Puglia-Basilicata-Campania sequence closely, but in central and southern Calabria, Stentinello Wares were used for a long span of time encompassing most or all of the 6th millennium BC and the first half of the 5th millennium BC—in other words, all of the Early and Middle Neolithic. They were followed by Diana Wares at approximately the same time as elsewhere in

¹ See Fugazzola Delpino, et al. 2004 for references; also Ammerman 1979, 1985, 1987, 1988; Ammerman et al. 1988; Cardoso 1996; La Rocca 2005; Lucifero 1901; Marino 1993; Natali 2004; Robb 2004, 2007; S. Tinè 1962a, 1962b, 1964, 1986, 1988; V. Tinè 2004, forthcoming; V. Tinè and Natali 2005; V. Tinè, personal communication; M. Cardoso, personal communication; A. Coscarella, personal communication; D. Marino, personal communication.

Site	Description
Grotta della Monaca Sant'Agata di Esaro	Cave site. Ongoing excavations by L. La Rocca and colleagues (Bari). Copper and Bronze Age exploitation of minerals and ores (perhaps as sources of colorants) in a deep, winding cave. Neolithic occupation with hearths and painted pottery attested near the mouth of the cave; may have been frequented for the same purposes.
Grotta San Michele di Saracena (408)	Cave site in hills above plain of Sibari. Ongoing excavations by V. Tinè. Ceramic sequence: Impressed Ware, <i>bande rosse</i> bichrome wares, trichrome wares, Serra d'Alto, Diana, Macchia a Mare—Zinzulusa—Spatarella, Eneolithic, Bronze Age. Habitation site. Excavations have revealed Diana-period hearths and postholes.
Grotta Sant'Angelo III di Cassano Ionio (379)	Cave site in hills above plain of Sibari. Excavations by S. Tinè. Ceramic sequence: <i>bande rosse</i> bichrome wares, trichrome wares, Serra d'Alto, and Diana. Habitation and possibly ritual site. The first deeply stratified Neolithic site excavated stratigraphically in Calabria, it established the basic sequence for northern Calabria, which was until recently taken as general to the entire region.
Favella (382)	Open-air lowland habitation site in plain of Sibari. Excavations by S. Tinè in early 1960s, resumed by V. Tinè. Ceramic sequence: Impressed Wares, Serra d'Alto, Diana, and Macchia a Mare—Zinzulusa—Spatarella phases. Most structures date to earlier phases. Numerous pits of uncertain purpose and burials. Abundant daub for houses; none found in situ. Economy heavily dependent upon domesticated plants and animals.
Grotta della Madonn Praia a Mare (391)	Cave habitation site on Tyrrhenian coast of northern Calabria. Early excavations by Blanc and Cardini reopened by Museo Pigorini (Fugazzola Delpino, V. Tinè, and colleagues). Ceramic sequence: <i>Bande rosse</i> bichrome wares, trichromes, Serra d'Alto, Diana, and Macchia a Mare—Zinzulusa—Spatarella phases. Stratigraphy from Mesolithic to present. Original excavations confirmed northern Calabrian sequence known from the Grotta Sant'Angelo III. Neolithic levels from re-excavations are now beginning to be published.
Lago Cecita	Late Neolithic (Diana) open-air site, on edge of lake in Sila highlands. Ongoing excavations by D. Marino.
Capo Alfiere (430)	Stentinello site on coastal terrace near Crotone, excavated by J. Morter and team from Institute of Classical Archaeology, University of Texas (1987, 1990). Open-air site with hut, paved surfaces, and large enclosure wall; economy heavily reliant upon domesticates (see further details in this volume).
Corazzo di Soverito (498)	Open-air site on coastal plain of Isola di Capo Rizzuto near Crotone, with Stentinello and Diana phases. Small test excavations by A. Geniola and D. Marino.
Girifalco (345)	Diana-period funerary site in hills of central Calabria, south of Catanzaro. Lucifero (1901) reports antiquarian finds of Diana vessels and polished-stone tools as grave goods in small cist tombs, apparently containing multiple burials; one skull preserved in Crotone museum and objects displayed in Reggio museum. Dated to Diana period by vessel style and tomb style, but excavation details and date are sketchy.
Piano di Curinga	Open-air area of coastal sand dunes in Acconia, Piano di Curinga, near southern edge of plain of Lamezia. Extensive survey, geophysical prospection, and small excavations by A. Ammerman in 1980s. Ceramic sequence from unstratified sites: Stentinello and Diana phases. Settlement pattern apparently of dispersed wattle-and-daub huts; economy based upon domesticates; significant involvement in obsidian trade (Ammerman argues for specialized processing sites at landfall for boats coming from Lipari via Stromboli).
Umbro, Bova Marina	Rock shelter site in hilly lowlands on south coast of Aspromonte, excavated by J. Robb (1998–2001). Ceramic sequence: Stentinello and Diana phases, spanning early 6 th through mid-5 th millennium BC. Apparently small special-function site with no sign of houses; perhaps used seasonally for storage, herding, pottery-making.
Penitenzeria, Bova Marina	Open-air site on level terrace in hilly lowlands on south coast of Aspromonte, excavated by J. Robb (2000–2003). Ceramic sequence: small Diana component; principal occupation is Stentinello, dated to later 6 th millennium BC. Economy apparently based on domesticates; lithic industry heavily based upon obsidian; settlement apparently dispersed in small sites; presence of houses indicated by daub, but none in situ.
Castello di Bova (523)	Small terrace just below the peak of the Castello of Bova. Small excavations by Soprintendenza Archeologica della Calabria, directed by M. Cardosa, and in ongoing Medieval excavations by A. Coscarella. Finds suggest principal Neolithic occupation in Stentinello phase and demonstrate presence of typical Neolithic material culture. Stratigraphy disturbed by Classical and substantial Medieval and modern occupation.

Table I Neolithic excavations in Calabria. Numbers in parentheses are site numbers in Fugazzola Delpino et al. 2004.

southern Italy. In these regions, painted wares always remain a scarce minority, and it is still not entirely clear whether there was an initial phase of pre-Stentinello Impressed Wares.

Ironically, therefore, Capo Alfiere remains a Middle Neolithic site, as Morter designated it, but for entirely different reasons. Stentinello Wares are not specifically Middle Neolithic pottery, as Morter thought; they are both the Early and Middle Neolithic ceramics in the area. However, the radiocarbon dates for Capo Alfiere place it in the later part of the Stentinello sequence, with the later occupation at Capo Alfiere close to the end of the period.

In a larger purview, this confirms the regionalism of Neolithic pottery. On the largest scale, there are distinct Neolithic sequences for the peninsular southern Italy and for Sicily–Calabria. To some extent this reflects the fact that Calabria is an artificial geographic entity, a political construction. The tip of the peninsula is mountainous and impenetrable; for much of prehistory and early history, southern Calabria had much more in common with eastern Sicily than with northern Calabria. Yet even within each sequence, there is regional diversity. There are suggestions that the Stentinello style may have had a different history within Calabria than it did within Sicily, and it is now apparent that the Lipari sequence, rather than being typical of the region as was assumed for many years, is a unique hybrid mixing elements from several areas.

Capo Alfiere: A Living Community

Capo Alfiere can be seen in much sharper social focus now, because of both burgeoning research throughout southern Italy and recent theoretical developments that emphasize the social context of material culture (see Robb 2007 for a recent synthesis).

In some ways, Capo Alfiere reveals a site with material culture typical of the Neolithic, not only for Calabria but also for much of southern Italy. As elsewhere, the economy appears overwhelmingly based upon domesticated grains and animals, though there are some important differences: the high presence of pulses and barley, and the use of acorns, for example. The use of marine resources at Capo Alfiere remains doubtful. On the one hand, in spite of the intensive flotation program, few fish bones were recovered, a situation mirrored in many other Neolithic sites as well as in stable-

isotope analyses of human bone which show little use of seafoods. On the other hand, a relatively large number of shells—not quantified, but probably well over 1,000 pieces (E. Gàl, personal communication)—may suggest use of shellfish. Although shellfish leave durable and obvious remains, they provide only a small amount of nutrition, so the dietary contribution these shells represent may not have been great; shell was also used as raw materials for tools and ornaments. The use of chipped stone tools follows widespread Neolithic patterns—a relatively minimal blade-based industry with few formal tools. As we would expect, given that Lipari was the major obsidian source in the region, the use of obsidian is much higher at Capo Alfiere than in sites to the north and east, and lower than at sites to the south and west. The increase in obsidian use through the Neolithic, seen in changes between the earlier and later occupations at the site, is also seen regionally. Both pottery styles and obsidian emphasize a connection with neighbors to the south rather than to the north, suggesting perhaps that the “Stentinello” phenomenon may have had some social reality beyond that of an abstract pottery style.

As Morter notes, microvariation is ubiquitous in Stentinello pottery. In Bova Marina, this is seen in the contrast between the way bowls were decorated at Penitenzeria and at Umbro, a site only 200 m away but dating to one or a few centuries earlier. Capo Alfiere displays the same characteristic of having a handful of basic pottery designs that constitute the core of a local corpus reproduced with minor variations in many vessels. While Stentinello wares can be divided typologically into five or six regional substyles, it is useful also to view this variability as a result of the social processes, in particular the perpetuation of learning networks among small, widely spaced communities of potters. Morter’s emphasis upon the visual qualities of pottery remains pioneering today, for instance in his treatment of the role of aesthetics of color in influencing the potter’s choices. Moreover, Capo Alfiere is one of very few sites where it has been possible to characterize change *within* a style, and it adds weight to the argument that Diana wares emerged through a process of convergence as potters selected Diana-like traits such as undecorated surfaces, burnishing, and red surface color from their existing repertory.

Capo Alfiere has a rich assemblage of small finds. Some items are curiosities of unknown significance,

Event	Stratum	Conventional Calibration	Bayesian Calibration
Pavement and small wall constructed	Stratum I		
Use life of earlier occupation	Stratum I	5230–4570 BC, animal bone	4782–4370 BC
Complex of large wall, pavement, and hut with hearth and querns inside, constructed	Stratum IIa		
Use life of house	Stratum IIa	4681–4385 BC, ash in hearth	4588–4344 BC
Two fine pots smashed upon pavement before filling/leveling, perhaps as intentional deposit			
Area leveled for reuse; packed-earth floor inset with smaller quern constructed	Stratum IIb		
Area burnt		4559–4222 BC, charcoal associated with burning	4450–4244 BC
Wall collapse and tumble	Stratum II rubble		
Two pits dug into tumble; pits have burnt sides and may have been used as <i>strutture di combustione</i> (or earth ovens)	Stratum IIc	4369–4040 BC, charcoal in pit	4342–4048 BC
Abandonment and formation of soil above tumbled levels	Stratum IIc	4240–3490 BC	4351–3788 BC

Table II Sequence of habitational events at Capo Alfiere with Bayesian calibrations of dates.

e.g., sharks' teeth, also found in small numbers at Neolithic sites throughout southern Italy. The clay "tokens" are unique, but may be akin to small, often highly schematized figurines from Neolithic sites; examples are known from both Favella and Penitenzeria. While both disc-like shell beads and long, tapering dentalium beads occur elsewhere, Capo Alfiere yielded a high number of these relative to other southern Italian Neolithic sites. Perhaps bead manufacture was a local speciality, based upon patchily available local resources. As Morter noted, the shoreline has changed since the Neolithic, but even today many stretches of the Calabrian coast are surprisingly poor in shellfish.

A similar consideration holds for the site's polished-stone axes. Capo Alfiere conforms to the widespread common pattern that axes found on habitation sites are typically broken, reused, and discarded, while axes from surface finds and from carefully constructed contexts are whole and often unused. This underlines the unique nature of the cache of five stone axes found near the large wall at Capo Alfiere. Morter suggested that these were axes of local central Calabrian stone, regarded as important valuables and cached until they could be traded. This idea seems very likely and emphasizes the site as a visited location where trade took place. We may see Capo Alfiere as the coastal hub of

a small, dense community occupying a broad, fertile coastal plain, utilizing local resources for trade and located near an important landfall, near where trans-peninsular routes through the Catanzaro isthmus met the coastal navigation route.

Finally, there is the architecture, the acknowledged *pièce de résistance* of the Capo Alfiere excavations. Although Morter inclines towards internal explanations for the unusual features of the site—for instance, in noting that the visually impressive aspects of the wall were directed inwards—the reconstruction above may provide a context for the massive wall enclosing the pavement and hut. Some aspects of the architecture give an immediate feeling of human, inhabited space: for example, the carefully constructed setting in the center of the hut of a hearth, with the grinding stone inset into the pavement next to it to take advantage of light and warmth, and a small patch of clay paving to provide a smooth, comfortable surface to kneel upon. One direction of future research at the site may be spatial analysis of finds to add depth to the sense of occupation.

Capo Alfiere: Time Span Revisited

What is also striking, and which adds considerable life to the reconstruction of the site, is the sheer busy-

ness of the site in a relatively compressed time span. If we translate the stratigraphy of the complex Harris matrix (see Chapter 5, Fig. 5.1) into a sequence of social events, we can see how many things happened in a single place within a few hundred years (*Table II*).²

A development since Morter's writing is the technique of Bayesian calibration, which converts a stratigraphic sequence into a true microhistory (Bayliss and Whittle 2007). In the case of Capo Alfiere, where the dates overlap considerably, Bayesian calibration can narrow the intervals. This refinement is not sufficient to create a genuine microhistory: the interval between the use of the hearth and the construction of new fill and pavement above it shrinks from at most 459 years to at most 344 years. Nonetheless, this could still represent a use life for the hearth and structure of up to fourteen generations—certainly longer than the use life of one or two generations generally postulated for wattle-and-daub huts.

Besides tightening up the general chronology, the Bayesian calibration does have two important social implications. One is to place the earlier Neolithic occupation within a somewhat later interval; this means that it precedes more directly the later Neolithic occupation, adding to the impression of continuity of occupation at a single place and making still more dramatic the shift in Stentinello pottery style and in obsidian use that Morter identified between the two levels. The other is to constrain the dates for the soil covering the house rubble and the pits dug through the rubble, placing both within the Diana period. This confirms the supposition of a Late Neolithic revisitation of the site for whatever purpose these burned pits served, and it means that this reuse of the site may have occurred no later than a century or two after the Stentinello occupation of the site, when the ruins of the large wall would still have been clearly visible and perhaps when people still held a clear memory of ancestral habitation of the place.

We can see both regional and local histories in the Capo Alfiere sequence. On the small scale, there are events within the evolution of a community such as the filling and leveling of a perfectly functional cobbled pavement to replace it with another one; like the intentional burning of daub structures (also attested at Capo Alfiere though not stratigraphically positioned),

these may refer to specific social moments of foundation, abandonment and re-foundation. On the largest scale, this resonates with the pattern from areas as broadly separated as Lipari, Matera, and the Tavoliere in Puglia, with the Middle Neolithic as the most heavily built-up period in the Neolithic, followed by a Diana period, when long-used settlements were abandoned and, sometimes, revisited for purposes such as aggregation, feasting or burial.

Appendix: Bayesian Calibration of Capo Alfiere Radiocarbon Dates

John Robb and Craig Alexander

Bayesian calibration is a statistical technique for interpreting radiocarbon dates that takes contextual information into account. Standard radiocarbon dates fall within an interval that is determined purely by the stochastic aspects of the counting process during radiocarbon determination; when these are calibrated using a calibration curve such as IntCal 04, they also take into account atmospheric variations through time in the reservoir of carbon-14. However, we can also constrain radiocarbon dates using information about the archaeological context. Suppose our calibrated date falls (with 95% confidence) within the interval 5200–4800 BC [cal.], but we know with certainty, upon stratigraphic grounds, that it must fall before an event dated to 5000 BC; an interval integrating the radiocarbon date and the archaeological evidence would therefore be 5200–5000 BC. The principle is similar when we have two radiocarbon dates in stratigraphic sequence, though the mathematics are more complex; instead of gauging the interval of the date being calibrated against a fixed point, we are gauging it against another radiocarbon date that we know on a priori grounds must come before or after it, and this second radiocarbon date has its own probabilistic interval within which it is likely to fall.

Capo Alfiere presents a promising situation for Bayesian calibration. Of the five dates available for the site and falling within the Neolithic, the first three dates must follow each other in stratigraphic sequence; while stratigraphic relations between the last two are not clear, both must follow the first three. (The final date, from disturbed levels possibly associated with the Bell Beaker, was not used in this calibration exercise, as its context is uncertain; the goal was to understand the sequence within the Neolithic,

² I am grateful to Craig Alexander for carrying out the Bayesian calibration of these dates (see the Appendix to this Introduction, below).

and Bayesian calibration would have made little difference to its interpretation.) Bayesian calibration was carried out by C. Alexander using OxCal 4.0 with the IntCal 04 calibration curve. Because Bayesian calibration takes into account contextual information about the site's archaeology, it has to incorporate a model constraining how the dates can relate to each other. The Capo Alfiere dates were modeled under a range of possible conditions; results were very similar for all of them, and here we present only one model. In this model, the dates were assigned to three phases:

1. An earlier Neolithic occupation represented by the first date (Stratum I)
2. A later Neolithic occupation (Stratum II) represented by the second date (the hearth in the hut floor, Stratum IIa) and a third date (the filling and reconstructing of a new pavement above the hut floor/pavement level (Stratum IIb))
3. A third phase represented by the two dates for the soil over the rubble from the wall's destruc-

tion and the pit dug through this rubble (Stratum IIc).

Each phase was required to follow the previous one, and no overlap between phases was allowed.

The resulting Bayesian-calibrated dates are shown in Table III and in Figure I. As this shows, the principal effects of Bayesian calibration are the following:

1. To shorten the intervals of the date for Stratum I, making the earlier occupation dated to probably between about 4800 and 4500 BC; this is closer to the second occupation.
2. To shorten the dates for the post-wall collapse occupation, and place it before about 3700 BC and probably before the end of the fourth millennium BC, firmly within the Diana period.

The Capo Alfiere sequence thus is likely to fall mostly or entirely between about 4800 BC and 4000 BC, with the second occupation (Stratum II) falling within 4550 and 4300 BC.

Time span	Conventional calibrated dates	Bayesian calibrated dates
Length of interval represented by date for first occupation	660 years	412 years
Time elapsed between date for first occupation and hearth in second occupation	Min. interval 111 years; max. interval 886 years	Min. interval 0 years; max. interval 436 years
Length of interval represented by date for hearth in second occupation	296 years	244 years
Time elapsed between date for hearth in second occupation and filling/repaving in second occupation	Min. interval 174 years; max. interval 459 years	Min. interval 0 years; max. interval 344 years
Length of interval represented by date for filling/repaving in second occupation	337 years	206 years
Time elapsed between filling/repaving in second occupation and pit dug through overlying wall rubble	Min. interval 147 years; max. interval 519 years	Min. interval 0 years; max. interval 402 years
Length of interval represented by date for pit dug through overlying wall rubble	329 years	294 years
Time elapsed between pit dug through overlying wall rubble and soil overlying wall rubble	(not calculated because stratigraphic relations between the two dates are unclear)	
Length of interval represented by date for soil overlying wall rubble	750 years	563 years

Table III Timing of events at Capo Alfiere using conventional and Bayesian calibration.

Figure I Conventional and Bayesian calibration of dates at Capo Alfiere.

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