CHAPTER XX

COMMUNICATING OVER SPACE AND TIME IN THE WORLD OF THE ICEMAN

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Introduction

In her celebration of the multiple modes of human communicating, the anthropologist Ruth Finnegan (2002) defines communication as a dynamic interactive process, made up of a variety of actions and experiences, created by active participants as they interconnect with and influence each other. Within this incessant, complex and multi-sensory process, people draw upon a wide array of bodily and environmental resources to communicate with others over space and time. These include sounds, smells, movements, touches, and sights, as well as the material things with which archaeologists are familiar. This perspective certainly highlights some of the limitations of the surviving archaeological evidence, but it should also encourage archaeologists to further develop theories of communication and to explore appropriate questions about the connections between

people, places and things over multiple scales and conceptions of space and time in the past.

This chapter attempts to rise to this challenge, with reference to the archaeology of the north Italian Early Copper Age, and with particular attention to: (1) the human body and its biography and mobility; (2) the ordering of meaningful human places and activities across the historic cultural landscape; and (3) the production, movement and consumption of commodities of exchange, which have the capacity to extend human communicating beyond the constraints of the body by travelling over space and time. A central case-study is provided by the well-preserved body and equipment of the 'Iceman' – extensive scientific research on which is helping to transform our understanding of later prehistoric human mobility and connectivity.

The Iceman: where and when

Scientific studies of the 'Iceman' have provided an excellent source of detailed data concerning the spatial, temporal and social dimensions of this prehistoric person's life and death. His remarkably well-preserved body, clothing and equipment were found in 1991, high up in the Ötztal Alps, at an altitude of 3,210 m, in a gully close to the Tisen Pass, just inside the Italian border (Figure 1). (For general summaries, see Spindler 1995, and Fleckinger and Steiner 1998). The remains have been radiocarbon dated to between 3350 and 3120 cal BC (e.g. Bonani *et al*. 1994; Hedges *et al*. 1992), which situates them within the time-span of the Italian Early Copper Age.

<INSERT FIGURE 1 HERE>

Figure caption: Selected Copper Age sites in the Bolzano province, mentioned in the text. (1) 'Iceman' (Similaun), (2) Tartscher Bichl (Malles Venosta), (3) Sölesboden (Glorenza), (4) Lasa, (5) Laces, (6) Castel Juvale (Naturno), (7) Lagundo. *Drawing by Yvonne Beadnell*.

Konrad Spindler, who led the scientific investigation of the Iceman, interpreted this extraordinary archaeological find as an 'isolated individual' (Spindler 1995: 236), whose practical equipment, including materials for repair, enabled him to lead a largely self-sufficient life on the margins of society (for example, as an outsider or outlaw, a shaman or priest, a prospector for metal ores, a traveller or trader, a hunter or transhumant shepherd), and as someone who met a 'lonely death' (Spindler 1996: 250) in a remote wild place, high in the Alps. But this influential interpretation of the man as an individual can be questioned, both on theoretical and evidential grounds. The anthropologist, Marilyn Strathern (1988), has persuasively contrasted the Western notion of the individual with the Melanesian understanding of persons or 'dividuals' as made up of social relationships with others, to the extent that they are perceived to be composed of parts of many other persons. It follows, then, that the Iceman might best be understood not as an individual but as a man whose body, clothes and equipment were also connected in many possible ways to other dividuals. Even Spindler (1995: 236-254), who ultimately believed that the man was an itinerant herder, acknowledged the need to integrate him into the economy and society of contemporary village life. He consequently highlighted four lines of archaeological evidence that indicated the man was, at least temporarily, in close contact with a farming community. First, the fragments of glume and husk, and pollen grains, of einkorn (*Triticum monococcum*) and barley (*Hordeum*

vulgare var. nudum) found in his clothes and in one of his birch-bark containers suggest that the man had been at a village at harvest time where grain was threshed, possibly participating in the work at a time in the agricultural calendar when labor was much in demand. Second, the positioning and precise draughtsmanship of the tattoos on the man's back show that they were applied by another person, and quite possibly for healing purposes, given their concentration along the lumbar spine where degenerative changes to the bone were also identified. Third, the variable quality of the repairs to the man's clothing, ranging from clumsy to more skilled work, suggest more than one person's work. Fourth, the man's death was immediately preceded by violent inter-personal conflict which left the man wounded. Nevertheless, the connectivity of the man can still be further emphasised (c.f. Whittle 1996: 316–317), with particular reference to the ever-growing number and variety of scientific studies relating to the man, his environment, and his communicating over multiple scales of space and time. These studies enable us to work back from the details of his last days and months to more general patterns relating to his relatively long life and ancestry, and to re-situate him in a dynamic socio-cultural context, characterized by mobility and social interaction – albeit within the constraints of the available data and their sometimes conflicting interpretations.

Precisely when, where and how the man died remain hotly debated questions. Spindler (1995: 250) originally placed the man's death during late summer or early autumn (i.e. September and October), with reference to: the seasonally-harvested threshing remains and sloe berry found with him; the presence of autumnal *Artemisia* pollen in an ice sample from the discovery site; and the high-altitude find spot, which would not have been accessible after the onset of the first winter snows. However, an early summer (i.e. July) season of death has since been proposed, with reference to: the sloe berry, which can be harvested as early as July; and the chlorophyll content of the

maple leaves used to line the man's ember-carrier, which suggests they were freshly picked between June and September (Fleckinger and Steiner 1998: 46). A spring (i.e. April or May) season of death has also been argued, on the basis of the flowering season of pollen taxa – notably hop-hornbeam (*Ostrya carpinifolia*) – obtained from food remains in the man's colon and stomach (e.g. European Academy of Bozen/Bolzano 2011; Oeggl 2000). However, a counter-argument is that the extremely high percentage of hop-hornbeam pollen found in the man's colon suggests that it was ingested by him – potentially at any time of the year, but arguably during the autumn – by chewing a piece of hop-hornbeam bark or drinking an infusion of such bark for medicinal purposes (Groenman-van Waateringe 2011). The specific details of the pollen data upon which these suggestions are based have, in turn, been challenged (Zink *et al*. 2011). Nevertheless, I currently favour a September death scenario, because it pulls together the widest range of seasonal indicators proposed so far, although it has to be acknowledged that none of these offer direct and unequivocal evidence of the man's season of death.

As for where and how the man died, Spindler (1994, 1995: 163–165, 250–254) initiated an influential 'disaster' theory, speculating that the man was attacked in his settlement in the Val Venosta (Vinschgau) (pointed to by the threshing remains and pollen characteristic of this valley), suffering personal injuries, but escaping with incomplete equipment to the high alpine pastures that he knew as a transhumant herder, until, in a state of exhaustion, he lay down and froze to death in a gully. Such speculation was added to by Loy's (1998) claim that the blood of up to four other people was found on the man's jacket, knife, axe and arrows, and that he killed or injured several people before his own death. However, more recent scientific analyses of the man's body have revealed, for example, that his stomach was full of a meal consumed between 30 minutes and two hours before his death (European Academy of Bozen/Bolzano 2011), that he was

killed – in less than a few hours – by a flint-tipped arrow shot into his left shoulder that burst a major artery (e.g. Gostner and Egarter Vigl 2002), and that his equipment would have been too bulky to enable him to escape from any opponents. In the light of these findings, the original disaster and flight theory has now been replaced with one that envisages the man's murder at the discovery site, soon after eating what was to be his last meal (e.g. Lippert *et al*. 2007). It is also worth noting that Loy's (1998) claims about other peoples' blood have not been substantiated in recent re-examinations (Zink *et al*. 2001). An alternative to these disaster theories is to envisage the Iceman discovery site as a mortuary site and to place his death in the valley. As a relatively old adult male member of society, who may even have died an esteemed warrior's death, the man might have been accorded a special mortuary rite appropriate to his status. His body may therefore have been carried, ceremonially, to this high place, situated close to an important pass and boundary in the landscape, and then placed on a modified natural stone platform, with equipment (some unfinished, some valuable) arranged around the body, elements of which were later dispersed into the adjacent gully via natural processes (e.g. Vanzetti et al. 2010). Like the autumn death theory, the details of this 'burial' scenario have been challenged, with attention focused on the angular position of the man's arm, in contrast to the more natural placing of arms in contemporary primary burials (Zink *et al*. 2011). Despite this, I personally find the 'disaster' theory much less persuasive than the 'burial' theory, although certainly a degree of interpretative uncertainly remains.

More can be said about the last days and months of the man's life, particularly with regard to his mobility. Sequential sampling of the food residues found in his colon and small bowel, including their pollen and diatom content, has made it possible to deduce the environments in which his penultimate meals were consumed (e.g. Oeggl *et al*. 2007; Rott 2000). Apparently, he crossed different habitats, covering considerable

distances over the course of his last 33 hours or so. The day before he died, he was high up near the tree line (at about 2500 m) in a subalpine coniferous forest, perhaps along one of the lateral valleys located either east or west of the Senales valley (Schnalstal). Then, about 9-12 hours before his death, he was in the lower-lying montane zone (at or below about 1200 m), perhaps in the bottom of the Val di Senales or Val Venosta. Seven to four hours later, he had ascended again to a subalpine coniferous forest (above 1800 m), where he consumed his penultimate meal. (It is not yet clear where his final meal – represented by his stomach contents – was consumed.)

As he moved during these last days and months, the man would have felt plenty of aches and pains in various parts of his body. He had sustained a deep cut to his right hand about three to eight days before his death (Nerlich *et al*. 2009). Calcification of his knee joint tendons indicates that he would have suffered from knee pain whilst walking (Gostner *et al*. 2011). He also suffered from degenerative osteoarthritis along his spine, on his right hip joint and on his left little toe (Murphy *et al*. 2003). It may be in relation to this, and other pains, that tattoos were applied (not by himself) to various parts of his body, and notably to the left and right of his lumbar spine, arguably for a therapeutic purpose (e.g. Pabst *et al*. 2009). Also, the man's colon contained an infestation of eggs of the intestinal parasite whipworm (*Trichuris trichiura*), which may have resulted in intestinal problems (e.g. Aspöck *et al*. 2000). In addition, examination of one of the man's fingernails revealed three sets of Beau's lines, indicating that he had been very ill three times in the last six months of his life (Capasso 1995). Yet, despite all this, the man was evidently highly mobile.

Over the rest of his estimated 45-46 year life-span (Bernhard 1992), the man's body accumulated further biographical traces, which, together with his artefacts, shed further light on his provenance and mobility. Isotopic data as well as mosses and pollen

associated with the man indicate that he spent his entire life to the south of the discovery site, in northern Italy (e.g. Dickson *et al*. 1996; Kutschera and Müller. 2003; Oeggl 2000). His probable birthplace can be traced to a few valleys in the South Tyrol, the Isarco (Eisach) valley being a good candidate. But, during the last two decades of his adult life, he migrated west to the area of the Val Venosta and Val di Senales, at least seasonally if not permanently. The woodlands on the slopes and in the gorges of the latter area also seem to be the most likely source for the wooden equipment that he was found with (Oeggl and Schoch 2000). He certainly spent some time in this montane zone, including its valley bottoms, to judge by the composition of his grass cape and the cereal remains associated with him; but he also visited the higher-altitude sub-Alpine zone, as indicated by the insulating grasses from his shoes, which would have been collected from subalpine grasslands (Acs *et al*. 2005). Indeed, a relatively high degree of mobility over rough terrain is confirmed by the thickening and strengthening of the man's leg bones and muscles (e.g. Ruff *et al*. 2006).

Broadly contemporary archaeological remains in the area of the Val di Senales and Val Venosta are somewhat limited. They include: four poorly-understood Copper Age potential settlement sites at Lasa, Castel Juvale, Tartscher Bichl and Sölesboden; a flint dagger from Laces (Latsch)-Coldrano; and five monumental statue-stelae from Laces and Lagundo (Algund) (e.g. De Marinis and Brillante 1998: 152–153; Fantuzzi 2011). This relative paucity of archaeological sites could be taken as an indication that this area was only sparsely populated during the Copper Age, and perhaps especially by mobile groups, who moved in and out of the mountain landscape during the course of activities such as herding, hunting, prospecting and rites of passage (c.f. Whittle 1996: 316). However, it could well reflect the difficulties of identifying prehistoric settlement sites in the uplands (c.f. Ayala & Fitzjohn 2007).

The man's clothing and equipment also exhibit stylistic connections to material culture found further afield in the Copper Age of northern Italy. His retouching tool of antler, flint dagger and marble disc bead have been compared to examples from the rock shelter burial site of Monte Covolo (Barfield 1994), while his copper axe, flint dagger and arrowheads have been compared to examples found in Grave 102 of the Remedello Sotto cemetery (e.g. De Marinis 1992), both sites located in the Brescia province, around 135-170 km south of the Iceman find-spot. The flint for the man's dagger may ultimately have been obtained from the Monte Lessini, about 120 km to the south. The man's clothing and weapons can also be compared to depictions of valued weapons and cloth or beads on north Italian statue-stelae, erected, sometimes in groups, at ceremonial upland sites, perhaps as potent and durable memorials to prestigious male warrior and female ancestors (c.f. Keates 2000). And, over a longer time scale, the man's ancestry can be traced, through the shape of his skull, to people buried at Neolithic and Bronze Age sites located in territories surrounding Lake Garda (Trento, Verona and Brescia) (Bernhard 1995).

Scientific studies of the Iceman's body and equipment have, then, provided some outstandingly detailed information on the spatial and temporal dimensions of one prehistoric person's life and death. They have, however, been less forthcoming with regard to his social relations, despite Spindler's (1995) initial attempt to integrate the man into the economy and society of a contemporary village.

The North Italian Early Copper Age: crossing the cultural landscape

Given these limitations to our immediate contextual understanding of the Iceman, it is worth considering the wider contemporary context of the Early Copper Age in northern Italy. For the purposes of this study, I focus below on the excavated remains from a sample of 24 relatively well-dated archaeological sites with radiocarbon dates that overlap the estimated time-span of the Iceman, i.e. 3350-3100 cal BC or around 4680-4340 BP (see Table 1 and Figure 2). Ordered according to their positions in the landscape, their forms and their interpreted uses, these sites offer further ideas about space, time and communicating at the time of the Iceman. To begin with, a basic distinction can be made between those sites located within a core 'domestic domain' and those situated on and beyond its margins in what I term 'the other domain'. From the evidence outlined above, it is clear that the Iceman crossed these two domains throughout the course of his life and death.

<INSERT FIGURE 2 HERE>

Figure 2 Caption: Radiocarbon dated Early Copper Age sites in northern Italy. Site numbers correspond to those on the Table, with the exception of the Iceman (25). *Drawing by Yvonne Beadnell*.

<INSERT TABLE 1 HERE>

Table 1 caption: Early Copper Age sites in northern Italy with radiocarbon dates overlapping those of the 'Iceman'.

The domestic domain

A key zone in the north Italian cultural landscape of the Early Copper Age might be described as the domestic domain, comprising a scatter of well-chosen dwelling places and associated land used by small-scale agricultural communities, extending from the Po plain to the north Italian lakes and river-valleys running through the pre-Alps and Alps. Two main types of settlement site can be identified – lake dwellings, and river terrace settlements – both of which were established in relatively low-lying and wet environments. At both, powerful, culturally-constructed conceptions of social and agricultural time and space are likely to have structured the routines of daily life followed by close-knit communities.

Radiocarbon dated examples of the lake dwelling category of site comprise: Lagozza di Besnate (e.g. Cornaggia Castigilioni 1955; Guerreschi 1967), Lagozzetta di Besnate (Cornaggia Castigilioni 1956), and Palù di Livenza (e.g. Corti *et al*. 1997; Peretto and Taffarelli 1973; Pini 2004; Vitri *et al*. 2002). These agricultural settlements were intentionally established in marshy lake basins, and their remains preserved within peat bogs. Different kinds of durable wooden structure were found at each of them – the timber derived from trees growing in immediately surrounding forests, whose resources appear to have been increasingly managed by the lake-dwelling communities. At Palù di Livenza, for example, three types of structure were identified: an anchorage girder formed by a regular trellis of beams and small horizontal rafters; the remains of flooring made of layers of rafters and branches covered by boarding; and large vertical oak supports for wattle-and-daub walls. The scale of these structures is impressive, and surely implies a significant investment of labor in the physical and social infrastructure of these dwelling places and their close-knit communities. Indeed, a community with a deep and dynamic history is implied by the radiocarbon dates for these wooden structures, which indicate a long-lived settlement and different building phases extending from the Early

Neolithic through the Late Neolithic into the Copper Age. Associated cultural materials included: pottery vessels – some expressing allegiance to the influential Chassey-Lagozza style, and ceramic pintaderas (or stamps) – also exhibiting regionally transmitted decorative motifs. A paddle made of poplar wood was also found at Palù di Livenza, which, combined with the radiocarbon dated evidence of fragments of a dugout canoe (or 'pirogue') found in the Val di Marca (Cornaggia Castiglioni 1967: 43), indicates one of the means of communication used by these lake-dwelling communities. Most of the cultural materials would have been procured and processed by these largely self-sufficient communities, but some (such as flint, rock crystal and copper) also imply participation in longer distance regional networks of mobility and interaction over land and water.

Radiocarbon dated examples of the river terrace settlements comprise: Canton di Trescore Balneare, Castello di Ubiale Clanezzo and Cap del Pir (e.g. Poggiani Keller 2002), Tolerait (Thalerreit) (e.g. Dal Ri 1973), and Lasa (Laas) (Felber 1974: 280). The first three sites are located in the Bergamo province, on river terraces in pre-Alpine valleys. Like the lake-dwellings, they were generally long-lived agricultural villages, with deep histories, occupied since the Late Neolithic. Local materials were worked at these places, including pottery which exhibited connections to north Italian (Lagozza and Breno) styles, potters and communities. The other two river terrace settlements are located further north, in the Bolzano province, in Alpine valleys. Both are represented by charcoal-rich soil horizons formed on cones of detritus situated at the foot of steep slopes and on the edge of their respective river valleys, and both contained relatively few artefacts, perhaps suggesting less intensively or lengthily occupied sites than the villages described above. Nevertheless, agriculture was practiced at Tolerait, as indicated by the

presence of carbonized cereals and faunal remains. It is likely that the 'Iceman' had direct contact with a small community based at a site such as this.

The other domain

Archaeological sites lying on the margins of, or beyond, this domestic domain might be understood as having belonged to conceptually different parts of the cultural landscape, loosely described here as 'the other domain' – a term which plays upon the anthropological concept of 'the Other' as a culturally constructed relation of spatio-temporal remoteness and difference (e.g. Hallam and Street 2000: 3). Certainly, the types of sites found here are notably different in character to those of the domestic domain, and it may also be appropriate to think of these places as having been structured and experienced through alternative – slower, more extended, more punctuated, and more dispersed – conceptions of time and space, even though they were ultimately connected to the domestic domain. They can be broadly divided into marginal (or 'liminal') ritual sites, and upland subsistence-related sites.

At least four different types of ritual place are represented amongst the sample of north Italian sites radiocarbon dated to the Early Copper Age: an 'open' cemetery site, rock-shelter burial sites, a ceremonial site with monumental structures and secondary burials, and a burial cairn or tumulus – a list which should be extended to include the naturally monumental discovery site of the 'Iceman' if the 'burial theory' is to be believed (see above). All of them provide information about ritual and social connections and distinctions expressed by the living through the dead over various scales of space and time.

A classic, but also distinctive, example of a north Italian Copper Age cemetery is Remedello di Sotto (e.g. Barfield 1986; Colini 1898; De Marinis 1997). Its location, on the bank of the Chiese river in the central Po plain, perhaps on the margins of a settlement for the living (which may be represented by part of a village ditch recorded nearby), makes it appropriate to be described as a 'settlement for the dead', where ritual notions of time and space replaced daily norms. The cemetery was first established during the Early Copper Age, and later grew to become the largest known Copper Age cemetery in northern Italy, with over 200 burials extending over 4.5 hectares. The dominant mortuary rite was the inhumation of crouched bodies accompanied by grave goods in single trench graves. Taken together, the bodies and goods can be seen to have materially symbolized relatively clear-cut social identities and distinctions in terms of gender and age, and – later on in the Copper Age – also wealth. Adult females were generally buried supine, oriented east, and with relatively few grave goods, notably pottery vessels, while adult males were generally buried flexed on their left side, oriented north or north-west, and accompanied by more goods, including flint arrowheads and flint or copper daggers, which might have symbolized their status as warriors. Children were buried with only a few flint blades and flakes. Other grave goods included: stone and copper axe blades, copper awls, and body ornaments made of a range of sensuous materials (copper, silver, marble, shell and stone).

By contrast to this relatively fixed ordering of the dead at Remedello di Sotto (spatially, temporally and socially), a more fluid combination of primary and secondary burial rites was performed at contemporary north Italian rock-shelter burials, by groups who shared some elements of the influential Remedello culture but who also expressed their own 'discrepant' beliefs and customs. These sites might be understood, both as almost timeless natural places, and as dynamic cultural places that were gradually

modified during the course of previous occupations during the Neolithic, and then ritually transformed into ancestral monuments with another sense of time and space during the Early Copper Age. Acquaviva di Besenello is a relatively simple example, where the body of an adult was placed against the rock-shelter wall, accompanied by two arrowheads and a dagger of flint, and delimited on the three other sides by a cist-like structure, and the skull and long bones later removed, presumably for secondary burial elsewhere (Angelini *et al*. 1980). A comparable but more elaborate example is Riparo Valtenesi (e.g. Barfield 2007). It is a large natural rock-shelter, some 50-60 m long, situated on the south-west shore of Lake Garda, at the foot of a cliff below the Rocca di Manerba promontory. This site was previously occupied during the Early and Late phases of the Neolithic, but only began to be used as a burial place during the Copper Age. Radiocarbon dates point to a relatively short period of mortuary activity at the site, spanning just a few centuries (Barfield *et al*. 2010). A group of rectangular burial chambers was constructed here, perhaps one after the other, with oak plank walls and floors of stone pebbles or slabs. Each measured approximately 2 by 1 m, and contained a rich assemblage of: disarticulated adult human remains (probably originally deposited sequentially as whole bodies – a minimum number of five in the case of chamber 133 – then later reworked into a 'collective' deposit); and scattered artefacts left for the newly-dead or ancestors, including necklaces composed of numerous beads of imported marble, steatite and copper, and ceramics stylistically similar to those found in the Remedello di Sotto cemetery. There was also a cist containing an infant burial positioned in front of one of the adult burial chambers, indicating social differentiation in terms of age.

A ceremonial site with monumental structures and secondary burial deposits was also elaborated at St Martin de Corléans in the Aosta valley, through a series of laborious construction projects (e.g. Mezzena 1997). A monumental series of large wooden posts

was first erected here during the Late Neolithic. After the regular – and probably ritual – ploughing of an extensive area at the site, further posts were added during the Early Copper Age, as well as a thought-provoking series of anthropomorphic stone stelae, which might have represented ancestors, and a quadrangular megalithic chamber associated with groups of human remains, which might be compared to the ancestral mortuary chambers at Riparo Valtenesi.

Another kind of collective burial structure was identified at the Papillon site in Alba (Zoppi et al. 2001: 1054). Here, a monumental cairn-like structure of regularly laid stone slabs surrounded and covered a central rectangular burial chamber, which contained the bones of at least ten individuals (four adults and six children – perhaps related to each other) and some minute fragments of copper. The mixing of these bones, and the lack of some long bones, are indicative of extended secondary burial rites.

Upland subsistence-related sites comprise a second set of sites in 'the other domain' of the north Italian Early Copper Age. They include an 'open' settlement, cave shelters, and raw material extraction sites. Castellario di Uscio is a hilltop settlement, located on the summit of Monte Borgo in the Ligurian Apennines, at an altitude of 728 m (e.g. Maggi 1990). The site dominates the meeting point of a ridge descending down to the Mediterranean Sea and another that runs parallel to the coast. The Early Copper Age deposits were disturbed in antiquity. The excavator has, nevertheless, interpreted the site as an agricultural settlement situated on the crossroads of communications routes used historically – and, by extension, in prehistory – by mobile groups practicing some form of pastoralism.

Various upland caves appear to have been used as herders' shelters during the Early Copper Age, occupied temporarily on a daily and seasonal basis by small mobile groups of herder-hunters and their domestic animals. These sites might be thought of as

natural monuments within a wider network of culturally significant places scattered across the landscape (including lowland villages, sacred places, upland settlements and shelters, and seasonal pastures), connected by mobile members of society. Radiocarbon dated examples include: Grotta del Pertusello and Riparo Arma di Nasino in the Val Pennavaira (Alessio *et al*. 1967; Leale Anfossi 1974), Grotta del Pertuso (Del Lucchese and Ricci 1987), and Grotta dell'Olivo (Maggi 1998: 14), all in the mountains of western Liguria; Caverna delle Arene Candide situated on a promontory overlooking the western Ligurian Mediterranean coast (e.g. Bernabò Brea 1946; Maggi 1997); and Grotta dell'Edera in the Trieste karst (e.g. Biagi 1996). Specialist studies have been particularly informative in the case of Grotta dell'Edera. Soil analyses suggest its use as a shelter for humans and as a stable for domestic animals: an interpretation supported by the strong predominance of sheep amongst the faunal remains, and the relatively small number of pottery sherds found in the Early Copper Age deposits (e.g. Boschian 1997). The presence of carbonized nuts of hazel and Cornelian cherry (Nisbet 2000) might indicate a mid-summer to mid-autumn season of occupation. Connections to another site, perhaps a village, might be also be indicated by the presence of one pottery sherd with a distinctively non-local mineralogical signature (Spataro 1999-2000).

Contemporary raw material procurement sites have also been identified in the uplands of Liguria. To judge by the large scale of these sites, each represents a significant investment of labor and output of raw materials, probably disproportionate to local needs. In other words, these sites might have been controlled extraction and production centers for valued raw materials that were not only consumed by local communities but also exported over long distances to other people and places. At Monte Loreto and Libiola, miners emptied natural fissures and veins of copper ore, using hammer stones, wooden tools and fire setting, and also processed the ore on a large scale on adjacent work floors

(e.g. Issel 1879: 349; Maggi and Pearce 2005). And in the Valle Lagorara, a large red jasper (radiolarite) quarry was established, where miners extracted rock from two main outcrops, then processed the rock in two rock shelters on the opposite side of the valley in order to produce bifacially-flaked preforms – ultimately intended to be completed elsewhere as arrowheads, dagger blades and picks (e.g. Maggi *et al*. 1995). Soapstone beads and pendants were also produced here, probably using a local soapstone outcrop, and copper was smelted in one of the rock-shelters – both perhaps opportunistically as sought-after commodities.

Conclusion

In this chapter, I have worked between two basic paired-categories of time and space: *chronos* – measurable cosmic time, based upon physics and mathematic knowledge, combined with the traditional conception of landscape as an objective and measurable physical entity, partly shaped by human action; and *tempus* – culturally-determined social time, experienced on different levels and scales by different members of society, paired with an equivalent understanding of landscape as culturally constructed, transformed and experienced by people.

Chronometric calibrated radiocarbon dates underpin this study, enabling us to compare and contrast broadly contemporary archaeological sites in the Early Copper Age right across northern Italy. Scientific studies have also provided us with some unusually detailed temporal and spatial parameters for the Iceman: from events of his last few days and hours (including estimates of the timing and place of his last meals and death), to his

long life (including his re-location as an adult, and the onset of old-age health-related problems – in part stemming from his highly mobile lifestyle in the valleys and mountains of the South Tyrol), to his ancestry in adjacent provinces to the South.

I have also proposed, from a more theoretically-informed perspective, that we think about the culturally-constructed historic landscape of the north Italian Early Copper Age as structured (both physically and conceptually) by two fundamental time-space zones. There was the domestic domain, characterized by durable settlement structures, sites and communities, situated in relatively low-lying and wet environments, with long and dynamic histories (of foundation and re-building, for example), and by routines of daily life and seasonal work led according to the agricultural calendar (including harvest time and the threshing of grain). There was also 'the other domain': marginal or remote, and characterized by slower, more extended and more punctuated conceptions of time. This was experienced, for example, at mobile herders' shelters in the uplands occupied temporarily on a daily and seasonal basis, and also at cemeteries and monuments established – at historic places in the landscape and then either gradually or more rapidly modified through repeated ritual performances, cumulative construction projects and spatially ordered symbolic deposits – as memorials to identified members of social groups and to timeless ancestors. Certain mobile members of society and their valued material goods (represented most clearly by the man and his equipment found in the Ötztal Alps, but also by mobile herd animals, portable human bodies and bones, meaningful decorative motifs, and a range of sought-after raw materials), crossed and connected these zones of time and space – sometimes frequently and over long distances – whilst communicating through a wide array of bodily and material resources with other people and places during the course of their complex lives and deaths.

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Captions

Figure 1 Selected Copper Age sites in the Bolzano province, mentioned in the text. (1) 'Iceman' (Similaun), (2) Tartscher Bichl (Malles Venosta), (3) Sölesboden (Glorenza), (4) Lasa, (5) Laces, (6) Castel Juvale (Naturno), (7) Lagundo. *Drawing by Yvonne Beadnell*.

Figure 2 Radiocarbon dated Early Copper Age sites in northern Italy. Site numbers correspond to those on the Table, with the exception of the Iceman (25). *Drawing by Yvonne Beadnell*.

Table 1 Early Copper Age sites in northern Italy with radiocarbon dates overlapping those of the ‘Iceman’.